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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/490,133	08/20/2013	8515925	08610004C2	3175

30743 7590 07/31/2013
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Theodore S. Rappaport, Austin, TX;

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Receipt date: 06/06/2012

ATTY DOCKET NO.

08610004C2

PATENT NO. GAU: 2157

not assigned

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APPLICANT(S)

Rappaport

FILING DATE

concurrently

GROUP ART UNIT

not assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,317,599	11/2001	Rappaport et al			
	6,442,507	08/2002	Skidmore et al			
	6,493,679	12/2002	Rappaport et al			
	6,499,006	12/2002	Rappaport et al			
	6,625,454	09/2003	Rappaport et al			

U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 2009114923	09-2009	PCT				
	WO 9524093	~~08-2000~~	PCT	1995-09			

Change(s) applied
to document,
/D.D/
5/17/2013

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER	/Srirama Channavajjala/	DATE CONSIDERED	11/15/2012
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Receipt date: 07/20/2012

13490133 - GAU: 2157

PTO/SB/08a (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449/PTO

Complete if Known

Application Number	13/490,133
Filing Date	June 06, 2012
First Named Inventor	Theodore S. Rappaport
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	08610004C2

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 1

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 2002/0023010	02-21-2002	Rittmaster et al	
		US- 2006/0015375	01-19-2006	Lee et al	
		US- 2006/0031082	02-09-2006	Amaitis et al	
		US- 2006/0178918	08-10-2006	Mikurak, Michael G.	
		US- 6,169,791	01-02-2001	Pokress, Matthew C.	
		US- 2007/0198339	08-23-2007	Shen et al	
		US- 2004/0076283	04-22-2004	Egan, Thomas A.	
		US- 2007/0165805	~~03-20-2007~~	ALTBERG et al	07/2007
		US- 2002/0136391	09-26-2002	Armstrong, Bruce	
		US- 2005/0201525	09-15-2005	Hudson, Douglas	
		US- 5,561,704	10-01-1996	Salimando, Steven C	
		US- 7,933,605	04-26-2011	Rappaport et al	
		US-			
		US-			
		US-			
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		US-			
		US-			

Corrected

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
						☐
						☐
						☐

Examiner
Signature

/Srirama Channavajjala/

Date
Considered

11/15/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds of Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Receipt date: 06/18/2012

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.C./

13490133 - GAU: 2157

PTO/SB/08a (07-09)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449/PTO

Complete if Known

Change(s) applied
to document,
/M.C.R./
6/3/2013

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 1

Application Number	13/490,133
Filing Date	06/06/2012
First Named Inventor	Theodore S. Rappaport
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	08610004C2

U.S. PATENT DOCUMENTS

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		US- 2002/0023010	02-21-2002	Rittmaster et al	
		US- 2006/0015375	01-19-2006	Lee et al	
		US- 2006/0031082	02-09-2006	Amaitis et al	
		US- 2006/0178918	08-10-2006	Mikurak, Michael G.	
		US- 6,169,791	01-02-2001	Pokress, Matthew C.	
		US- 2007/0198339	08-23-2007	Shen et al	
		US- 2004/0076283	~~03-20-2007~~	~~ALTBERG et al~~	04/22/2004 Egan
		US- 2002/0136391	09-26-2002	Armstrong, Bruce	
		US- 2005/0201525	09-15-2005	Hudson, Douglas	
		US- 5,561,704	10-01-1996	Salimando, Steven C.	
		US- 7,933,605	04-26-2011	Rappaport et al	
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		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
						☐
						☐
						☐

Examiner
Signature

/Srirama Channavajjala/

Date
Considered

11/15/2012

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds of Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

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If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

OK TO ENTER: /S.C./

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Theodore Rappaport

Serial No. 13/490,133

Filed June 6, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Srirama Channavajjala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORYING AND ACQUIRING INFRASTRUCTURE, MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT IN COMMUNICATION NETWORKS

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. §1.312

Sir:

A Notice of Allowance was mailed in this case on April 11, 2013. The issue fee has not yet been paid. This amendment is supplemental to the Amendment Under 37 C.F.R. 1.312 which was filed on April 14, 2013. The undersigned requests entry of the following amendment prior to issuance of the patent, for the reasons Applicant respectfully submits in the Remarks section of this paper.

Amendments to the Specification: begin on page 2.

Listing of the Claims: begins on page 3.

Remarks: begin on page 11.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/490,133

06/06/2012

Theodore S. Rappaport

08610004C2

3175

30743

7590

06/04/2013

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

11491 SUNSET HILLS ROAD

SUITE 340

RESTON, VA 20190

EXAMINER

CHANNAVAJALA, SRIRAMA T

ART UNIT

PAPER NUMBER

2157

MAIL DATE

DELIVERY MODE

06/04/2013

PAPER

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.

Response to Rule 312 Communication	Application No.	Applicant(s)
	13/490,133	RAPPAPORT, THEODORE S.
	Examiner	Art Unit
	SRIRAMA CHANNAVAJJALA	2157

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

1. ☐ The amendment filed on 29 May 2013 under 37 CFR 1.312 has been considered, and has been:
- a) ☐ entered.
 - b) ☒ entered as directed to matters of form not affecting the scope of the invention.
 - c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
 - d) ☐ disapproved. See explanation below.
 - e) ☐ entered in part. See explanation below.

	/Srirama Channavajjala/ Primary Examiner, Art Unit 2157
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Theodore Rappaport

Serial No. 13/490,133

Filed June 6, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Srirama Channavajjala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORYING AND ACQUIRING INFRASTRUCTURE, MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT IN COMMUNICATION NETWORKS

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PO Box 1450

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SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. §1.312

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Amendments to the Specification: begin on page 2.

Listing of the Claims: begins on page 3.

Remarks: begin on page 11.

Amendments to the Specification:

Please amend the title on page 1 lines 1-4 as follows:

Clearinghouse Systems and Methods for Monitoring and Enhancing Performance, Availability, or Quality of Service of Wireless Communications and Providing Localized Content

~~Clearinghouse system, method, and process for inventorying and acquiring infrastructure, monitoring and controlling network performance for enhancement, and providing localized content in communication networks~~

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

61. (currently amended) A method for providing a clearinghouse for communications networks, comprising:

providing one or more computers which interface with a database, the database including performance, quality of service, or perceived communications service quality or value information, experienced or desired, for one or more mobile or fixed devices or end users, for one or more geographic locations of said one or more mobile or fixed devices or end users, and one or more of

records pertaining to one or more telecommunications carriers which identify infrastructure type and/or location information for one or more locations, and

public records which include, for a plurality of geographic locations, one or more of: addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations;

updating in said database either automatically or manually, using one or more electronic interfaces to said one or more computers, performance, quality of service, or perceived communications service quality or value information, experienced or desired, obtained for one or more mobile or fixed devices that are located in one of said one or more geographic locations;

permitting at least one of said one or more telecommunications carriers or one or more end users of said one or more telecommunications carriers, or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, use, or sort said performance, quality of service, or perceived communications service quality or value information, experienced or desired, in said database;

obtaining said performance or quality of service or perceived communications service quality or value information, experienced or desired, using one or more applications operable with said one or more mobile or fixed devices or said one or more computers; and

providing said performance or quality of service or perceived communications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable with said one or more mobile or fixed devices or said one or more computers,

wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more bands, one or more carriers, one or more mobile or fixed ~~or mobile~~ devices, or one or more end users from one or more bands or carriers.

62. (previously presented) The method of claim 61 wherein said database includes one or more of records for said one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users.

63. (Canceled)

64. (previously presented) The method of claim 61 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices or one or more end user devices that are located in or will be located in said locations.

65. (Canceled)

66. (previously presented) The method of claim 61 further comprising the step of sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of:

ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

67. (previously presented) The method of claim 61 further comprising the step of sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

68. (currently amended) The method of claim 61 further comprising the step of monitoring radio operating conditions for one or more mobile ~~wireless~~ or fixed devices, and using monitored radio operating conditions to update performance or quality of service information or perceived communications service quality or value information in said database.

69. (previously presented) The method of claim 61 further comprising the step of using one or more mobile or fixed wireless devices to provide said performance or quality of service information or perceived quality or value information to one of said one or more of said electronic interfaces.

70. (currently amended) A method of providing selected content to one or more mobile or fixed devices located in specific locations, comprising the steps of:

providing a clearinghouse system for communications networks, said clearinghouse system including

one or more computers which interface with a database, said database including one or more of

performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, for one or more mobile or fixed devices or end users, for one or more geographic locations of said one or more mobile or fixed devices or end users,

records for one or more telecommunications carriers which identify infrastructure information for one or more locations,

records for one or more end users which identify equipment, devices, telecommunications assets or property assets owned, used, or controlled by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of: addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations;

permitting at least one of (a) one or more mobile or fixed devices to be in communication with said clearinghouse system using one or more electronic interfaces to said one or more computers to perform one or more of updating, either automatically or manually, performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, obtained from said one or more mobile or fixed devices that are located in one of said one or more geographic locations into said database, and (b) at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications carriers or end users to review, catalog, view, store, use, or sort said performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, in said database;

identifying a geographic location of one or more mobile or fixed devices using one or more of: GPS, location sensing, position estimating techniques, or determining one or more of towers or frequencies being used, wherein said GPS, location sensing, position estimating techniques, or determining of one or more towers or frequencies being used are associated with one or more of said one or more mobile or fixed devices or end users; and

providing localized content to said one or more mobile or fixed devices or end users using said geographic location and one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system.

71. (previously presented) The method of claim 70 wherein one or more base stations are in communication with said one or more electronic interfaces of said clearinghouse system.

72. (previously presented) The method of claim 70 further comprising the step of said local ad servers providing web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces.

73-74. (canceled)

75. (previously presented) The method of claim 70 wherein said local ad servers provide content to said one or more mobile or fixed devices tuned to a specific transmitted signal, channel, or service provider.

76. (currently amended) A clearinghouse system for communications networks, comprising:

one or more computers which interface with a database, said database including performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, for one or more mobile or fixed devices or end users, for one or more geographic locations of said one or more mobile or fixed devices or end users, and one or more of

records pertaining to one or more telecommunications carriers which identify one or more of infrastructure, type, and/or location information for one or more locations,

records for one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of: addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations; and

one or more electronic interfaces to said one or more computers which permit performance, quality of service, or perceived communications service quality or value

information, experienced or desired, obtained for one or more mobile or fixed devices that are located in one of said one or more geographic locations to be automatically or manually updated into said database, and which permit at least one of said one or more telecommunications carriers or one or more of said end users or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, sort, or use said performance, quality of service, or perceived communications service quality or value information, experienced or desired, in said database; and

a monitoring application which permits monitoring of radio operating conditions for one or more mobile or fixed wireless devices, wherein monitored radio operating conditions are used to update performance or quality of service information or perceived communications quality or service value in said database,

wherein said performance or quality of service information or perceived communications quality or service value includes information from one or more bands, one or more carriers, one or more mobile or fixed devices, or one or more end users from one or more bands or carriers.

77. (previously presented) The clearinghouse system of claim 76 wherein said one or more electronic interfaces provides performance or quality of service information or perceived communications quality or service value to one or more mobile or fixed devices that are located in or will be located in said locations.

78. (Canceled)

79. (previously presented) The clearinghouse system of claim 76 further comprising means for sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: a ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

80. (previously presented) The clearinghouse system of claim 76 further comprising means for

sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

81. (Canceled)

82. (previously presented) The clearinghouse system of claim 76 further comprising one or more wireless devices which are configured to provide said performance or quality of service information or perceived communications quality or service value to one of said one or more of said electronic interfaces.

83. (previously presented) The clearinghouse system of Claim 76 wherein said one or more electronic interfaces to said one or more computers further permit one or more mobile or fixed devices or one or more end users to communicate said performance, quality of service, or perceived communications service quality or value information, experienced or desired, to said one or more computers.

84. (currently amended) The clearinghouse system of Claim 83 wherein said one or more electronic interfaces are configured to receive geographic location information from said one or more mobile or fixed devices or ~~said one or more fixed devices or said one or more end users~~.

85. (currently amended) The clearinghouse system of Claim 76 further comprising
one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system, said one or more local ad servers being configured to use information pertaining to geographic locations of said one or more mobile or fixed devices or ~~said one or more fixed devices or said one or more end users~~ to provide localized content to one or more of said one or more mobile or fixed devices ~~or said fixed devices~~.

86. (previously presented) The clearinghouse system of Claim 85 wherein said local ad servers are configured to provide web page view and usage statistics to said database through said one or

more electronic interfaces.

87. (currently amended) The clearinghouse system of Claim 76 further comprising a means for determining one or more of towers or frequencies being used by one or more of said one or more mobile or fixed devices or ~~said one or more fixed devices or said one or more~~ end users.

88. (currently amended) The clearinghouse system of Claim 85 wherein said one or more local ad servers are configured to provide content to at least one mobile or fixed device ~~or fixed device~~ tuned to a specific transmitted signal or channel.

89. (previously presented) The clearinghouse system of claim 76 further comprising
one or more applications operable with said one or more mobile or fixed devices or said one or more computers for obtaining and providing data pertaining to one or more of
end user location;
end user viewing/usage statistics of the Internet;
end user history or record of browsing or viewing data of on-line advertisements;
end user Internet or traffic usage profiles; and
said performance, quality of service, or perceived communications service quality or value information, experienced or desired, to said one or more electronic interfaces.

90. (previously presented) The clearinghouse system of claim 89 wherein said one or more applications are configured to receive manually obtained or provided data.

91. (previously presented) The clearinghouse system of claim 89 wherein said one or more applications are configured to receive automatically obtained or provided data.

92-146. (Canceled)

REMARKS

By this Amendment, the title of the patent application has been amended. A minor amendment to form is proposed for claim 68. Also amendments to claims 61, 70, 76, 84, 85, 87 and 88 have been proposed providing antecedent basis. It is respectfully requested that these amendments be entered by the Examiner prior to issuance of the patent, as they only correct typographical errors and issues of antecedent basis in the claims and do not affect their scope, as explained in the following remarks.

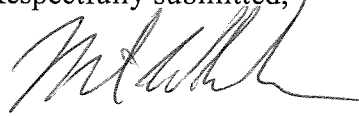
A proposed amendment to claim 68 corrects "...*wireless* or fixed devices..." to "...*mobile* or fixed devices...". It is respectfully submitted that this maintains the intended meaning but serves to correct a typographical error. Base claim 61 from which claim 68 depends makes exclusive use of "*mobile* or fixed", furthermore in a total of five locations in the claim. It is respectfully submitted that dependent claim 68 is intended to also follow this same language, and correction to this end does not alter the scope of claim 68 as presently allowed.

The proposed amendments to claims 61, 70, 76, 84, 85, 87 and 88 are all directed to correcting antecedent basis. In particular, the claims have been made to uniformly recite "(said) mobile or fixed devices or end users" or "(said) mobile or fixed devices" where appropriate. The language for these amendments already appears in the independent claims 61, 70, and 76, moreover in the very same part of each claim containing the proposed amendment. For example, with regard to independent claim 61, the proposed amendment at page 3 line 9 corrects antecedent basis to match page 3 line 8 immediately preceding it. The same correlating support is also true of claims 70 and 76.

It is respectfully submitted that the above-requested amendments are directed only to matters of form and do not affect the scope of the claimed subject matter. Accordingly, it is requested that the above amendments be entered under the provisions of 37 C.F.R. §1.312 without withdrawing the application from the issue process.

Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. Whitham', with a long horizontal flourish extending to the right.

Michael E. Whitham

Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743

PTO/SB/08a (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	13/490,133
Filing Date	06-06-2012
First Named Inventor	Rappaport
Art Unit	2157
Examiner Name	Channavajjala
Attorney Docket Number	08610004C2

Sheet 1 of 1

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US- 20100299274	11-25-2010	Rappaport	
	2	US- 20060143111	06-29-2006	Mylet	
	3	US- 20080031211	02-07-2008	Kalavade et al.	
	4	US- 20090089399	04-02-2009	Beck et al.	
	5	US- 20100167732	07-01-2010	Vakil et al.	
	6	US- 20110058657	03-10-2011	Alegret et al.	
	7	US- 20110257986	10-20-2011	Deanne et al.	
	8	US- 20050130667	06-16-2005	Boiero et al.	
	9	US- 20110002242	09-16-2004	Perlow et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	1	WO0231706	04-18-2002	Brown, Terrance et al.		
	2	WO9843197	10-01-1998	Hughes, Craig et al.		

Examiner
Signature

/Srirama Channavajjala/

Date
Considered

05/02/2013

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Docket: 08610004C2

2

Amendments to the Specification:

Under the title, on page 1, please amend the paragraph at lines 6-10, as follows:

This application is a continuation application of U.S. Serial No. 12/208,007 filed September 10, 2008, now U.S. Patent 8,224,794, which is an application that claims priority to U.S. Provisional Patent Application 60/971,175 filed on Sep. 10, 2007, U.S. Provisional Patent Application 60/977,582 filed on Oct. 4, 2007, and U.S. Provisional Patent Application 61/028,261 filed on Feb. 13, 2008, and the complete contents of each of these applications is herein incorporated by reference.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	13/490,133
				Filing Date	06-06-2012
				First Named Inventor	Rappaport
				Art Unit	2157
				Examiner Name	Channavajjala
Sheet	2	of	2	Attorney Docket Number	08610004C2

[illegible]

Examiner Signature	/Srirama Channavajjala/	Date Considered	05/02/2013
-----------------------	-------------------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

OK TO ENTER: /S.C./

Docket: 08610004C2

1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Rappaport

Serial No. 13/490,133

Filed June 6, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Channavajjala

For Clearinghouse System, Method, and Process for Inventorying and Acquiring
Infrastructure, Monitoring and Controlling Network Performance for
Enhancement, and Providing Localized content in Communication Networks

Commissioner for Patents

P0 Box 1450

Alexandria, Virginia 223 13-1450

SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. 1312

Sir:

A Notice of Allowance was mailed April 11, 2013. The issue fee has not yet been paid. This amendment is supplemental to the Amendment Under 37 CFR 1.312 which was filed on April 15, 2013.

Prior to issuance of the patent, please amend the application as follows:

Amendments to the Specification: begin on page 2

Remarks: begin on page 3



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/490,133

06/06/2012

Theodore S. Rappaport

08610004C2

3175

30743

7590

05/09/2013

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

11491 SUNSET HILLS ROAD

SUITE 340

RESTON, VA 20190

EXAMINER

CHANNAVAJALA, SRIRAMA T

ART UNIT

PAPER NUMBER

2157

MAIL DATE

DELIVERY MODE

05/09/2013

PAPER

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.

Response to Rule 312 Communication	Application No.	Applicant(s)
	13/490,133	RAPPAPORT, THEODORE S.
	Examiner	Art Unit
	SRIRAMA CHANNAVAJJALA	2157

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

1. ☒ The amendment filed on 14 April 2013 under 37 CFR 1.312 has been considered, and has been:

a) ☐ entered.

b) ☒ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

considered IDS -PTO 1449 filed on 4.22.2013 & 5/2/2013

	/Srirama Channavajjala/ Primary Examiner, Art Unit 2157
--	--

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

1

of

1

Complete if Known

Application Number	13/490,133
Filing Date	06-06-2012
First Named Inventor	Rappaport
Art Unit	2157
Examiner Name	Channavajjala
Attorney Docket Number	08610004C2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US- 20100299274	11-25-2010	Rappaport	
	2	US- 20060143111	06-29-2006	Mylet	
	3	US- 20080031211	02-07-2008	Kalavade et al.	
	4	US- 20090089399	04-02-2009	Beck et al.	
	5	US- 20100167732	07-01-2010	Vakil et al.	
	6	US- 20110058657	03-10-2011	Alegret et al.	
	7	US- 20110257986	10-20-2011	Deanne et al.	
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Examiner
SignatureDate
Considered

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If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Theodore S. Rappaport

Serial No. 13/490,133

Filed June 06, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Srirama Channavajjala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORYING AND ACQUIRING INFRASTRUCTURE, MONITORING AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT IN COMMUNICATION NETWORKS

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

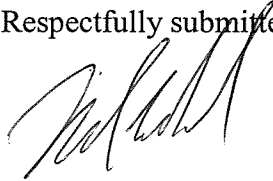
Under the provisions of 37 CFR 1.97 through 1.99 and pursuant to applicant's duty of disclosure under 37 CFR 1.56, applicant respectfully brings the following documents, listed on the attached forms PTO/SB/08, to the attention of the Examiner in charge of the above-identified application. Copies of the references cited in the attached form which are foreign patent documents or non patent literature documents are attached hereto.

These citations do not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Please charge any deficiencies in fees which would prevent consideration of the information disclosure statement and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written over the closing text.

Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	2
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Complete if Known

Application Number	13/490,133
Filing Date	06-06-2012
First Named Inventor	Rappaport
Art Unit	2157
Examiner Name	Channavajjala
Attorney Docket Number	08610004C2

U. S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ *Number ⁴ *Kind Code ⁵ (if known)				
	1	WO2008115992	09-25-2008	Bajuja et al.		
	2	WO2011095618	08-11-2011	Norp et al.		

Examiner Signature		Date Considered	
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	13/490,133
		Filing Date	06-06-2012
		First Named Inventor	Rappaport
		Art Unit	2157
		Examiner Name	Channavajjala
Sheet 2	of 2	Attorney Docket Number	08610004C2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	Tony H. Grubestic et al., "Geographies of imperfection in telecommunication analysis," Telecommunications Policy 29 (2005) 69-94	

Examiner Signature	Date Considered
--------------------	-----------------

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Theodore S. Rappaport

Serial No. 13/490,133

Filed June 06, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Srirama Channavajjala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORYING AND ACQUIRING INFRASTRUCTURE, MONITORING AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT IN COMMUNICATION NETWORKS

Commissioner for Patents
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INFORMATION DISCLOSURE STATEMENT

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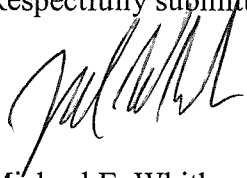
No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

These citations do not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Please charge any deficiencies in fees which would prevent consideration of the information disclosure statement and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written over the typed name.

Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Rappaport
Serial No. 13/490,133
Filed June 6, 2012

Confirmation No. 3175
Group Art Unit 2157
Examiner Channavajjala

For Clearinghouse System, Method, and Process for Inventorying and Acquiring
Infrastructure, Monitoring and Controlling Network Performance for
Enhancement, and Providing Localized content in Communication Networks

Commissioner for Patents
P0 Box 1450
Alexandria, Virginia 223 13-1450

SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. 1312

Sir:

A Notice of Allowance was mailed April 11, 2013. The issue fee has not yet been paid. This amendment is supplemental to the Amendment Under 37 CFR 1.312 which was filed on April 15, 2013.

Prior to issuance of the patent, please amend the application as follows:

Amendments to the Specification: begin on page 2

Remarks: begin on page 3

Amendments to the Specification:

Under the title, on page 1, please amend the paragraph at lines 6-10, as follows:

This application is a continuation application of U.S. Serial No. 12/208,007 filed September 10, 2008, now U.S. Patent 8,242,794, which is an application that claims priority to U.S. Provisional Patent Application 60/971,175 filed on Sep. 10, 2007, U.S. Provisional Patent Application 60/977,582 filed on Oct. 4, 2007, and U.S. Provisional Patent Application 61/028,261 filed on Feb. 13, 2008, and the complete contents of each of these applications is herein incorporated by reference.

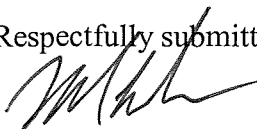
REMARKS

The patent specification has been amended to correctly identify the parent patent serial number.

No changes to the claims have been made.

Please amend the application prior to issuance of the patent.

Respectfully submitted,



Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190

Tel. (703) 787-9400
Fax. (703) 787-7557

Customer No.: 30743

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	08610004C2
		Application Number	
Title of Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--

Inventor Information:

Inventor 1					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Theodore	S.	Rappaport			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Riner	State/Province	VA	Country of Residence i	US	
Mailing Address of Inventor:						
Address 1		2515 Camp Carysbrook Road				
Address 2						
City	Riner	State/Province	VA			
Postal Code	24149	Country i	US			
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.						Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).		
☐ An Address is being provided for the correspondence Information of this application.		
Customer Number	30743	
Email Address	action@wcc-ip.com	Add Email Remove Email

Application Information:

Title of the Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		
Attorney Docket Number	08610004C2	Small Entity Status Claimed ☒	
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	15	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	08610004C2
		Application Number	
Title of Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.											
<table border="1"> <tr> <td>Please Select One:</td> <td>☒ Customer Number</td> <td>☐ US Patent Practitioner</td> <td>☐ Limited Recognition (37 CFR 11.9)</td> </tr> <tr> <td>Customer Number</td> <td colspan="3">30743</td> </tr> </table>				Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)	Customer Number	30743		
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)								
Customer Number	30743										

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.					
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13490133	Continuation of	12208007	2008-09-10	8224794	2012-07-17
Prior Application Status		Expired		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
12208007	non provisional of	60971175	2007-09-10		
Prior Application Status		Pending		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
12208007	non provisional of	60977582	2007-10-04		
Prior Application Status		Expired		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
12208007	non provisional of	61028261	2008-02-13		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					Add

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	08610004C2
		Application Number	
Title of Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove			
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			
Add			

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐	This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
--------------------------	--

Authorization to Permit Access:

☒	Authorization to Permit Access to the Instant Application by the Participating Offices
If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application. In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application. In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	08610004C2
		Application Number	
Title of Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.				
Applicant 1				Remove
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.				
Clear				
☐ Assignee	☐ Legal Representative under 35 U.S.C. 117		☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest		
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:				
Name of the Deceased or Legally Incapacitated Inventor :				
If the Applicant is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Applicant Data may be generated within this form by selecting the Add button. Add				

Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	08610004C2
		Application Number	
Title of Invention	Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks		

Assignee 1				
Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).				
Remove				
If the Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button. Add				

Signature: Remove				
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications				
Signature	/Michael E. Whitham/		Date (YYYY-MM-DD)	2013-04-16
First Name	Michael	Last Name	Whitham	Registration Number
				32635
Additional Signature may be generated within this form by selecting the Add button. Add				

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Rappaport

Confirmation No. 3175

Serial No. 13/490,133

Group Art Unit 2157

Filed June 6, 2012

Examiner Channavajjala

For Clearinghouse System, Method, and Process for Inventorying and
Acquiring Infrastructure, Monitoring and Controlling Network Performance
for Enhancement, and Providing Localized content in Communication
Networks

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

AMENDMENT UNDER 37 C.F.R. 1.312

Sir:

A Notice of Allowance was mailed April 11, 2013. The issue fee has not yet
been paid.

Prior to issuance of the patent, please amend the application as follows:

Amendments to the Specification: begin on page 2

Remarks: begin on page 3

Amendments to the Specification:

Under the title, on page 1, please amend the paragraph at lines 6-10, as follows:

This application is a continuation application of U.S. Serial No. 12/208,007 filed September 10, 2008, now U.S. Patent 8,244,794, which is an application that claims priority to U.S. Provisional Patent Application 60/971,175 filed on Sep. 10, 2007, U.S. Provisional Patent Application 60/977,582 filed on Oct. 4, 2007, and U.S. Provisional Patent Application 61/028,261 filed on Feb. 13, 2008, and the complete contents of each of these applications is herein incorporated by reference.

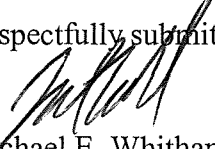
REMARKS

The patent specification has been amended to specifically reference the parent application. This claim of priority was made at the time the application was filed and is recognized in the official filing receipt.

No changes to the claims have been made.

Please amend the application prior to issuance of the patent.

Respectfully submitted,



Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190

Tel. (703) 787-9400
Fax. (703) 787-7557

Customer No.: 30743



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

30743 7590 04/11/2013
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

EXAMINER

CHANNAVAJJALA, SRIRAMA T

ART UNIT

PAPER NUMBER

2157

DATE MAILED: 04/11/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/490,133

06/06/2012

Theodore S. Rappaport

08610004C2

3175

TITLE OF INVENTION: Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional

SMALL

\$890

\$300

\$0

\$1190

07/11/2013

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

30743 7590 04/11/2013
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/490,133	06/06/2012	Theodore S. Rappaport	08610004C2	3175

TITLE OF INVENTION: Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$890	\$300	\$0	\$1190	07/11/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANNAVAJJALA, SRIRAMA T	2157	707-694000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 1 _____ 2 _____ 3 _____
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/490,133	06/06/2012	Theodore S. Rappaport	08610004C2	3175

30743 7590 04/11/2013
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

EXAMINER

CHANNAVAJJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
----------	--------------

2157

DATE MAILED: 04/11/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Examiner-Initiated Interview Summary	Application No.		Applicant(s)	
	13/490,133		RAPPAPORT, THEODORE S.	
	Examiner		Art Unit	
	SRIRAMA CHANNAVAJJALA		2157	

All participants (applicant, applicant's representative, PTO personnel):

(1) SRIRAMA CHANNAVAJJALA. (3) ____.

(2) Michael E. Whitham, Reg. No. 32,635. (4) ____.

Date of Interview: 28 March 2013.

Type: ☒ Telephonic ☐ Video Conference
 ☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
 If Yes, brief description: ____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☐Others
 (For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 61,63,65,68-70,73-76,78,81,83-85,87 and 92-146.

Identification of prior art discussed: ____.

Substance of Interview
 (For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

On 28 March 2013, a telephone call was made to applicant's representative Michael E. Whitham, Reg. No. 32,635, about the amendment to the claims 61,68-70,75-76,83-85,87 and cancelling claims 63,65,73-74,78,81, 92-146 in order to allow the case. The attorney agreed with the Examiner's proposal and authorization has given for an Examiner's Amendment. Total claims allowed:61-62,64,66-72,75-77,79-80,82-91 [re-numbered as 1-25].

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/Srirama Channavajjala/ Primary Examiner, Art Unit 2157	
--	--

Notice of Allowability	Application No. 13/490,133	Applicant(s) RAPPAPORT, THEODORE S.	
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157	AIA (First Inventor to File) Status No

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/6/13.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ 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.
3. ☒ The allowed claim(s) is/are 61-62,64,66-72,75-77,79-80,82-91 [re-numbered as: 1-25]. As a result of the allowed claim(s), 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.
4. ☐ 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)).

* Certified copies not received: _____.

Interim copies:

- a) ☐ All b) ☐ Some c) ☐ None of the: Interim copies of the priority documents have been received.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. ☒ Notice of References Cited (PTO-892) | 5. ☒ Examiner's Amendment/Comment |
| 2. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>11/28/2012</u> | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. ☐ Other _____. |
| 4. ☒ Interview Summary (PTO-413),
Paper No./Mail Date <u>3/28/2013</u> . | |

/Srirama Channavajjala/
Primary Examiner, Art Unit 2157

DETAILED ACTION

1. This application is a CON of US Application # 12/208,007 filed 9/10/2008 is now US Pat. No. **8,224,794**
2. Examiner acknowledges applicant's cancelled claims 33-60, amended claims, and added new claims 76-146 filed on 2/6/2013.
3. Note: In view of applicant cancelled claims 33-60, examiner's statement of reasons on "allowable subject matter" is moot, mailed on 11/19/2012.
4. Claims 1-32 are cancelled, claims 33-75 pending in this application as "preliminary amendment" filed on 6/6/2012.

Drawings

5. The Drawings filed on 6/6/2012 are acceptable for examination purpose

Information Disclosure Statement

6. The information disclosure statement filed on 11/28/2012 .is in compliance with the provisions of 37 CFR 1.97, and has been considered and a copy is enclosed with this Office Action
7. The information disclosure statement filed on 6/6/2012;6/18/2012;7/20/2012;9/25/2012.is in compliance with the provisions of 37 CFR 1.97, and has been considered and a copy is enclosed with the previous Office Action

Priority

8. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e) based on provisional application 60/971,175 filed on 9/10/2007; 60/977,582 filed on 10/4/2007, 61/028,261 filed on 2/13/2008.

Double Patenting

1. In view of applicant filed "terminal disclaimer" and approved, the "double patent" rejection as set forth in the previous office action is hereby withdrawn.

Interview:

1. On 28 March 2013, a telephone call was made to applicant's representative Michael E. Whitham, Reg. No. 32,635, about the amendment to the claims 61,68-70,75-76,83-85,87 and cancelling claims 63,65,73-74,78,81, 92-146 in order to allow the case. The attorney agreed with the Examiner's proposal and authorization has given for an Examiner's Amendment. Total claims allowed: 61-62,64,66-72,75-77,79-80,82-91 [re-numbered as 1-25].

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

Please amend the claims as follows:

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61. (currently amended) A method for providing a clearinghouse for communications networks, comprising:

providing one or more computers which interface with a database, the database including performance, quality of service, or perceived communications service quality or value information, experienced or desired, for one or more mobile or fixed devices or end users, for one or more geographic locations of said one or more mobile devices, and one or more of

records pertaining to one or more telecommunications carriers which identify infrastructure type and/or location information for one or more locations, and

public records which include, for a plurality of geographic locations, one or more of: addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations;

updating in said database either automatically or manually, using one or more electronic interfaces to said one or more computers, performance, quality of service, or perceived communications service quality or value information, experienced or desired, obtained for one or more mobile or fixed devices that are located in one of said one or more geographic locations; ~~and~~

permitting at least one of said one or more telecommunications carriers or one or more end users of said one or more telecommunications carriers, or one

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or more parties which are not telecommunications carriers or end users to review, catalog, store, view, use, or sort said performance, quality of service, or perceived communications service quality or value information, experienced or desired, in said database;

obtaining said performance or quality of service or perceived communications service quality or value information, experienced or desired, using one or more applications operable with said one or more mobile or fixed devices or said one or more computers; and

providing said performance or quality of service or perceived communications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable with said one or more mobile or fixed devices or said one or more computers,

wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more bands, one or more carriers, one or more fixed or mobile devices, or one or more end users from one or more bands or carriers.

62. (previously presented) The method of claim 61 wherein said database includes one or more of records for said one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users.

63. (Canceled)

64. (previously presented) The method of claim 61 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices or one or more end user devices that are located in or will be located in said locations.

65. (Canceled)

66. (previously presented) The method of claim 61 further comprising the step of sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

67. (previously presented) The method of claim 61 further comprising the step of sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

68. (currently amended) The method of claim 61 further comprising the step of monitoring radio operating conditions for one or more wireless or fixed devices, and using monitored radio operating conditions to update performance or quality

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of service information or perceived communications service quality or value information in said database.

69. (currently amended) The method of claim 61 further comprising the step of using one or more mobile or fixed wireless devices to provide said performance or quality of service information or perceived quality or value information to one of said one or more of said electronic interfaces.

70. (currently amended) A method of providing selected content to one or more mobile or fixed devices located in specific locations, comprising the steps of:

providing a clearinghouse system for communications networks, said clearinghouse system including

one or more computers which interface with a database, said database including one or more of

performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, for one or more mobile or fixed devices or end users, for one or more geographic locations of said one or more mobile devices,

records for one or more telecommunications carriers which identify infrastructure information for one or more locations,

records for one or more end users which identify equipment, devices, telecommunications assets or property assets owned, used, or controlled by said one or more end users, and

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public records which include, for a plurality of geographic locations, one or more of: addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations;

permitting at least one of (a) one or more mobile or fixed devices to be in communication with said clearinghouse system using one or more electronic interfaces to said one or more computers to perform one or more of updating, either automatically or manually, performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, obtained from said one or more mobile or fixed devices that are located in one of said one or more geographic locations into said database, and (b) at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications carriers or end users to review, catalog, view, store, use, or sort said performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, in said database;

identifying a geographic location of one or more mobile or fixed devices using one or more of: GPS, location sensing, position estimating techniques, or determining one or more of towers or frequencies being used, wherein said GPS, location sensing, position estimating techniques, or determining of one or more towers or frequencies being used are associated with one or more of said one or

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more mobile or fixed devices or end users; and

providing localized content to said one or more mobile or fixed devices or end users using said geographic location and one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system.

71. (previously presented) The method of claim 70 wherein one or more base stations are in communication with said one or more electronic interfaces of said clearinghouse system.

72. (previously presented) The method of claim 70 further comprising the step of said local ad servers providing web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces.

73-74. (canceled)

75. (currently amended) The method of claim 70 wherein said local ad servers provide content to said one or more mobile or fixed devices tuned to a specific transmitted signal, ~~or channel,~~ or service provider.

76. (currently amended) A clearinghouse system for communications networks, comprising:

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one or more computers which interface with a database, said database including performance, quality of service, or perceived telecommunications service quality or value_information, experienced or desired, for one or more mobile or fixed devices or end users,_for one or more geographic locations of said one or more mobile devices, and one or more of

records pertaining to one or more telecommunications carriers which identify one or more of infrastructure, type, and/or location information for one or more locations,

records for one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of:_ addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations; and

one or more electronic interfaces to said one or more computers which permit performance, quality of service, or perceived communications service quality or value_information, experienced or desired, obtained for one or more mobile or fixed devices that are located in one of said one or more geographic locations to be automatically or manually updated into said database, and which permit at least one of said one or more telecommunications carriers or one or

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more of said end users or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, sort, or use said performance, quality of service, or perceived communications service quality or value information, experienced or desired, in said database; and

a monitoring application which permits monitoring of radio operating conditions for one or more mobile or fixed wireless devices, wherein monitored radio operating conditions are used to update performance or quality of service information or perceived communications quality or service value in said database.

wherein said performance or quality of service information or perceived communications quality or service value includes information from one or more bands, one or more carriers, one or more mobile or fixed devices, or one or more end users from one or more bands or carriers.

77. (previously presented) The clearinghouse system of claim 76 wherein said one or more electronic interfaces provides performance or quality of service information or perceived communications quality or service value to one or more mobile or fixed devices that are located in or will be located in said locations.

78. (Canceled)

79. (previously presented) The clearinghouse system of claim 76 further comprising means for sending instructions from one of said one or more

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electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: a ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

80. (previously presented) The clearinghouse system of claim 76 further comprising means for sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

81. (Canceled)

82. (previously presented) The clearinghouse system of claim 76 further comprising one or more wireless devices which are configured to provide said performance or quality of service information or perceived communications quality or service value to one of said one or more of said electronic interfaces.

83. (currently amended) The clearinghouse system of Claim 76 wherein said one or more electronic interfaces to said one or more computers further permit one or more mobile or fixed devices or one or more end users to communicate said performance, quality of service, or perceived communications service quality or value information, experienced or desired, to said one or more computers.

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84 (currently amended) The clearinghouse system of Claim 83 wherein said one or more electronic interfaces are configured to receive geographic location information from said one or more mobile devices or said one or more fixed devices or said one or more end users.

85. (currently amended) The clearinghouse system of Claim 76 further comprising

one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system, said one or more local ad servers being configured to use information pertaining to geographic locations of said one or more mobile devices or said one or more fixed devices or said one or more end users to provide localized content to one or more of said one or more mobile devices or said fixed devices.

86. (previously presented) The clearinghouse system of Claim 85 wherein said local ad servers are configured to provide web page view and usage statistics to said database through said one or more electronic interfaces.

87. (currently amended) The clearinghouse system of Claim 76 further comprising a means for determining one or more of towers or frequencies being used by one or more of said one or more mobile devices or said one or more fixed devices or said one or more end users.

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88. (previously presented) The clearinghouse system of Claim 85 wherein said local ad servers are configured to provide content to at least one mobile device or fixed device tuned to a specific transmitted signal or channel.

89. (previously presented) The clearinghouse system of claim 76 further comprising

one or more applications operable with said one or more mobile or fixed devices or said one or more computers for obtaining and providing data pertaining to one or more of

end user location;

end user viewing/usage statistics of the Internet;

end user history or record of browsing or viewing data of on-line advertisements;

end user Internet or traffic usage profiles; and

said performance, quality of service, or perceived communications service quality or value information, experienced or desired, to said one or more electronic interfaces.

90. (previously presented) The clearinghouse system of claim 89 wherein said one or more applications are configured to receive manually obtained or provided data.

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91. (previously presented) The clearinghouse system of claim 89 wherein said one or more applications are configured to receive_automatically obtained or provided data.

92-146. (Canceled)

Reasons for Allowance

Claims 1,3-4,9,12-14,18 are allowed.

The following is an examiner's statement of reasons:

In view of the applicant's arguments page 8-13, and further examiner amendment to the claims 1,3,13-14,18 and cancelling claims 2,5,8,10,17, the prior art of record does not disclose, make obvious, or otherwise suggest the structure of the applicant's :

“obtaining said performance or quality of service or perceived communications service quality or value information, experienced or desired, using one or more applications operable with said one or more mobile or fixed devices or said one or more computers; and

providing said performance or quality of service or perceived communications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable with said one or more mobile or fixed devices or said one or more computers,

wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more bands, one or more carriers, one or more fixed or mobile devices, or one or more end users from one or more bands or carriers”, in claim 61,.

“(b) at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications

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carriers or end users to review, catalog, view, store, use, or sort said performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, in said database;

identifying a geographic location of one or more mobile or fixed devices using one or more of: GPS, location sensing, position estimating techniques, or determining one or more of towers or frequencies being used, wherein said GPS, location sensing, position estimating techniques, or determining of one or more towers or frequencies being used are associated with one or more of said one or more mobile or fixed devices or end users”, in claim 70;

“a monitoring application which permits monitoring of radio operating conditions for one or more mobile or fixed wireless devices, wherein monitored radio operating conditions are used to update performance or quality of service information or perceived communications quality or service value in said database,

wherein said performance or quality of service information or perceived communications quality or service value includes information from one or more bands, one or more carriers, one or more mobile or fixed devices, or one or more end users from one or more bands or carriers”, in claim 76.

These features, together with the other limitations of the independent claims are novel and non-obvious over the prior art of record. The dependent claims 62,64,66-69,71-72,75,77,79-80,82-91, being definite, enabled by the specification, and further limiting to the independent claims are also allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim, Charles, can be reached on (571) 272-7421. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Srirama Channavajjala/
Primary Examiner, Art Unit 2157.

Notice of References Cited	Application/Control No. 13/490,133		Applicant(s)/Patent Under Reexamination RAPAPORT, THEODORE S.	
	Examiner SRIRAMA CHANNAVAJJALA		Art Unit 2157	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0203738	09-2006	Fok et al.	370/252
*	B	US-8,254,939	08-2012	Xia et al.	455/445
*	C	US-2003/0072425	04-2003	Hurst, Michael	379/114.01
*	D	US-2007/0155411	07-2007	Morrison, James	455/466
*	E	US-2004/0088333	05-2004	Sidman, David	707/201
*	F	US-2003/0200296	10-2003	Lindsey, Terry P.	709/223
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	WO 2007/144568	12-2007	PCT	Ghanea0Hercocck,Robert A e	
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Juha Kalliokulju, "Quality of service management functions in 3rd generation mobile telecommunication networks", IEEE 1999, pp 1283-1287
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

CPC- SEARCHED		
Symbol	Date	Examiner
G06 F 17/00 & 17/30	3/29/2013	SC
G06F 11/00	3/29/2013	SC
H04 W 4/00	3/29/2013	SC
H04 H 20/71	3/29/2013	SC
H04B 7/00	3/29/2013	SC

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
705	33,14.1,14.11,39	11/15/2012	SC
709	203,206,215-220	11/15/2012	SC
379	1.01,9.04,32.01,88.09,114.08	11/15/2012	SC
455	406,408,417,445,560	11/15/2012	SC
707	608-609,688,705,748,825,827	11/15/2012	SC
707	608-609,688,705,748,825,827	3/29/2013	SC
709	203,206,215-220	3/30/2013	SC
370	252-253,328-329	3/29/2013	SC
455	3.01,422.1,456.3,509,524-525	3/29/2013	SC

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor searched	11/15/2012	SC
PLUS search	11/15/2012	SC
google search attached	11/15/2012	SC
NPL search attached	11/15/2012	SC
WEST search attached	11/15/2012	SC
Inventor searched	3/29/2013	SC
PLUS search	3/29/2013	SC

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SEARCH NOTES

Search Notes	Date	Examiner
google search attached	3/29/2013	sc
NPL search attached	3/29/2013	sc
WEST Interference search attached	3/29/2013	sc
WEST search attached	3/29/2013	sc

INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
707	608-609,688,705,748,825,827	3/29/2013	sc
709	203,206,215-220	3/29/2013	sc
370	252-253,328-329	3/29/2013	sc
455	452.2,445	3/29/2013	sc

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Issue Classification 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

CPC							
Symbol						Type	Version
G06F		17			00	F	20130101
G06F		11			00	I	20130101
G06F		15			177	A	20130101

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION										
CLASS			SUBCLASS			CLAIMED					NON-CLAIMED					
707			694			G	0	6	F	17 / 00 (2006.0)						
CROSS REFERENCE(S)						G	0	6	F	17 / 30 (2006.0)						
						G	0	6	F	11 / 00 (2006.0)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					H	0	4	H	20 / 11						
707	688	758	805			H	0	4	W	4 / 00 (2009.0)						
709	220					G	0	6	F	15 / 177 (2006.0)						
455	3.01	422.1														

NONE		Total Claims Allowed: 25	
(Assistant Examiner)	(Date)		
/SRIRAMA CHANNAVAJJALA/ Primary Examiner.Art Unit 2157	3/29/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2 and 12

Issue Classification 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

☐ Claims renumbered in the same order as presented by applicant															
☐ CPA															
☐ T.D.															
☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	61	18	84												
2	62	19	85												
3	64	20	86												
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NONE		Total Claims Allowed: 25	
(Assistant Examiner)	(Date)		
/SRIRAMA CHANNAVAJJALA/ Primary Examiner.Art Unit 2157	3/29/2013	O.G. Print Claim(s) 1	O.G. Print Figure 2 and 12
(Primary Examiner)	(Date)		

WEST Search History

DATE: Friday, March 29, 2013

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	L16	\$ 4 and crawler and voip and digital and recorder and webserver \$ 1 and voicemail \$ 3 and facsimile and internet and interface and telephone and speech and handwriting \$ 3 and fingerprint and recognit \$ 4 and device \$ 1 and electronic and mail \$ 3 and public and record \$ 1 and mapp \$ 3 and owner \$ 1 and tenant \$ 1 and proposed and business and term \$ 1 and infrastructure and need \$ 1 and property and asset \$ 1).clm.	1
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		type \$ 1 and telecommunication \$ 1 and asset \$ 1 and network \$ 3 and database \$ 1).clm.	
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	L4	(infrastructure and equipment and performance and location \$ 1 and record \$ 1 and carrier \$ 1 and identi \$ 4 and geographic and location \$ 1 and type \$ 1 and telecommunication \$ 1 and asset \$ 1 and network \$ 3 and database \$ 1).clm.	3
	L3	(record \$ 1 and carrier \$ 1 and identi \$ 4 and geographic and location \$ 1 and type \$ 1 and telecommunication \$ 1 and asset \$ 1 and network \$ 3 and database \$ 1).clm.	3
	L2	(geographic and location \$ 1 and type \$ 1 and telecommunication \$ 1 and asset \$ 1 and network \$ 3 and database \$ 1).clm.	3
	L1	(telecommunication \$ 1 and asset \$ 1 and network \$ 3 and database \$ 1).clm.	42

END OF SEARCH HISTORY

WEST Search History

DATE: Friday, March 29, 2013

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☐	L196	L195 and (quality same value\$1)	3
☐	L195	L194 and (carrier\$1 same service\$1)	28
☐	L194	L193 and (geographic same location\$1)	47
☐	L193	L192 and (user\$1 same wireless)	114
☐	L192	L190 and (interfac\$3 and bandwidth)	163
☐	L190	L189 and (interfac\$3 same device\$1)	230
☐	L189	L187 and (locat\$3 same quality)	266
☐	L187	(telecommunication\$3 and provider\$1 and catalog\$3 and quality and database\$1) and @py<=2008	1140
☐	L186	(telecommunication\$2 and database\$1).ti. and @py<=2008	11
☐	L185	L184 and mobile and network\$3	9
☐	L184	(clearinghouse and database\$1).ab. and @py<=2008	29
☐	L183	(clearinghouse and database\$1 and network\$3).ab. and @py<=2008	10
☐	L182	(clearinghouse and database\$1 and network\$3).ab. and @py<=2008	10
☐	L181	1175 and (updat\$3 same database\$1)	3
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■ L174 (telecommunication\$3 and carrier\$1 and record\$1 and geographical and location\$1).clm. and @py<=2008	10
■ L172 (telecommunication\$3 and provider\$1 and record\$1 and geographical and location\$1).ab. and @py<=2008	3
■ L171 (telecommunication\$3 and location\$1 and provider\$1).ti.	21
■ L170 (telecommunication\$3 and location\$1).ti.	1186
■ L169 L168 and (telecommunicat\$4 and geographical)	6
■ L168 6023699.uref.	33
■ L167 (telecommunication\$3 and catalog\$3 and location\$2).ab. and @py<=2008	3
■ L166 L165 and (telecommunication\$3 and infrastructure)	13
■ L165 7295119.uref.	56
■ L164 7295119.pn.	2
■ L163 L162 and (quality and performance and carrier\$1)	2
■ L162 (telecommunication\$4 and market\$3).ti. and @py<=2009	48
■ L161 L160 and (user\$1 and network\$3 and database\$1)	9
■ L160 L158 and (telecommunication\$3 and performance)	26
■ L159 L158 and (telecommunication\$3 and carrier\$1 and user\$1)	5
■ L158 (telecommunication\$3 and business).ti.	207
■ L157 L156 and (carrier\$1 and performance\$3)	7
■ L156 (telecommunication\$4 and business and model\$1).ab. and @py<=2008	79
■ L155 L154 and (carrier\$1 and performance\$3)	1
■ L154 L153 and (telecommunication\$3 and user\$1)	7
■ L153 L152 and (third near5 part\$2)	8
■ L152 L147 and (telecommunication\$3 and device\$1 and database\$1)	167
■ L150 L149 and (telecommunication\$3 and quality and business)	9
■ L149 L147 and (telecommunication\$3 and provider\$1)	61
■ L147 (telecommunication\$3 and equipment\$1 and database\$1).ab. and @py<=2008	416
■ L145 8224794.pn.	2
■ L144 L143 and (telecommunication\$3 same carrier\$1) and @py<=2008	5
■ L143 (telecommunication\$3 and infrastruc\$4).ti.	161
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■ L142	5907550 6005840 6032132 6069871 6078796 6081731 6091715 6137874 6144726 6175550 6298123 6308067 6388518 6393283 6397064 6658260 6839562 6947723 6985748 7072664 7181538 7242931 7302265 7430425 7483674 7495608 7519654 7542559 7555300 RE41006 7636333 7644038 7747945).pn. ("20040076283" "6169791" "20020123919" "20030134648" "6499006" "7035642" "7096173" "7286649" "20020023010" "20020136391" "20090313113" "6032132" "6757543" "7286971" "20060015375" "20060178918" "20070198339" "20030167175" "20040230563" "20050216421" "6542588" "6876951" "6971063" "7085697" "20020023010" "20050201525" "20070176745" "6317599" "6850946" "7243054" "20080232574" "20090313318" "6405028" "6493679" "6628934" "6788766" "6879584" "6937869" "7055107" "7171208" "20060015375" "20060178918" "20020147726" "20080049745" "20080065570" "6442507" "7019753" "7096160" "20040236547" "6625454" "6973622" "7164883" "7246045" "20060031082" "20100165862" "20060031082" "5561704" "7933605" "20100142446" "6061558" "6721769" "7155228" "20070165805").PN.	198
■ L141		115
■ L140	L133 and (automatic same updat\$3)	4
■ L137	L135 and (user\$1 same review\$1)	4
■ L135	L134 and (service near\$5 information)	13
■ L134	L133 and (multiple near\$5 carrier\$1)	25
■ L133	L132 and (multiple near\$5 band\$1)	100
■ L132	L76 and (mobile near\$5 device\$1)	3314
■ L131	L130 and (performance near\$5 data)	4
■ L130	L128 and (priorit\$3 near\$5 location\$1)	6
■ L128	L112 and (wireless near\$5 device\$1) and (mobile near\$5 device\$1)	46
■ L127	L112 and (land near\$5 device\$1) and (mobile near\$5 device\$1)	0
■ L126	L125 and (multiple near\$5 carrier\$1)	4
■ L125	L124 and (quality near\$5 service\$1)	7
■ L124	L116 and (voice near\$5 mail) and (web near\$5 server\$1)	7
■ L123	L112 and voip	2
■ L122	L121 and (device\$1 same properties)	5
■ L121	L120 and (owner\$1 same asset\$1)	6
■ L120	L116 and (telecommunication\$1 same infrastructure)	41
■ L116	L40 and (telecommunication\$1 same catalog\$1)	173
■ L115	L114 and (business same rule\$1)	3
■ L114	L113 and (geographic same location\$1)	14
■ L113	L112 and (wireless same carrier\$1)	37
■ L112	L111 and L52	469

■	L111 L110 or L109 or L108 or L73	256261
■	L110 (455/405 455/406).ccls.	3025
■	L109 705/\$.ccls.	123185
■	L108 707/\$.ccls.	137823
■	L107 L106 and customer\$1 and contact\$3	11
■	L106 L105 and quality and preference\$1	16
■	L105 L101 and database\$1	54
■	L102 L101 and L93	1
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■	L100 L99 and (public near5 record\$1)	3
■	L99 L98 and interfac\$3 and computer\$1	63
■	L98 L79 and (base near5 station\$1)	64
■	L96 L95 and (communication near5 permit\$1)	27
■	L95 L94 and (digital near5 record\$3)	174
■	L94 L93 and clearinghouse	853
■	L93 L39 and (business near5 rule\$1)	15706
■	L92 L39 and (business near5 rule\$1)	238916
■	L91 L90 and voip	3
■	L90 L89 and (voice near5 mail\$3)	5
■	L89 L88 and database\$1	22
■	L88 L86 and preference\$1 and infrastructure\$1	22
■	L86 L85 and (business near5 rule\$1)	26
■	L85 L84 and L77	99
■	L84 (telecommunication\$1 near5 equipment\$1) and user\$1 and @py<=2007	6824
■	L83 L82 and user\$1	4
■	L82 L80 and (telecommunication\$1 near5 device\$1)	4
■	L80 L79 and (propert\$3 same asset\$1)	16
■	L79 L78 and customer\$1 and contact\$3 and database\$1	415
■	L78 L77 and (market\$3 and sale\$1 and business)	545
■	L77 L76 and (geographic near5 location\$1)	1661
■	L76 database\$1 and telecommunication\$1 and wireless and performance and @py<=2007	10166
■	L75 L74 and L73	3

■	L74	L73 and telecommunication\$1 and performance and monitor\$3 and @py<=2007 (20090070379 20100250268 20100250269 20100299274 20090059822 20090061924 20030050070 20060160543 20090131014 6397055 6405028 6546238 6556818 7328042 7359726 7359731 7702346 20060052126 20060052130 20060058007 20060058008 20060063549 20080070550 6754833	3
■	L73	6359923 20030165223 6381315 6411825 7072666 7907966 7956817 20040076127 20080112383 20080254790 20090102743 20090117941 20090224998 20100315309 20110143741 7542559 20100069100 20050009499 7720050 20070002837 20090209233 7328001 7454191 20060030291 20060040641 20060172721).pn.	105
■	L72	L69 and brows\$3	5
■	L69	(telecommunicat\$4 and tower\$1).clm. and @py<=2007	76
■	L67	(telecommunicat\$4 and tower\$1 and roof\$top\$1 and billboard\$1).clm. and @py<=2007	0
■	L66	L65 and clearinghouse	3
■	L65	L64 and (telecommunication\$1 and wireless)	54
■	L64	L63 and (performance and monitor\$3)	61
■	L63	telecommunication\$1 and network\$3 and carrier\$1 and billboard\$1 and tower\$1 and @py<=2007	70
■	L60	L52 and (bill\$3 near5 database\$1)	119
■	L59	L58 and geographic	15
■	L58	L55 and (service\$1 near5 catalog\$3)	15
■	L55	L54 and (database\$1 near5 record\$1)	63
■	L54	L52 and (telecommunication\$1 near5 carrier\$1)	64
■	L52	(clearinghouse and equipment and performance) and @py<=2007	875
■	L48	L46 and tenants and user\$1	13
■	L46	L45 and asset\$1 and propert\$2	13
■	L45	L44 and (business near5 rule\$1)	13
■	L44	L43 and (telecommunication\$1 near5 carrier\$1)	37
■	L43	L42 and geographic and location\$1	131
■	L42	L41 and (quality and performance and monitor\$3)	170
■	L41	L40 and clearinghouse and @py<=2007	377
■	L40	L39 and (wireless and telecommunication and network\$3)	39093
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■	L35	707/\$.ccls.	137823
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■	L33	L32 and (geographic near5 location\$1)	4

■	L32	L31 and database\$1 and record\$1	25
■	L31	L30 and infrastructure	31
■	L30	L29 and (equipment\$1 and carrier\$1)	73
■	L29	(telecommunicat\$4 and business).ab. and @py<=2007	1249
■	L27	L26 and location\$1	5
■	L26	L22 and database\$1	12
■	L22	(telecommunicat\$4 and performance and carrier\$1).ab. and @py<=2008	186
■	L21	L20 and geographic and location\$1	8
■	L20	L19 and telecommunication\$1 and carrier\$1	15
■	L19	L18 and (clearinghouse and database\$1)	26
		(20090070379 20100250268 20100250269 20100299274 20090059822 20090061924 20030050070 20060160543 20090131014 20090117941 6397055 6405028 6546238 6556818 7328042 7359726 7359731 7702346 20060052126 20060052130 20060058007 20060058008 20060063549 20080070550 6754833 6359923 20030165223 6381315 6411825 7072666 20040076127 20080112383 20080254790 20090102743 20090224998 20100315309 7542559 20100069100 20050009499 5953400 6078796 5319672 5606595 5926761 6061450 6061450 6148182 7305354 7720050 7832052 20040181591 20050289047 20060093051 20060187887 20070002837 20080181327 20080289778 20090180559 20090209233 20050060317 7328001 7454191 20060030291 20060040641 20060172721 20080207164 20080311885 5548813 6421543 6901717 7050786 7050787 7076237 7389106 20020109623 20020170261 20070161383 20070287414 20080188198 20090125409 20090224554 6259914 6659263 20010014270 4462314 4820415 5453184 5486363 5528219 5974314 5974315 6050277 6072985 6173537 6316397 6395695 6725674 6939098 20040013504 5454465).pn.	200
■	L17	L15 and (carriers near5 service\$1)	7
■	L15	L14 and (wireless near5 network\$3)	20
■	L14	(clearinghouse near5 database\$1) and (telecommunication\$1 near5 provider\$1)	128
■	L11	6542588.uref.	19
■	L10	6542588.pn.	2
■	L9	L7 and (business near5 rule\$1)	6
■	L8	L7 and (business neaer5 rule\$1)	17
■	L7	(clearinghouse and telecommunicat\$4).clm. and @py<=2008	25
■	L3	(clearing\$house and database\$1).ti. and @py<=2008	5

END OF SEARCH HISTORY

Receipt date: 11/28/2012

13490133 - GAI: 2157

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133	
	Filing Date		2012-06-06	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		08610004C2	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5978236	A	1999-11-02	Faberman et al.	
	2	7782848	B2	2010-08-24	Kalavade et al.	
	3	8107956	B2	2012-01-31	Vakil et al.	
	4	6766322		2004-07-20	Bell	
	5	6108557		2000-08-22	Wax et al.	
	6	6996610		2006-02-07	Bantz et al.	
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Receipt date: 11/28/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133	13490133 - GAU: 2157
	Filing Date		2012-06-06	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number	08610004C2		

	1	20100250268	A1	2010-09-30	Rappaport	
	2	20100250269	A1	2010-09-30	Rappaport	
	3	20010034204	A1	2001-10-25	Pentikainen	
	4	20060143111	A1	2006-06-29	Mylet	
	5	20080031211	A1	2008-02-07	Kalavade et al.	
	6	20090089399	A1	2009-04-02	Beck et al.	
	7	20100167732	A1	2010-07-01	Vakil et al.	
	8	20110058657	A1	2011-03-10	Alegret et al.	
	9	20110257986	A1	2011-10-20	Deanne et al.	

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵

Receipt date: 11/28/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133	13490133 - GAU: 2157
	Filing Date		2012-06-06	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number	08610004C2		

	1	2005/101878	WO	A1	2005-10-27	RESEARCH IN MOTION		☐
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Examiner Signature	/Srirama Channavajjala/	Date Considered	03/29/2013
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA				☐ T.D.				☐ R.1.47			
CLAIM		DATE													
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

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☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

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☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
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☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE							
Final	Original	11/16/2012	03/29/2013						
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	146		-						

Application Number 	Application/Control No. 13/490,133	Applicant(s)/Patent under Reexamination RAPPAPORT, THEODORE S.	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 02-06-2013	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

Dorethea Lawrence --4-- approved

**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket Number (Optional)
08410004c2

In re Application of: Rappaport

Application No.: 13/490,133

Filed: June 6, 2012

For: CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORING AND ACQUIRING INFRASTRUCTURE,
MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT

The owner*, Theodore S. Rappaport, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 12/815,076, filed June 14, 2010, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

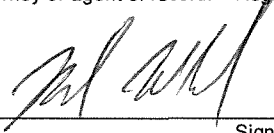
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 32,635



Signature
February 6, 2013

Date
Michael E. Whitham

Typed or printed name

703-787-9400

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

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REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)
08610004c2

In re Application of: Rappaport

Application No.: 13/490,133

Filed: June 6, 2012

For: CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORYING AND ACQUIRING INFRASTRUCTURE,
MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT...

The owner*, Theodore S. Rappaport, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,224,794 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

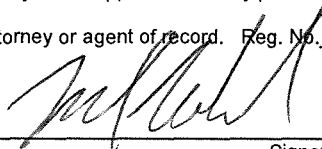
expires for failure to pay a maintenance fee;
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is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
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is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 32,635



Signature

February 6, 2013
Date

Michael E. Whitham
Typed or printed name

703-787-9400
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Theodore Rappaport

Serial No. 13/490,133

Filed June 6, 2012

Confirmation No. 3175

Group Art Unit 2157

Examiner Srirama Channavajjala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR
INVENTORYING AND ACQUIRING INFRASTRUCTURE, MONITORING, AND
CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND
PROVIDING LOCALIZED CONTENT IN COMMUNICATION NETWORKS

Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

AMENDMENT UNDER 37 C.F.R. §1.111

Sir:

The undersigned thanks the Examiner for the in-person interview which took place January 15, 2012. This amendment makes the substance of the interview of record in the application.

In response to the office action mailed November 19, 2012, the applicant requests reconsideration and requests entry of the following amendment.

Listing of the Claims: begins on page 2

Remarks: begin on page 19

Listing of the Claims:

The following is complete listing of all the claims in the application, with an indication of the status of each:

1-60. (Canceled)

61. (currently amended) A method for providing a clearinghouse for communications networks, comprising:

providing one or more computers which interface with a database, the database including performance, quality of service, or perceived communications service quality or value information, experienced or desired, for one or more mobile devices or end users for one or more geographic locations of said one or more mobile devices, and one or more of

records pertaining to one or more telecommunications carriers which identify infrastructure type and/or location information for one or more locations, and public records which include, for a plurality of geographic locations, one or more of addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations;

updating in said database either automatically or manually, using one or more electronic interfaces to said one or more computers, performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, obtained for from one or more mobile or fixed devices that are located in one of said one or more geographic locations; and

permitting at least one of said one or more telecommunications carriers or one or more end users of said one or more telecommunications ~~telecommunications~~ carriers, or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, use, or sort said performance, quality of service, or perceived

communications service quality or value information, experienced or desired, in said database.

62. (previously presented) The method of claim 61 wherein said database includes one or more of records for said one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users.

63. (currently amended) The method of claim 61 further comprising the steps of
obtaining and providing said performance or quality of service or perceived telecommunications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable with said one or more mobile or fixed devices or said one or more computers.

64. (previously presented) The method of claim 61 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices or one or more end user devices that are located in or will be located in said locations.

65. (previously presented) The method of claim 61 wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more of multiple bands, multiple carriers, multiple fixed or mobile devices, or multiple end users from multiple bands or carriers.

66. (previously presented) The method of claim 61 further comprising the step of sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

67. (previously presented) The method of claim 61 further comprising the step of sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

68. (currently amended) The method of claim 61 further comprising the step of monitoring radio operating conditions ~~for~~ ~~of~~ one or more wireless devices, and using monitored radio operating conditions to update performance or quality of service information or perceived communications service quality or value information in said database.

69. (previously presented) The method of claim 61 further comprising the step of using one or more wireless devices to provide said performance or quality of service information or perceived quality or value information to one of said one or more of said electronic interfaces.

70. (currently amended) A method of providing selected content to one or more mobile or fixed devices located in specific locations, comprising the steps of:

providing a clearinghouse system for communications networks, said clearinghouse system including

one or more computers which interface with a database, said database including one or more of

performance, ~~or~~ quality of service, or perceived telecommunications service quality or value information, experienced or desired, for one or more mobile devices or end users for one or more geographic locations of said one or more mobile devices,

records for one or more telecommunications carriers which identify infrastructure information for one or more locations,

records for one or more end users which identify equipment, devices, telecommunications assets or property assets owned, used, or controlled by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations;

permitting at least one of (a) one or more mobile or fixed devices to be in communication with said clearinghouse system using one or more electronic interfaces to said one or more computers to perform one or more of updating, either automatically or manually, performance, ~~or~~ quality of service, or perceived telecommunications service quality or value information, experienced or desired, obtained from said one or more mobile or fixed devices that are located in one of said one or more geographic locations into said database, and (b) at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications carriers or end users to review, catalog, view, store, use, or sort ~~reviewing, cataloging, viewing, storing, using, or sorting~~ said performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, in said database;

identifying a geographic location of one or more mobile or fixed devices; and

providing localized content to said one or more mobile or fixed devices using said geographic location and one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system.

71. (previously presented) The method of claim 70 wherein one or more base stations are in communication with said one or more electronic interfaces of said clearinghouse system.

72. (previously presented) The method of claim 70 further comprising the step of said local ad servers providing web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces.

73. (previously presented) The method of claim 70 wherein the step of identifying a geographic location is performed using a GPS associated with one or more of said one or more mobile or fixed devices.

74. (previously presented) The method of claim 70 wherein said step of identifying a geographic location includes the step of determining one or more of towers and frequencies being used by one or more of said one or more mobile or fixed devices.

75. (currently amended) The method of claim 70 wherein said local ad servers provide content to said one or more mobile or fixed devices tuned to a specific transmitted signal or channel.

76. (new) A clearinghouse system for communications networks, comprising:

one or more computers which interface with a database, said database including performance, quality of service, or perceived telecommunications service quality or value information, experienced or desired, for one or more mobile devices or end users, for one or more geographic locations of said one or more mobile devices, and one or more of

records pertaining to one or more telecommunications carriers which identify one or more of infrastructure, type, and/or location information for one or more locations,

records for one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of addresses, maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations; and

one or more electronic interfaces to said one or more computers which permit performance, quality of service, or perceived communications service quality or value

information, experienced or desired, obtained for one or more mobile or fixed devices that are located in one of said one or more geographic locations to be automatically or manually updated into said database, and which permit at least one of said one or more telecommunications carriers or one or more of said end users or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, sort, or use said performance, quality of service, or perceived communications service quality or value information, experienced or desired, in said database.

77. (New) The clearinghouse system of claim 76 wherein said one or more electronic interfaces provides performance or quality of service information or perceived communications quality or service value to one or more mobile or fixed devices that are located in or will be located in said locations.

78. (New) The clearinghouse system of claim 76 wherein said performance or quality of service information or perceived communications quality or service value includes information from one or more of: multiple bands, multiple carriers, and multiple end users.

79. (New) The clearinghouse system of claim 76 further comprising means for sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: a ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

80. (New) The clearinghouse system of claim 76 further comprising means for sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

81. (New) The clearinghouse system of claim 76 further comprising a monitoring application which permits monitoring of radio operating conditions for one or more wireless devices, wherein monitored radio operating conditions are used to update

performance or quality of service information or perceived communications quality or service value in said database.

82. (New) The clearinghouse system of claim 76 further comprising one or more wireless devices which are configured to provide said performance or quality of service information or perceived communications quality or service value to one of said one or more of said electronic interfaces.

83. (New) The clearinghouse system of Claim 76 wherein said one or more electronic interfaces to said one or more computers further permit one or more mobile or fixed devices to communicate said performance, quality of service, or perceived communications service quality or value information, experienced or desired, to said one or more computers.

84 (new) The clearinghouse system of Claim 83 wherein said one or more electronic interfaces are configured to receive geographic location information from said one or more mobile devices or said fixed devices.

85. (new) The clearinghouse system of Claim 76 further comprising
one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system, said one or more local ad servers being configured to use information pertaining to geographic locations of said one or more mobile devices or said fixed devices to provide localized content to one or more of said one or more mobile devices or said fixed devices.

86. (new) The clearinghouse system of Claim 85 wherein said local ad servers are configured to provide web page view and usage statistics to said database through said one or more electronic interfaces.

87. (new) The clearinghouse system of Claim 76 further comprising a means for determining one or more of towers or frequencies being used by one or more of said one

or more mobile devices or said fixed devices.

88. (new) The clearinghouse system of Claim 85 wherein said local ad servers are configured to provide content to at least one mobile device or fixed device tuned to a specific transmitted signal or channel.

89. (new) The clearinghouse system of claim 76 further comprising
one or more applications operable with said one or more mobile or fixed devices
or said one or more computers for obtaining and providing data pertaining to one or more
of

end user location;

end user viewing/usage statistics of the Internet;

end user history or record of browsing or viewing data of on-line advertisements;

end user Internet or traffic usage profiles; and

said performance, quality of service, or perceived communications service quality
or value information, experienced or desired, to said one or more electronic interfaces.

90. (new) The clearinghouse system of claim 89 wherein said one or more applications
are configured to receive manually obtained or provided data.

91. (new) The clearinghouse system of claim 89 wherein said one or more applications
are configured to receive automatically obtained or provided data.

92. (new) A method of building and providing access to a database for extending the use
of carrier-based networks, comprising:

collecting, using a computer, property information of one or more properties or
property assets that are owned or controlled by one or more members of the public which
are identified by said one or more members of the public as being available for possible
use by one or more carriers;

storing in a database, by action of said computer, said property information;

providing an interface through which one or more carriers access said property

information stored in said database; and

providing a communications application which permits negotiation or communication between said one or more members of the public and said one or more carriers for potential use of said one or more properties or property assets by said one or more carriers;

wherein said property information includes information pertaining to one or more of towers, rooftops, outbuildings, church steeples, buildings, building extensions, land, signs, billboards, poles, power, backups, and generators.

93. (New) The method of Claim 92, further comprising, using said computer and property information store in said database, forming a business contract between a carrier and a member of the public.

94. (New) The method of Claim 92, further comprising providing an interface through which one or more parties other than said carriers and property owners access property information stored in said database.

95. (new) The method of Claim 94 wherein said one or more parties comprises one or more content providers.

96. (new) The method of Claim 94 wherein said one or more parties comprises one or more advertisers.

97. (new) The method of Claim 92 wherein said interface comprises a human viewable web-page.

98. (New) The method of Claim 92 wherein said interface comprises internet addressing without a visible web page interface.

99. (New) A clearinghouse system, comprising:

a clearinghouse database configured to store property information of properties

owned or controlled by one or more members of the public and available for possible use by one or more carriers of carrier-based services;

a computer configured to manage and update said clearinghouse database, said computer having a server configured to serve data relating to property information stored in said clearinghouse database to carriers;

an interface through which members of the public submit property information for storage in said clearinghouse database; and

an interface through which said one or more carriers access and evaluate whether one or more properties described by said property information stored in said clearinghouse database i) are subject to contractual, legal, government, or zoning restrictions or ii) match a property need or property specification of said one or more carriers.

100. (new) The clearinghouse system of Claim 99 wherein said computer is configured to receive and store in said clearinghouse database coverage or reception quality information for mobile devices operating in one or more wireless communications networks.

101. (New) The clearinghouse system of Claim 100 wherein said computer is further configured to serve coverage or reception quality data using coverage or reception information stored in said clearinghouse database.

102. (New) The clearinghouse system of Claim 99 wherein said computer is configured to receive and store in said clearinghouse database service information of a plurality of different services provided by one or more carriers over one or more networks.

103. (New) The clearinghouse system of Claim 102 wherein said computer is further configured to serve service data using service information stored in said clearinghouse database.

104. (New) The clearinghouse system of Claim 99 wherein said computer is configured to receive and store in said clearinghouse database bandwidth and capacity information of one or more communications networks.

105. (New) The clearinghouse system of Claim 99 wherein said computer is further configured to serve bandwidth and capacity data using bandwidth and capacity information stored in said clearinghouse database.

106. (New) The clearinghouse system of Claim 99 wherein said computer is configured to receive and store in said clearinghouse database coverage or reception quality information of one or more communications networks.

107. (New) The clearinghouse system of Claim 106 wherein said computer is further configured to serve coverage or reception quality data using coverage or reception quality information stored in said database.

108. (New) A clearinghouse system, comprising:

- means for receiving property information of properties owned or controlled by one or more members of the public which are identified by said one or more members of the public as being available for possible use by one or more carriers of carrier-based services;

- means for storing said property information;

- means for processing said property information; and

- means for serving data based on property information stored by said means for storing to said one or more carriers.

109. (New) The clearinghouse system of Claim 108 wherein said property information further includes information of properties that are subject to contractual, legal, government or zoning restrictions.

110. (New) The clearinghouse system of Claim 108 further comprising means for matching a property need or property specification of a carrier with one or more property records stored by said means for storing.

111. (New) The clearinghouse system of Claim 108 further comprising means for receiving and storing coverage or reception quality information of mobile devices operating in one or more wireless communications networks.

112. (New) The clearinghouse system of Claim 111 further comprising means for serving coverage or reception quality data using coverage or reception information received and stored by said means for receiving and storing coverage or reception quality information.

113. (New) The clearinghouse system of Claim 108 further comprising means for receiving and storing service information of a plurality of different services provided by one or more carriers over one or more networks.

114. (New) The clearinghouse system of Claim 113 further comprising means for serving service data using service information received and stored by said means for receiving and storing service information.

115. (New) The clearinghouse system of Claim 108 further comprising means for receiving and storing bandwidth and capacity information of one or more communications networks.

116. (New) The clearinghouse system of Claim 115 further comprising means for serving bandwidth or capacity data using bandwidth or capacity information received and stored by said means for receiving and storing bandwidth and capacity information.

117. (New) The clearinghouse system of Claim 108 further comprising means for receiving and storing coverage or reception quality information of one or more communications networks.

118. (New) The clearinghouse system of Claim 117 further comprising means for serving coverage or reception quality data using coverage or reception quality information received and stored by said means for receiving and storing coverage or reception quality information.

119. (New) A method of collecting and providing access to property and network information, comprising:

collecting, using a computer, property information of properties owned or controlled by one or more members of the public which are identified by said one or more members of the public as being available for possible use by one or more carriers of carrier-based services;

storing, by action of said computer, said property information in a memory or database;

managing, controlling and updating, by action of said computer, property information stored in said memory or database; and

providing access to property information stored in said memory or database to said one or more carriers.

120. (New) The method of Claim 119 wherein said property information further includes information of properties that are subject to contractual, legal, government or zoning restrictions.

121. (New) The method of Claim 119 further comprising, by action of said computer, matching a property need or property specification of a carrier with one or more property records stored in said memory or database.

122. (New) The method of Claim 119 further comprising serving matched property need or matched property specification data to one or more carriers.

123. (New) The method of Claim 119 further comprising, by action of said computer, receiving and storing in said memory or database coverage or reception quality information of mobile devices operating in one or more wireless communications networks.

124. (New) The method of Claim 123 further comprising serving coverage or reception quality data using coverage or reception information stored in said memory or database.

125. (New) The method of Claim 119 further comprising, by action of said computer, receiving and storing in said memory or database service information of a plurality of different services provided by one or more carriers over one or more networks.

126. (New) The method of Claim 125 further comprising serving service data using service information stored in said memory or database.

127. (New) The method of Claim 119 further comprising, by action of said computer, receiving and storing in said memory or database bandwidth and capacity information of one or more communications networks.

128. (New) The method of Claim 127 further comprising serving bandwidth or capacity data using bandwidth or capacity information stored in said memory or database.

129. (New) The method of Claim 119 further comprising, by action of said computer, receiving and storing in said memory or database coverage or reception quality information of one or more communications networks.

130. (New) The method of Claim 129 further comprising serving coverage or reception quality data using coverage or reception quality information stored in said memory or database.

131. (New) The method of Claim 92 further comprising providing an interface through which members of the public submit property information of properties available for possible use by one or more carriers.

132. (New) The method of Claim 92 further comprising collecting and storing in said database carrier information of one or more carriers.

133. (New) The method of Claim 132 further comprising providing an interface through which one or more carriers submit carrier information for storage in said database.

134. (New) The method of Claim 132 further comprising, using said computer, property information and carrier information stored in said database, forming a business contract between a carrier and a property owner.

135. (New) The clearinghouse system of Claim 99, further comprising an interface through which one or more carriers submit, for storage in said clearinghouse database, carrier infrastructure information of carrier infrastructure installed on or attached to dwellings or premises of property owners.

136 (New) The clearinghouse system of Claim 108, further comprising means for storing carrier infrastructure information of carrier infrastructure installed on or attached to dwellings or premises of property owners.

137. (New) The method of Claim 119, further comprising:

collecting, using said computer, carrier infrastructure information of carrier infrastructure installed on or attached to dwellings or premises of property owners; and

storing, by action of said computer, said carrier infrastructure information in a memory or database.

138. (New) The method of Claim 119, further comprising providing an interface through which members of the public submit property information, for storage in said memory or database, of properties available for possible use by one or more carriers.

139. (New) The method of Claim 92 wherein said collecting and storing further includes collecting and storing zoning restriction or regulation information from civic or governmental entities.

140. (New) The method of Claim 92 wherein said collecting and storing further includes collecting and storing property information of properties owned or controlled by businesses, trusts, non-profit entities, or community organizations and available for possible use by one or more carriers.

141. (currently amended) The clearinghouse system of Claim 99, further comprising an interface through which zoning regulation or zoning restriction information of properties is submitted for storage in said clearinghouse database.

142. (New) The clearinghouse system of Claim 99, further comprising an interface through which businesses, trusts, non-profit entities, or community organizations submit property information, for storage in said clearinghouse database, of properties available for possible use by one or more carriers.

143. (New) The clearinghouse system of Claim 108, further comprising means for receiving and storing zoning regulation or zoning restriction information.

144. (New) The clearinghouse system of Claim 108, further comprising means for receiving and storing property information of properties owned or controlled by businesses, trusts, non-profit entities, or community organizations and available for possible use by one or more carriers.

145. (New) The method of Claim 119 wherein said collecting and storing further includes collecting and storing zoning restriction or zoning regulation information.

146. (New) The method of Claim 119 wherein said collecting and storing further includes collecting and storing property information of properties owned or controlled by businesses, trusts, non-profit entities, or community organizations.

REMARKS

Allowed claims 33-60 have been canceled without prejudice or disclaimer. As discussed at the interview of January 15, 2013, these claims have been added to co-pending application USSN 13/490,711. Claims 61, 63, 68, 70, and 75 have been amended, and new claims 76-146 have been added. The application now includes claims 61-146. Applicant respectfully requests reconsideration of the claims in view of the remarks presented below.

Claims 61, 70 was rejected on the grounds of non-statutory obviousness-type double patenting over US Patent No. 8,224,794 [US App # 12/208,007]; US App No 12/814,974 (as amended 10/10/2012); US App No 12/815,076 now US Pub No 2010/0250268; and US App No 12/815,165 now US Pub No 2010/0250269. These rejections are overcome by filing of four terminal disclaimers attached hereto.

Claims 61-69 (as well as claims 76-83, and 89-91 (formerly claims 20-26, 37-39 of co-pending US App No 13/490,711)) were rejected under 35 USC 103(a) as being allegedly unpatentable over Lewis Allan et al., [hereafter Lewis] WO 2005/101878 published Oct 2005 in view of Bahl et al [hereafter Bahl], US Pub. No. 2002/0155843 published Oct 2002. These rejections are traversed in view of the remarks below.

Lewis describes a system and a method comprising a data service provider infrastructure, carrier network, and mobile device. Lewis is a patent focused on network performance testing and evaluation using a 3rd party data provider, and specifically strives to not interfere or require modification of the carrier's or mobile device's standard protocol (p. 6:5-9 ; p. 11:24-30). In the preferred embodiment, data packets are simply transmitted (with very small modification during transmission) from data service provider infrastructure to carrier network to mobile device and then in the reverse order given (Figure 2). Information collected in Lewis is strictly limited to the collecting and counting of acknowledgment packets and location information based on the location of the carrier infrastructure, such as base station location, and not the mobile devices themselves (Figure 6; p. 14:15-25). Lewis intentionally does not require the location of the mobile device, as the only location information it uses is that which is provided by the carrier infrastructure through standard identification flags that identify the carrier

infrastructure location (p. 12:23-31; p. 13:1-7).

Contrary to Lewis, Claims 61 and 76 indicate receiving quality or service information for mobile devices for geographic locations of said mobile devices. Lewis is simply unable to provide such information. As described in Lewis, mobile devices in Lewis can send only acknowledgement data packets with basic location data as provided initially by the carrier in the request packet (Figure 6). The mobile devices and carrier infrastructure taught in Lewis are unable to assess the wireless connectivity or access characteristics experienced by a mobile device, and there is no way for such information to be communicated in Lewis. Lewis simply focuses on the exchange of packets initiated by a 3rd party server, appended with carrier infrastructure location, and then repeated back by the mobile device over the carrier network to the 3rd party server (p.9:15-20). Lewis further demonstrates his inability to reliably understand or track the performance for one or more specific mobile devices when discussing limitations of his invention (see p. 14:19-22, where not all mobile devices will always send reports, see p. 14:26-29 where send-only devices will never receive messages and thus never send location information, and therefore never be able to participate). Lewis intentionally does *not* require the carrier infrastructure or the mobile device to expend any additional bandwidth or computing power (p.11:24-30). No where does Lewis teach the ability of the mobile device or the carrier to use its own sensing methods to gain access to the experiences observed for the mobile device, as is done in the current invention (see Figure 7:714; Figures 8, 10 ; Figure 11:1110-1112 ; text in middle of page 39).

As discussed during the interview, the claimed invention as amended is focused on reports for the mobile devices, while Lewis is focused on the infrastructure (e.g. base stations).

In Lewis, it is clear that location information is provided exclusively by the carrier, and is defined as being the location of the carrier's infrastructure which inserted the required bits (and *not* the location of the mobile device). See Figure 6 of Lewis. Lewis teaches that "location information" might include **base station** information such as NPC, country code, network code, location area, routing area, base, area, channel, and TrafNum (page 12, lines 23-31; page 13, 1-11). Location information in Lewis is *not* taught as defining where the mobile device is located. Lewis is very clear that neither the

mobile device nor the carrier provides the mobile device location (for example, see Lewis p.14:19-20 where location is limited to a base station). Thus, Lewis could never anticipate the current invention, as he not only fails to be able to measure the wireless access characteristics from one or more devices or carriers, but furthermore is unable to identify the location of or radio performance experienced by a mobile device.

Furthermore, unlike in Lewis, the claimed invention contemplates but is not limited to an application that may be installed on the end user device, so that the end user may log or report his/her own experiences as she uses the mobile device during travel. These unique aspects are taught throughout the specification, for instance, on the bottom of p. 41 to top of p. 42. As discussed during the interview, never does Lewis teach the ability to determine performance down to the individual mobile device level, as there is no ability to provide the mobile device identification, or perceived or measured wireless access characteristics for the mobile device or end user, and all metrics defined in Lewis have to do with statistical performance measures, not individual user performance measures (see for example p. 7:7-11).

It would not be obvious in view of Lewis to one of ordinary skill in the art to conceive of collecting and storing location information in the way used in the present invention because the subject matter of Lewis is fundamentally based on a request packet-acknowledgement packet data collection approach that sources location information from carrier infrastructure, and not from the mobile device itself. Furthermore, it would not be obvious to one skilled in the art after reading Lewis, that a mobile device, either alone or in conjunction with the cellular carrier infrastructure, could be used to gain knowledge of the radio link quality so that end user devices or carriers could make better decisions about where their spectrum or service is better or worse as compared to other carriers, other frequencies, at other locations.

Bahl describes a method, system, and data structure purportedly offering the ability to locate fixed resources within a geographic region and determine which of similar fixed resources has the closest absolute distance to a mobile user's location (page 1, Abstract). Fixed resources are pre-existing, are known a priori, and information used by the method, system, and data structure only includes geographic locations of said fixed resources and mobile devices (col 5, line 22-24). Thus, all fixed resources must

already be known (not discovered later), and must first be preprogrammed and then made available to mobile users (p. 2:39-45; p.5, 17-22). To the extent which property information is possibly stored for properties where said fixed resources are located, Bahl only indicates this information as including what is relevant to finding the fixed resource. For example, to fully provide the location of a printer, the database might store property information indicating said printer is in a particular building on the property with at least a particular number of floors (Figure 3, page 4). Bahl is focused on the need to organize information and to organize data structures in a shorthand way, so that a wireless device can quickly find out how to connect with local fixed resources, such as office equipment.

Bahl describes a locating service data structure that allows end users to more quickly find out what fixed network resources (such as a printer) are available to said end users. Bahl's patent is of little to no relevance to the claimed invention since, in Bahl, geographic location information is collected and used for formatting the location of resources which already exist on various properties for the benefit and use of the end user in their daily work life. Furthermore Bahl does not teach in any way the concept of identifying network infrastructure assets used or needed in telecommunications (such as towers). Unlike Bahl, the property information collected in the claimed invention is significant in that the property itself offers potential to carriers to serve as a newly discovered resource for telecommunication infrastructure. If Lewis and Bahl were combined, one of ordinary skill in the art would not be informed of a clearinghouse system, as neither reference indicates a clearinghouse of any kind, and neither deals with the ability to connect carriers with property owners for the purposes of allowing members of the public to offer their property as a new location that carriers may use to install infrastructure. To the extent that the claimed invention and the prior art may share the aim of network improvement, the claimed invention takes an entirely new approach to addressing this need.

In contrast to Lewis et al, claim 61 and 76 indicate a method for providing a clearinghouse with a database including "perceived quality or service value information". The inclusion of subjective/opinion-related data is entirely absent from Lewis and outside the scope of what is even taught in Lewis.

Furthermore, in contrast to Bahl et al, Claim 61 and 76 indicate the database to

contain “public records” which may include “zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials”. The system taught by Bahl stores only data structures that are organized to represent geographic location information of pre-existing resources and nothing of public records about addresses, maps, mapping information, zoning, ordinances, or government officials. This information is unique to what is claimed in the present application and the resource exchange service the clearinghouse provides between carriers and end users. Furthermore, claim 61 and 76 differ distinctly from Lewis and Bahl in that they offers access to information in the database to carriers, end users, and third parties. Granting access to any of these three user groups is not a feature of Lewis, nor would it be obvious to one of ordinary skill in the art when taking Lewis in view of Bahl, since the only extent to which Bahl offers access to the information it stores is to pinpoint for an end user the location of one instance of a fixed resource in its database.

In order to better reflect these distinct differences from the prior art, Claims 61 and 76 as amended above distinguish that quality or service information or perceived service quality or value experienced or desired is for the actual mobile devices for particular geographic locations of those mobile devices.

Claims 70-75 were rejected under 35 USC 103(a) as being unpatentable over Lewis, Bahl, and Lazaridis et al. [hereafter Lazaradis], US Pub. No. 2003/0026231 published Feb 2003. These rejections are traversed in view of the remarks below.

Lazaradis describes a method for pushing advertising information to a mobile device. Advertising information is sorted into three possible categories. The information is collected, stored, and then combined from the three categories for display on a mobile device based on information about the advertising in addition to information from the mobile device, such as device location. Important components of the method include information sources, such as databases, a content proxy server, which sends information to the mobile device, and the mobile device itself. The claims in Lazaradis are also directed at a mobile device equipped to work with said method.

In contrast to Lewis et al, Claim 70 of the present application indicates a method of providing selected content comprising providing a clearinghouse system including a

database possibly containing “perceived telecommunications service quality or value information, experienced or desired” and records of “equipment, devices, telecommunications assets or property assets owned, used, or controlled by...end users”. The inclusion of subjective/opinion-related data and property and asset information of end users is entirely absent from Lewis, Bahl, and Lazaradis.

Furthermore, in contrast to Bahl et al, Claim 70 indicates the database provided by the method to contain “public records” which may include “addresses”, “maps”, “mapping information”, “zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials”. The system taught by Bahl stores data structures that are organized to represent only geographic location information of pre-existing resources and nothing of public records about maps, zoning, ordinances, or government officials. This information is an example of something unique to what is claimed in the present application. Furthermore Claim 70 differs distinctly from Lewis and Bahl in that it offers extensive access and use to stored information to carriers, end users, and third parties. Granting access and use to any of these three user groups is not a feature of Lewis, Bahl, or Lazaradis.

In contrast to Lazaradis, Claim 70 provides for local ad servers providing localized content in communication with the electronic interfaces of the clearinghouse system, this system including the unique data/information discussed above and the electronic interfaces allowing the unique access of one or more network carriers, end users, and third parties. These additional features included in Claim 70 go well beyond the device location information described by Lazaradis and allow for the communication between an advertisement server and mobile devices to be significantly different and distinct from the communication described in Lazaradis. Claim 70 has been amended to better reflect these differences from the prior art.

Claims 92-95, 131-134, 139-140 (formerly 31-34, 87-90, 95-96, respectively, in co-pending US App No 12/815,165) are also patentable over Lewis in view of Egan, US Pub No 2004/0076283 published April 2004 (a rejection of the same having been lodged in USSN 12/815,165). These rejections are traversed in view of the remarks below.

Claim 92 was rejected in USSN 12/815,165 as being allegedly obvious over Lewis in view of Egan. To simplify matters, this claim and the rejection therefore is

addressed in the present application. Contrary to Egan, the current invention includes property information which may include “rooftops, silos, billboards, trees, church steeples, poles, towers, ledges, parts of a building, outbuildings, lookouts, extensions to buildings, or signs, and/or any improvements” (Figure 3 and specification p. 21). The use of the word “property” in Egan is clearly described in the context of parcels of land, in particular parcels of land with either residential or commercial building development (Fig 1). It is clear from the specification of the current invention that “property” is used to describe a considerably larger scope of assets which belong to members of the public, many if not most of these assets having no relevance to the subject matter of Egan and therefore non-obvious from it. As Lewis contains nothing of “property” in the sense used in Egan or the present application, the method described in Claim 92 including a database containing such property information could also not be conceived from the combination of Lewis with Egan. Claim 92 emphasizes this distinction from Lewis and Egan, including changing language of “property” to that of “property or property assets”.

Further rejections made in US App No 12/815,165 of claims dependent to 92 over Lewis, Egan, further in view of Shen et al. [hereafter Shen], US Pub. No. 20070198339 filed Feb 2006 are obviated in view of the fact base claim 92 has been presented in a form which is in condition for allowance. Shen does not make up for any of the deficiencies of Lewis or Egan.

Claims 99, 100-109, 118-130, and 141-146 (formerly claims 43, 48-55, 56, 59-68, 69, 72-82, 97-102 of co-pending US App No 12/815,165) are patentable over Bell [hereafter Bell], US Patent No 6766322 published July 2004 in view of Lewis (such a rejection having been made in US App No. 12/815,165, and now addressed herein for simplifying matters). These rejections are traversed in view of the remarks below.

Bell describes a method by which purportedly all existing information pertaining to property up to the present point in time may be collected and made available in one real estate disclosure report. Although the present invention may store some property information also stored in the system taught by Bell, the present invention indicates storing and making accessible property information specifically having the quality of “possible use by carriers or carrier-based services”. Lewis is a patent focused on network performance testing and evaluation using a third party data provider to not interfere or

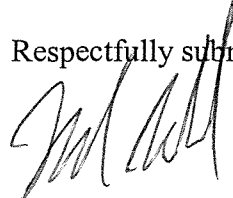
require modification of the carrier's or mobile device's standard protocol. Lewis intentionally does not require the mobile devices to implement applications that work with the carrier on the mobile device, and does not require position location accuracy of the mobile device itself. Also, Lewis has no teaching whatsoever about working with members of the public for obtaining property access for better communication networks. While network improvement may follow from the diagnostic data collection in Lewis, Lewis teaches nothing of what this means of improvement would entail. Furthermore, since Lewis does not rely on the carrier infrastructure or the mobile device (or its end user) to evaluate the radio air interface connections experienced by the mobile device, Lewis has no way of obtaining wireless network performance or offering RF or spectrum related decisions among different frequencies or carriers, as is done in the invention of the present application. While it may be possible that one of ordinary skill in the art would incorporate existing infrastructure information pertaining to wireless telecommunication network providers of Lewis into the real-estate reporting method of Bell, it would not be obvious to include property information about *potential use* by wireless telecommunication network providers carriers (e.g. carriers). As neither Lewis nor Bell records any information of a property owner's willingness or interest in making his/her property available for use by a carrier, or even by any user that is not a carrier, the two prior art references taken together would not make obvious the present invention wherein stored information includes indication of a property's possible potential for a new use. The present invention is furthermore distinctly different in that it describes a clearinghouse whereby services and access to private properties may be exchanged directly between members of the public and carriers. Information about property owned by members of the public and indicative of its availability for potential use by carriers is unique to this new form of clearinghouse. This is a novel business approach to an unmet problem of infrastructure access. Claims 99, 108 and 119 as presented herein reflect these distinguishing differences.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 61-146 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone

number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written over the typed name.

Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743

**TERMINAL DISCLAIMER TO OBIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket Number (Optional)
08410004c2

In re Application of: Rappaport

Application No.: 13/490,133

Filed: June 6, 2012

For: CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORING AND ACQUIRING INFRASTRUCTURE,
MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT

The owner*, Theodore S. Rappaport, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 12/814,974, filed June 14, 2010, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

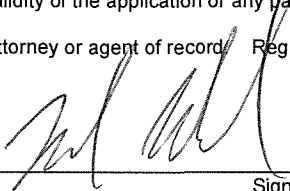
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record, Reg. No. 32,635



Signature

February 6, 2013

Date

Michael E. Whitham

Typed or printed name

703-787-9400
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).

Form PTO/SB/96 may be used for making this statement. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**TERMINAL DISCLAIMER TO OBTAIN A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket Number (Optional)

08410004c2

In re Application of: Rappaport

Application No.: 13/490,133

Filed: June 6, 2012

For: CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR INVENTORING AND ACQUIRING INFRASTRUCTURE,
MONITORING, AND CONTROLLING NETWORK PERFORMANCE FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT

The owner*, Theodore S. Rappaport, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 12/815,165, filed June 14, 2010, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

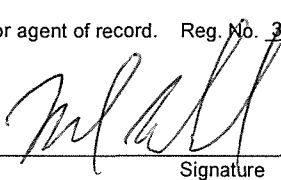
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 32,635



Signature

February 6, 2013

Date

Michael E. Whitham

Typed or printed name

703-787-9400

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
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This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/490,133

06/06/2012

Theodore S. Rappaport

08610004C2

3175

30743

7590

01/17/2013

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

11491 SUNSET HILLS ROAD

SUITE 340

RESTON, VA 20190

EXAMINER

CHANNAVAJALA, SRIRAMA T

ART UNIT

PAPER NUMBER

2157

MAIL DATE

DELIVERY MODE

01/17/2013

PAPER

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.

<i>Applicant-Initiated Interview Summary</i>	Application No. 13/490,133	Applicant(s) RAPPAPORT, THEODORE S.	
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157	

All participants (applicant, applicant's representative, PTO personnel):

(1) SRIRAMA CHANNAVAJJALA. (3) Theodore S. Rappaport [Inventor].
(2) Michael E. Whitham. (4) Bryce Miller.

Date of Interview: 15 January 2013.

Type: ☐ Telephonic ☐ Video Conference
☒ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 61 and 70.

Identification of prior art discussed: WO 2005/101878 and US Pub. No. 2002/0155843.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Discussed "double patent" rejection, discussed applicant proposed amendment to claims 61 [page 16], claim 70 [page 18], also discussed applicant's arguments at page 15 of 29, 17 of 29. Applicant may file terminal disclaimer to overcome the double patent rejection, further may substantially amend claim 61,70 to overcome the prior art of reference.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/Srirama Channavajjala/ Primary Examiner, Art Unit 2157	
--	--

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133
	Filing Date		2012-06-06
	First Named Inventor	Rappaport	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	08610004C2	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5978236	A	1999-11-02	Faberman et al.	
	2	7782848	B2	2010-08-24	Kalavade et al.	
	3	8107956	B2	2012-01-31	Vakil et al.	
	4	6766322		2004-07-20	Bell	
	5	6108557		2000-08-22	Wax et al.	
	6	6996610		2006-02-07	Bantz et al.	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add
U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13490133
Filing Date	2012-06-06
First Named Inventor	Rappaport
Art Unit	
Examiner Name	
Attorney Docket Number	08610004C2

1	20100250268	A1	2010-09-30	Rappaport	
2	20100250269	A1	2010-09-30	Rappaport	
3	20010034204	A1	2001-10-25	Pentikainen	
4	20060143111	A1	2006-06-29	Mylet	
5	20080031211	A1	2008-02-07	Kalavade et al.	
6	20090089399	A1	2009-04-02	Beck et al.	
7	20100167732	A1	2010-07-01	Vakil et al.	
8	20110058657	A1	2011-03-10	Alegret et al.	
9	20110257986	A1	2011-10-20	Deanne et al.	

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FOREIGN PATENT DOCUMENTS

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² ;	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133	
	Filing Date		2012-06-06	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number	08610004C2		

	1	2005/101878	WO	A1	2005-10-27	RESEARCH IN MOTION		☐
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If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

NON-PATENT LITERATURE DOCUMENTS							Remove
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE			
---------------------------	--	--	--

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13490133
Filing Date	2012-06-06
First Named Inventor	Rappaport
Art Unit	
Examiner Name	
Attorney Docket Number	08610004C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael E. Whitham/	Date (YYYY-MM-DD)	2012-11-28
Name/Print	Michael E. Whitham	Registration Number	32635

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/490,133

06/06/2012

Theodore S. Rappaport

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11/19/2012

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

11491 SUNSET HILLS ROAD

SUITE 340

RESTON, VA 20190

EXAMINER

CHANNAVAJALA, SRIRAMA T

ART UNIT

PAPER NUMBER

2157

MAIL DATE

DELIVERY MODE

11/19/2012

PAPER

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. 13/490,133	Applicant(s) RAPPAPORT, THEODORE S.	
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 06 June 2012.
- 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) 33-75 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) 33-75 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 06 June 2012 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).
- a) ☐ All b) ☐ Some * c) ☐ None of:
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) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/6/12/6/18/12/7/20/12/9/25/12</u> . | 4) ☐ Other: ____. |

DETAILED ACTION

1. This application is a CON of US Application # 12/208,007 filed 9/10/2008 is now US Pat. No. **8,224,794**
2. Claims 1-32 are cancelled, claims 33-75 pending in this application as "preliminary amendment" filed on 6/6/2012. .

Drawings

3. The Drawings filed on 6/6/2012 are acceptable for examination purpose

Information Disclosure Statement

4. The information disclosure statement filed on 6/6/2012;6/18/2012;7/20/2012;9/25/2012.is in compliance with the provisions of 37 CFR 1.97, and has been considered and a copy is enclosed with this Office Action

Priority

5. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e) based on provisional application 60/971,175 filed on 9/10/2007;60/977,582 filed on 10/4/2007, 61/028,261 filed on 2/13/2008.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A

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nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical,~ but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g.,/n re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998);/n re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993);/n re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Omum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982);/n re Vogel 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and /n re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claim 33,61,70 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1,7,21,27,33,47 of US Application No. 12/814,974 [as amended 10/10/2012] ; Claims 1,73, [as amended 11/14/2012] of US Application # 12/815,076 is now US Pub. No. 2010/0250268; claims 1,8,20,31,43,56,69 of US Application # 12/815,165 [as

amended 8/6/2012] is now US Pub. No. 2010/0250269. Although the conflicting claims are not identical, they are not patentably distinct from each other because of following reasons:

claim 1,7,21,27,33,47 of US Application No. 12/814,974 [as amended 10/10/2012] ; Claims 1,73, [as amended 11/14/2012] of US Application # 12/815,076 is now US Pub. No. 2010/0250268; claims 1,8,20,31,43,56,69 of US Application # 12/815,165 [as amended 8/6/2012] is now US Pub. No. 2010/0250269 contain(s) every element of Claim 33,61,70 of the instant application and thus anticipate the claim(s) of the instant application.

The Claims of the instant application therefore are not patently distinct from the earlier patent claims and as such are unpatentable over obvious-type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a 35 patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

"Claim 12 and Claim 13 are generic to the species of invention covered by claim 3 of the patent. Thus, the generic invention is "anticipated" by the species of the patented invention. Cf., *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (holding that an earlier species disclosure in the prior art defeats any generic claim) 4. This court's predecessor has held that, without a terminal disclaimer, the species claims preclude issuance of the generic application. *In re Van Ornum*, 686 F.2d 937, 944, 214 USPQ 761, 767 (CCPA 1982); *Schneller*, 397 F.2d at 354. Accordingly, absent a terminal disclaimer, claims 12 and 13 were properly rejected under the doctrine of obviousness-type double patenting." (*In re Goodman* (CA FC) 29 USPQ2d 2010 (12/3/1993).

7. Claims 33, 61, 70 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 20, 27 of US Patent No. 8,224,794 [US Application # 12/208,007]. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference in the independent claims are obvious variations, such as "(2) performance, quality of service, or(3) performance,, quality of service.....(4) performance, quality of service,.....(5) performance, quality of service....., furthermore instant application claims 34-50 features are identical to the claims 2-13 of issued patent 8,224,794.

Claim Rejections - 35 USC § 103

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

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. ***Claims 61- 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis Allan et al., [hereafter LEWIS] WO 2005/101878 published Oct 2005 in view of Bahl et al [hereafter Bhal], US Pub. No. 2002/0155843 published Oct 2002.***

9. As to Claim 61. (new) Lewis teaches a system which including
“A method for providing a clearinghouse for communications networks,
comprising:” [fig 3, element 44]

“providing one or more computers which interface with a database, [fig 3]
the database including performance, quality of service, or perceived

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communications service quality or value information [page 6, line 27-30] for one or more locations, and one or more of [page 7, line 25-30], one or more locations corresponds to geographically distributed location connected though communication network; quality of service corresponds to Lewis's overall telecommunication system's health including based on the collected data as detailed in page 6, 27-30;

records pertaining to one or more telecommunications carriers which identify infrastructure type and/or .location information for one or more locations, and [Abstract, fig 4-5,page 7, line 1-6],Lewis specifically supports multiple telecommunication carriers for example as detailed in fig 5, further Lewis database stores records related to overall telecommunication network activities;

“updating in said database either automatically or manually, using one or more electronic interfaces to said one or more computers, performance, quality of service, or perceived telecommunications service value information, experienced or desired, obtained from one or more mobile or fixed devices” [page 7, line 1-11], Lewis specifically teaches collection of location, position, traffic by geographic area, further analyzing demand levels, and overall traffic management data corresponds to telecommunication service value information continues to update database; and

“ permitting at least one of said one or more telecommunications carriers or one or more end users of said one or more telecommunications carriers, or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, use, or sort information in said database” [page 6,

line 18-30, fig 4-5], Lewis specifically teaches multiple telecommunication carriers perform not only collecting overall traffic management data but also allows users to perform variety of tasks .

It is however, noted that Lewis does not disclose “public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations, although Lewis specifically disclosed multiple telecommunication carriers providing telecommunication services to the mobile device users [fig 1-2, fig 5]. On the other hand, Bahl disclosed “public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations [Abstract], local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations [fig 3, page 4, 0035-0043] , Bahl specifically teaches directory structure containing hierarchical information including geographic information, county state and other territory, and like stored in a database.

It would have been obvious to one of the ordinary skill in the art at the time of applicant’s invention to incorporate information management and processing in a wireless network environment of Bahl et al into telecommunication carriers [fig

1] providing serving to the customer's mobile device locations including managing resources of Lewis because both Lewis, Bahl specifically supporting "telecommunication infrastructure" to the customers [Lewis: abstract, fig 1-2; Bahl: abstract, fig 2-3], and both Lewis, Bahl supporting "telecommunication-based services" particularly wireless network.

Because both Lewis, Bahl prior art supports telecommunication network infrastructure,, it would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to substitute and/or modify one method for the other to achieve the predictable result of identifying various data items, defining data structure particularly including various geographical, government related information [Bahl: 0034-0035, fig 2-3], thus improving overall quality, reliability of the telecommunication carrier infrastructure for future needs.

10. As to Claim 62. (new) Lewis disclosed "wherein said database includes one or more of records for said one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users" [page 3, line 27-30, page 4 line 1-2. [age 10, line 28-31].

11. As to Claim 63. (new) Lewis disclosed further comprising the: "steps of obtaining and providing said performance or quality of service or, perceived telecommunications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable

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with said one or more mobile or fixed devices or said one or more computers”

[page 4, line 22-30,page 6, line 27-30].

12. As to 64. (new) Lewis disclosed “wherein said one or. more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices or one or more end user devices that are located in or will be: located in said locations” [page 6, line 27-30, page 7, line 20-27].

13. As to claim 65. (new) Lewis disclosed “ wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more of multiple bands, multiple carriers, multiple fixed or mobile devices, or multiple end Users from multiple bands or carriers” [page 9, line 23-30,page 11, line 24-30].

14. As to claim 66. (new) Lewis disclosed “further comprising the step of sending instructions from one of said one or more electronic interfaces ~to one or more wireless devices for configuring 6r reconfiguring said one or more wireless devices based on one or more of: ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user” [page 11, line 3-9,line 24-30,page 12, line 29-31, page 13, line 1-11].

15. As to claim 67. (new) Lewis disclosed “further comprising the step of sending a rank ordering of available telecommunications services or frequencies

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from one of said one or more electronic interfaces to one or more wireless devices” [page 12, line 29-31, page 13, line 1-11].

16. As to 68. (new) Lewis disclosed “further comprising the step of monitoring radio operating conditions of one or more wireless devices, and using monitored radio operating conditions to update performance or quality of service information or perceived communications service quality or value information in said database” [page 13, line 20-26, fig 3-4].

17. As to 69. (new) Lewis disclosed “further comprising the step of using one or more wireless devices to provide said performance or quality of service information or perceived quality or value information to one of said one or more of said electronic interfaces” [page 12, line 29-31, page 13, line 1-11].

18. ***Claims 70- are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis Allan et al., [hereafter LEWIS] WO 2005/101878 published Oct 2005 Bahl et al [hereafter Bhal], US Pub. No. 2002/0155843 published Oct 2002, Lazaridis et al. [hereafter Lazaridis], US Pub. No. 2003/0026231 published Feb 2003***

19. As to claim 70. 75 (new) Lewis teaches a system which including “ A method of providing selected content to one or more mobile or fixed devices located in specific locations, fig 1, [fig 5] mobile device corresponds to mobile device as shown in fig 1, 5 comprising 'the steps of:

“providing a clearinghouse system for communications networks, said clearinghouse system including” [fig 1, fig 5], communications networks corresponds to carrier communications network;

one or more computers which interface with a .database, said database including, [fig 3, element 44] one or more of performance or quality of service or perceived telecommunications service quality or value information [page 6, line 27-30], experienced or desired, for one or more locations” [page 7, line 25-30], one or more locations corresponds to geographically distributed location connected though communication network; quality of service corresponds to Lewis’s overall telecommunication system’s health including based on the collected data as detailed in page 6, 27-30;

“records for one or more telecommunications carriers which identify infrastructure information for one or more locations” [Abstract, fig 4-5,page 7,

line 1-6], Lewis specifically supports multiple telecommunication carriers for example as detailed in fig 5, further Lewis database stores records related to overall telecommunication network activities;

“records for one or more end users which identify equipment, devices, telecommunications assets or property assets owned, used, or controlled by said one or more end users” [page 4, line 1-13], Lewis specifically teaches monitoring carrier network establishing connection to the mobile device users particularly data service provider infrastructure acknowledgment packets to/ from mobile device users including location information

“permitting one or more mobile or fixed devices to be in communication with said clearinghouse system [fig 1-3] using one or more electronic interfaces to said one or more computers to perform one or more of [fig 1-3], Lewis specifically teaches mobile devices connected to the wireless network carrier providers

“updating, either automatically or manually; performance or quality :of service or perceived telecommunications service value information obtained from said one or more mobile or fixed devices that are located in one of said one or more locations into said database, [page 7, line 1-11], Lewis specifically teaches collection of location, position, traffic by geographic area, further analyzing demand levels, and overall traffic management data corresponds to telecommunication service value information continues to update database and

“at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications

carriers or end users reviewing, cataloging, viewing, storing, using, or Sorting information in said database” [page 6, line 18-30, fig 4-5], Lewis specifically teaches multiple telecommunication carriers perform not only collecting overall traffic management data but also allows users to perform variety of tasks .

“identifying a geographic location of one or more mobile or fixed devices” [[fig 1, fig 5, page 5, 1-5], Lewis teaches location information specifically inserted into the data packets to a mobile device requesting location information;

“providing-localized content to said one or more mobile or fixed devices using said geographic location: and one or more local servers in communication with said one or more electronic interfaces of said clearinghouse system” [fig 1, fig 5].

It is however, noted that Lewis does not specifically disclose " public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations; local ordinances for said: geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations"; although Lewis specifically disclosed multiple telecommunication carriers providing telecommunication services to the mobile device users [fig 1-2, fig 5]. On the other hand, Bahl disclosed “public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations [Abstract], local ordinances for said geographic locations,

contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations [fig 3, page 4, 0035-0043] , Bahl specifically teaches directory structure containing hierarchical information including geographic information, county state and other territory, and like stored in a database.

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate information management and processing in a wireless network environment of Bahl et al into telecommunication carriers [fig 1] providing serving to the customer's mobile device locations including managing resources of Lewis because both Lewis, Bahl specifically supporting "telecommunication infrastructure" to the customers [Lewis: abstract, fig 1-2;Bahl: abstract, fig 2-3], and both Lewis, Bahl supporting "telecommunication-based services" particularly wireless network.

Because both Lewis, Bahl prior art supports telecommunication network infrastructure,, it would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to substitute and/or modify one method for the other to achieve the predictable result of identifying various data items, defining data structure particularly including various geographical, government related information [Bahl: 0034-0035, fig 2-3], thus improving overall quality, reliability of the telecommunication carrier infrastructure for future needs.

It is however, noted that both Lewis, Bahl do not specifically disclose one or more local ad servers in communication with said one or more electronic interfaces". On the other hand, Lazaridis disclosed "one or more local ad servers

in communication with said one or more electronic interfaces” [fig 1, fig 3, 0026,0032], Lazaridis specifically teaches advertisement server communicating with the mobile devices.

It would have been obvious to one of the ordinary skill in the art at the time of applicant’s invention to incorporate advertisement server communicating with the mobile devices in a network environment of Lazaridis into users of Lewis, Bahl because all the prior art of references strongly supports mobile devices connected to a communication network particularly though content providers [Lewis: fig 1,fig 5; Bahl: Abstract; and Lazaridis: fig 1,fig 3, Abstract], and it would have been obvious to users of Lewis, Bahl to provide relevant advertisement information to the users of mobile devices [Lazaridis: fig 1,fig 3], particularly proxy content server provides categories of information for users to select [0021-0022], thus improving overall quality and reliability of the system.

20. The limitations of claim 75 is rejected in the analysis of claim 70 above, and claim 75 is rejected on that basis.

21. As to claim 71. (new) Lewis disclosed “ wherein one or more base stations are in communication with said one or more electronic interfaces of said clearinghouse system” [fig 1, fig 5].

22. As to Claim 72. (new) Lazaridis disclosed “ further comprising the step of said local ad servers providing web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces” [0031,0034-0035].

23. As to Claim 73. (new) Lewis disclosed “ wherein the step of identifying a geographic location is performed using a GPS associated with one or more of said one or more mobile or fixed devices” [page 7, 12-27].

24. As to Claim 74. (new) Lewis disclosed “ wherein said step of identifying a geographic location includes the step of determining one or more of towers and frequencies being used by one or more of said one or more mobile or fixed devices” [page 7, 28-31,page 9, line 15-22,page 12, line 30-31, page 13, line 1-11].

Allowable Subject Matter

Claims 33-60 allowed.

The following is an examiner's statement of reasons:

The prior art of record Lewis Allan et al., WO 2005/101878 Bahl et al., US Pub. No. 2002/0155843 Lazaridis US Pub. No. 2003/0026231 do not disclose, make obvious, or otherwise suggest the structure of the applicant's

“ (iii) business terms for telecommunications services or for provision of said infrastructure”

(v) desired business terms or preferences for use of said telecommunications assets, said devices, said equipment or said property assets by one or more of said end users”

(e) proposed business terms for fulfilling said infrastructure needs with said telecommunications assets or said property assets”

(1) one or more of said end uses, or one or more of said one or more telecommunications carriers, or one or more of said third parties who are not end users or a telecommunications carrier request information associated with records in said clearinghouse system pertaining to either one or more telecommunications carriers or one or more of said end users”, in claim 33.

These features, together with the other limitations of the independent claims are novel and non-obvious over the prior art of record. The dependent claims 34-60 being definite, enabled by the specification, and further limiting to the independent claims are also allowable.

Conclusion

The prior art made of record

- | | | |
|----|--------------------|---------------------|
| a. | PCT. | WO 2005/101878 |
| b. | US Pub. No. | 2002/0155843 |
| c. | <i>US Pub. No.</i> | <i>2003/0026231</i> |

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in 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.

SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

In the case of amending the Claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim, Charles, can be reached on (571) 272-7421. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Srirama Channavajjala/
Primary Examiner, Art Unit 2157.

Notice of References Cited	Application/Control No. 13/490,133		Applicant(s)/Patent Under Reexamination RAPPAORT, THEODORE S.	
	Examiner SRIRAMA CHANNAVAJJALA		Art Unit 2157	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0155843	10-2002	Bahl et al.	455/456
*	B	US-8,224,794	07-2012	Rappaport, Theodore S.	707/694
*	C	US-6,023,699	02-2000	Knoblock et al.	1/1
*	D	US-2004/0076283	04-2004	Egan, Thomas A.	379/325
*	E	US-2003/0026231	02-2003	Lazaridis et al.	370/338
*	F	US-6,381,465	04-2002	Chern et al.	455/466
*	G	US-6,202,023	03-2001	Hancock et al.	701/516
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	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

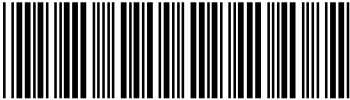
FOREIGN PATENT DOCUMENTS

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	N	wo 2005/101878	10-2005	PCT	LEWIS,Allan et al.	
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

SEARCHED			
Class	Subclass	Date	Examiner
705	33,14.1,14.11,39	11/15/2012	sc
709	203,206,215-220	11/15/2012	sc
379	1.01,9.04,32.01,88.09,114.08	11/15/2012	sc
455	406,408,417,445,560	11/15/2012	sc
707	608-609,688,705,748,825,827	11/15/2012	sc

SEARCH NOTES			
Search Notes		Date	Examiner
Inventor searched		11/15/2012	sc
PLUS search		11/15/2012	sc
google search attached		11/15/2012	sc
NPL search attached		11/15/2012	sc
WEST search attached		11/15/2012	sc

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	11/16/2012							
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	35	✓							
	36	✓							

<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
	Examiner SRIRAMA CHANNAVAJJALA	Art Unit 2157

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CLAIM		DATE							
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<i>Index of Claims</i> 	Application/Control No. 13490133	Applicant(s)/Patent Under Reexamination RAPPAPORT, THEODORE S.
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CLAIM		DATE							
Final	Original	11/16/2012							
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13490188 GAU: 2157

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,317,599	11/2001	Rappaport et al			
	6,442,507	08/2002	Skidmore et al			
	6,493,679	12/2002	Rappaport et al			
	6,499,006	12/2002	Rappaport et al			
	6,625,454	09/2003	Rappaport et al			

U.S. PATENT APPLICATION PUBLICATIONS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 2009114923	09-2009	PCT				
	WO 9524093	09-2005	PCT				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	7,096,173	08/2006	Rappaport			
	7,155,228	12/2006	Rappaport			
	7,164,883	01/2007	Rappaport			
	7,171,208	01/2007	Rappaport			
	7,243,054	07/2007	Rappaport			

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	7,019,753	03/2006	Rappaport et al			
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	7,055,107	05/2006	Rappaport et al			
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	7,096,160	08/2006	Skidmore et al			

U.S. PATENT APPLICATION PUBLICATIONS

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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,721,769	04/2004	Rappaport et al			
	6,850,946	02/2005	Rappaport et al			
	6,876,931	04/2005	Skidmore et al			
	6,971,063	11/2005	Rappaport et al			
	6,973,622	12/2005	Rappaport et al			

U.S. PATENT APPLICATION PUBLICATIONS

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	US-6,405,028	06-2002	DePaola et al.			
	US-6,061,558	05-2000	Kennedy et al.			
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	US-7,286,971	10-2007	Rappaport et al.			
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	US-6,542,588	04-2003	Mashinsky, Alexander			

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*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	US-2005/0216421	09-2005	Barry et al.			
	US-2004/0230583	11-2004	Mahon et al.			

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

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			Request for Proposals Planning, Data Gathering Database development, and Website creation. Plattsburg State University of New York. 02/16/2010 pp.1-9. http://www.cbnconnect.org/pdf/RFP-Wireless-Clearinghouse.pdf
			Infrastructure Audit for the campus center port. Prepared by: Tech knowledge consulting corporation March 2003, 13 pages

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	7,246,045	07/2007	Rappaport et al			
	6,788,766	09/2004	Logan			
	6,937,869	08/2005	Rayburn			
	US-6,879,584	04-2005	Thro et al.			
	US-7,286,649	10-2007	Nelson et al.			
	US-6,032,132	02-2000	Nelson, Nicholas B.			

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	US-2002/0123919	09-2002	Brockman et al.			
	US-2008/0049745	02-2008	Edwards et al.			
	US-2008/0065570	03-2008	Schultz, Justin F.			
	US-2002/0147726	10-2002	Yehia et al.			
	US-2003/0167175	09-2003	Salom, Silvio			
	US-2010/0142446	06-2010	Schlicht et al.			
	US-2007/0176746	06-2007	Gibson et al.			

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

			Christoph Lindemann et al. " Adaptive performance management for universal mobile telecommunications system networks", Computer Networks 38 (2002) 477-496

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	2009/0313113	12/2009	Dye et al			
	2009/0313318	12/2009	Dye et al			

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U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		US 2003/0134648 A1	07/17/2003	Reed et al			
		US 2004/0236547 A1	11/25/2004	Rappaport et al			
		US 2008/0232574 A1	09/25/2008	Baluja et al			

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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PCT INTERNATIONAL SEARCH REPORT ISSUED 11/18/08. PCT/US08/75847

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STATEMENT BY APPLICANT**

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Sheet 1

of 1

Complete if Known

Application Number	13/490,133
Filing Date	June 06, 2012
First Named Inventor	Theodore S. Rappaport
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	08610004C2

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 2002/0023010	02-21-2002	Rittmaster et al	
		US- 2006/0015375	01-19-2006	Lee et al	
		US- 2006/0031082	02-09-2006	Amaitis et al	
		US- 2006/0178918	08-10-2006	Mikurak, Michael G.	
		US- 6,169,791	01-02-2001	Pokress, Matthew C.	
		US- 2007/0198339	08-23-2007	Shen et al	
		US- 2004/0076283	04-22-2004	Egan, Thomas A.	
		US- 2007/0165805	03-20-2007	ALTBURG et al	
		US- 2002/0136391	09-26-2002	Armstrong, Bruce	
		US- 2005/0201525	09-15-2005	Hudson, Douglas	
		US- 5,561,704	10-01-1996	Salimando, Steven C	
		US- 7,933,605	04-26-2011	Rappaport et al	
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		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
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	Filing Date		2012-06-07	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		08610004C2	

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	1	20020023010	A1	2002-02-21	Rittmaster et al.	
	2	20060015375	A1	2006-01-18	Lee et al.	
	3	20060031082	A1	2006-02-09	Amaitis et al.	
	4	20060178918	A1	2006-08-10	Mikurak, Michael G.	
	5	20100165862	A1	2010-07-01	Nylander et al.	

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	Filing Date		2012-06-07	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number	08610004C2		

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PTO/SB/08a (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1

of 1

Complete if Known

Application Number	13/490,133
Filing Date	06/06/2012
First Named Inventor	Theodore S. Rappaport
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	08610004C2

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 2002/0023010	02-21-2002	Rittmaster et al	
		US- 2006/0015375	01-19-2006	Lee et al	
		US- 2006/0031082	02-09-2006	Amaitis et al	
		US- 2006/0178918	08-10-2006	Mikurak, Michael G.	
		US- 6,169,791	01-02-2001	Pokress, Matthew C.	
		US- 2007/0198339	08-23-2007	Shen et al	
		US- 2004/0076283	03-20-2007	ALTBERG et al	
		US- 2002/0136391	09-26-2002	Armstrong, Bruce	
		US- 2005/0201525	09-15-2005	Hudson, Douglas	
		US- 5,561,704	10-01-1996	Salimando, Steven C.	
		US- 7,933,605	04-26-2011	Rappaport et al	
		US-			
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		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	1 ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
						☐
						☐
						☐

Examiner
Signature

/Srirama Channavajjala/

Date
Considered

11/15/2012

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BIB DATA SHEET

CONFIRMATION NO. 3175

SERIAL NUMBER 13/490,133	FILING or 371(c) DATE 06/06/2012 RULE	CLASS 707	GROUP ART UNIT 2157	ATTORNEY DOCKET NO. 08610004C2	
APPLICANTS Theodore S. Rappaport, Austin, TX; ** CONTINUING DATA ***** This application is a CON of 12/208,007 09/10/2008 PAT 8,224,794 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 06/14/2012					
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /SRIRAMA T CHANNAVAJALA/ Acknowledged Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY TX	SHEETS DRAWINGS 15	TOTAL CLAIMS 41	INDEPENDENT CLAIMS 3
ADDRESS WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190 UNITED STATES					
TITLE Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks					
FILING FEE RECEIVED 1160	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/490,133	06/06/2012	Theodore S. Rappaport	08610004C2

CONFIRMATION NO. 3175

PUBLICATION NOTICE



OC000000056788920

30743
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

Title: Clearinghouse System, Method, and Process for Inventorying and Acquiring Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks

Publication No. US-2012-0244835-A1

Publication Date: 09/27/2012

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

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In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13490133
	Filing Date		2012-06-07
	First Named Inventor	Rappaport	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	08610004C2	

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	1	20020023010	A1	2002-02-21	Rittmaster et al.	
	2	20060015375	A1	2006-01-18	Lee et al.	
	3	20060031082	A1	2006-02-09	Amaitis et al.	
	4	20060178918	A1	2006-08-10	Mikurak, Michael G.	
	5	20100165862	A1	2010-07-01	Nylander et al.	

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	Filing Date		2012-06-07	
	First Named Inventor	Rappaport		
	Art Unit			
	Examiner Name			
	Attorney Docket Number	08610004C2		

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13490133
Filing Date	2012-06-07
First Named Inventor	Rappaport
Art Unit	
Examiner Name	
Attorney Docket Number	08610004C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael E. Whitham/	Date (YYYY-MM-DD)	2012-09-25
Name/Print	Michael E. Whitham	Registration Number	32,635

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 1

Complete if Known

Application Number	13/490,133
Filing Date	June 06, 2012
First Named Inventor	Theodore S. Rappaport
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	08610004C2

U.S. PATENT DOCUMENTS

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		US- 2006/0178918	08-10-2006	Mikurak, Michael G.	
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		US- 2007/0198339	08-23-2007	Shen et al	
		US- 2004/0076283	04-22-2004	Egan, Thomas A.	
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FOREIGN PATENT DOCUMENTS

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		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
						☐
						☐
						☐

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Signature

Date
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Rappaport, Ted

Confirmation No.: 3175

Serial No.: 13/490,133
(CON of USSN 12/208,007)

Group Art Unit: not assigned

Filed: June 7, 2012

Examiner: not assigned

For: Clearinghouse System, Method, and Process for Inventorying and Acquiring...

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

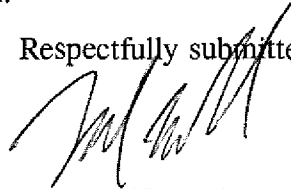
Commissioner for Patents
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Sir:

Further to the IDS filed June 18, 2012, and under the provisions of 37 C.F.R. 1.97 through 1.98 and pursuant to applicant's duty of disclosure under 37 C.F.R. 1.56, applicant submits a "Corrected" PTO-1449 (to correct errors made in the filing process resulting in the omission and mislabeling of two patent publications) to the attention of the Examiner in charge of the above-identified application, along with the reference cited thereon. No Office Action has issued.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Respectfully submitted,



Michael E. Whitham
Registration No.: 32,635

Date: 7/20/12
Whitham, Curtis, Christofferson & Cook, PC
11491 Sunset Hills Road - #340
Reston, VA 20190
703/787-94000
Customer No. 30743

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of 1

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Art Unit	Unassigned
Examiner Name	Unassigned
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		US- 2004/0076283	03-20-2007	ALTBERG et al	
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		WO 00/36815	06-01-2000	Mashinsky, Alexander		☐
		WO 03/039119	05-08-2003	Birgerson, Joakim et al		☐
						☐
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						☐

Examiner
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Rapp, et al.

Confirmation No.: 3175

Serial No.: 13/490,133
(CON of USSN 12/208,007)

Group Art Unit: not assigned

Filed: June 6, 2012

Examiner: not assigned

For: Clearinghouse System, Method, and Process for Inventorying and Acquiring
Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and
Providing Localized Content in Communication Networks

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria 22313-1450

Sir:

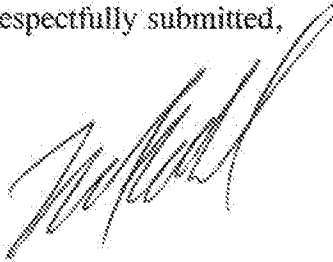
Under the provisions of 37 C.F.R. 1.97 through 1.99 and pursuant to applicant's duty of disclosure under 37 C.F.R. 1.56, applicant respectfully brings the following documents, listed on the attached form PTO-1449, to the attention of the Examiner in charge of the above-identified application. The references cited in the attached PTO-1449 (1 page) are readily available to the Examiner in co-pending U.S. Application Ser. No: 12/208,007 filed on September 10, 2008.

Thus, according to the rules of practice, these references are not provided herein, but are listed on the PTO-1449 form and should be considered by the Examiner. If the Examiner is unable to obtain the listed references, applicant will gladly provide such references upon notification by the Examiner in charge of the examination of the above-identified application.

These citations do not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written in a cursive style.

Michael E. Whitham

Registration No.: 32,635

Date: 6/19/17

Whitham, Curtis, Christofferson & Cook, PC

11491 Sunset Hills Road - #340

Reston, VA 20190

703/787-94000

Customer No. 30743

Utility Patent Application Transmittal

Docket Number

08610004C2

Address To
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

First Named Inventor

Name	Theodore S. Rappaport		
Mailing Address			
City		State	
Country		Postal Code	
City of Residence		State of Residence	
Country of Residence		Citizenship	

Title of Invention

Clearinghouse System, Method, and Process for Inventorying and Acquiring, Monitoring and Controlling Network Performance for Enhancement, and Providing Localized Content in Communication Networks

Assignee Information*

Name			
Company			
Address			
City		State	
Country		Postal Code	

*Complete this section if applicant wants the patent application publication to include assignee information. Providing this information does not substitute for compliance with any requirement of Part 3 of 37 CFR to have an assignment recorded by the Patent Office.

Application Elements

See MPEP chapter 600 concerning utility patent application contents.

- | | |
|---|---|
| <p>1. ☒ USPTO Filing Fee (as calculated <i>infra</i>)</p> <p>2. ☒ Applicant claims small entity status
See 37 CFR 1.27</p> <p>3. ☒ Specification
Total number of pages <u>62</u>
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))</p> <p>4. ☒ Drawing(s) (35 U.S.C. 113)
Total number of sheets <u>15</u></p> <p>5. ☒ Oath or Declaration
a. ☐ Newly executed (original or copy), or ☐ Unexecuted
b. ☒ A copy from a prior application (37 CFR 1.63(d))
(for Continuation or Divisional Application)
i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s)
named in the prior application (see 37 CFR
1.63(d) and 1.33(b))</p> | <p>6. ☐ Application Data Sheet (37 CFR 1.76)</p> <p>7. ☐ CD-ROM or CD-R in duplicate, large table or
Computer Program (<i>Appendix</i>)
☐ Landscape Table on CD</p> <p>8. ☐ Nucleotide and/or Amino Acid Sequence Submission
(if applicable, items a. - c. are required)
a. ☐ Computer Readable Form (CRF)
b. Specification Sequence listing on:
i. ☐ CD-ROM or CD-R (2 copies), or
ii. ☐ Paper
c. ☐ Statements verifying identity of above copies</p> |
|---|---|

Utility Patent Application Transmittal

Docket Number

08610004C2

Accompanying Application Parts

9. ☐ Assignment
a. ☐ Recordation Form Cover Sheet
10. ☐ 37 CFR 3.73(b) Statement (when there is an assignee)
11. ☒ Power of Attorney ☐ No Power of Attorney
12. ☐ English Translation Document (if applicable)
13. ☒ Information Disclosure Statement
a. ☐ Copies of citations attached
14. ☒ Preliminary Amendment
15. ☐ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
16. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
17. ☐ Nonpublication Request under 35 USC 122(b)(2)(B)(i)

18. ☐ Certificate of Mailing
a. ☐ First Class Mail, or
b. ☐ Express Mail
Label Number _____

19. ☐ Other:

20. If a **CONTINUING APPLICATION**, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.78:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No. 12/208,007
(XX/YY,YYY)

Prior application information: Examiner Channavajjala, Srirama T Art Unit: 2157

Request Not To Publish*

21. ☐ Applicant hereby requests that the attached application not be published under 35 U.S.C. 122(b).

Applicant hereby certifies that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

*Warning

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application upon filing.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant must notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).

Request To Publish Early

22. ☐ Applicant hereby requests the publication of this patent application earlier than as set forth in 37 CFR 1.211(a) pursuant to 37 CFR 1.219 as provided in 37 CFR 1.215(c).

Utility Patent Application Transmittal

Docket Number

08610004C2

Fee Calculation

Utility Patent Application Fee

Claims as Filed

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	43	- 20 =	23	x 30 =	\$690
Total Indep. Claims	3	- 3 =		x 125 =	
Multiple Dependent Claims (check if applicable) ☐					
☒ E-Filing (small entity must be selected to get Filing Fee discount)				Basic Filing Fee	\$95
Number of Specification Pages	62	Number of Drawing Sheets	15		
Total Pages	77	Application Size Fee			\$ 0

Pre-Grant Publication Fee

Early publication fee as set forth in 37 CFR 1.18(d) ☐

Processing fee for publication or republication as set forth in 37 CFR 1.17(i) ☐

Assignment Recordal Fee

Enter Number of Properties Affected by Recordal x 40 =

Examination Fee

Examination Fee \$125

Search Fee

Search Fee \$310

TOTAL \$1220

Method of Payment

☒ Deposit Account ☐ Credit Card ☐ Check ☐ Money Order ☐ Other: _____

Deposit Account Number 50-2041

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

- ☒ Charge the fee(s) set forth above
☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17
☐ Charge fee(s) indicated above, **except for the filing fee**
☐ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on form PTO-2038.

Amount Grand Total \$1220

Utility Patent Application Transmittal

Docket Number

08616004C2

Correspondence Address

Customer Number 30743

-OR-

Name

Address

City

State

Country

Postal Code

Phone Number

E-mail Address

Certificate of Mailing by Express Mail

I hereby certify that this Patent Application, accompanying documents, and fee are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on the date indicated below:

(Date of Mailing)

(Typed or Printed Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

("Express Mail" Mailing Label Number)

Certificate of Mailing by First Class Mail

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(Date of Mailing)

(Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

Certificate of Transmission

I hereby certify that this Patent Application, accompanying documents, and fee authorization are being facsimile transmitted to the United States Patent and Trademark Office on the date indicated below:

(Date of Transmission)

(Name of Person Transmitting Correspondence)

(Signature of Person Transmitting Correspondence)

Signature Instructions

Select the name of the person who will electronically sign the Patent Application from the drop-down box below.

If a practitioner is not present in the drop-down list, you must close this form and select 'Add Practitioner...' in the Form Manager's Utility menu.

Verify that the signatory information is correct and press the 'eSign' button to electronically sign the submission. If you prefer to sign the form manually, simply do not click the 'eSign' button; just print and manually sign.

Signatory Drop-Down Box

Michael E. Whitham

Name

Michael E. Whitham

Registration Number

32,635

Signatory Capacity

Attorney for Applicant(s)

E-mail Address

action@wcc-ip.com

eSign

Date Signed

6/6/12

Express Mail Label No.

Page 1 of

Docket No.
88610004aa**Declaration and Power of Attorney For Patent Application****English Language Declaration**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on September 16, 2008 as United States Application No. or PCT International Application Number 12/168,887

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)Priority Claimed

(Number) _____ (Country) _____ (Day/Month/Year Filed) _____

☐

(Number) _____ (Country) _____ (Day/Month/Year Filed) _____

☐

(Number) _____ (Country) _____ (Day/Month/Year Filed) _____

☐

Page 2 of

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

<u>60/971,175</u>	<u>September 18, 2007</u>
(Application Serial No.)	(Filing Date)
<u>60/977,582</u>	<u>October 4, 2007</u>
(Application Serial No.)	(Filing Date)
<u>61/028,261</u>	<u>February 13, 2008</u>
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status)</u> (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Page 3 of

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Michael E. Whitham

Reg. No. 32,635

Marshall M. Curtis

Reg. No. 33,138

Clyde R. Christofferson

Reg. No. 34,138

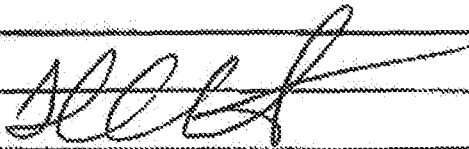
C. Lamont Whitham

Reg. No. 22,424

Send Correspondence to: **ASSOCIATE THIS APPLICATION WITH CUSTOMER NO. 38743**

Direct Telephone Calls to: *(name and telephone number)*

Michael E. Whitham 707-787-9400

Full name of sole or first inventor Theodore S. Rappaport		Date 6/25/2010
Sole or first inventor's signature		
Residence Austin, Texas		
Citizenship USA		
Post Office Address 615 Hearn Street, Austin, TX 78703		

Full name of second inventor, if any	
Second inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Fig. 1 Clearinghouse System

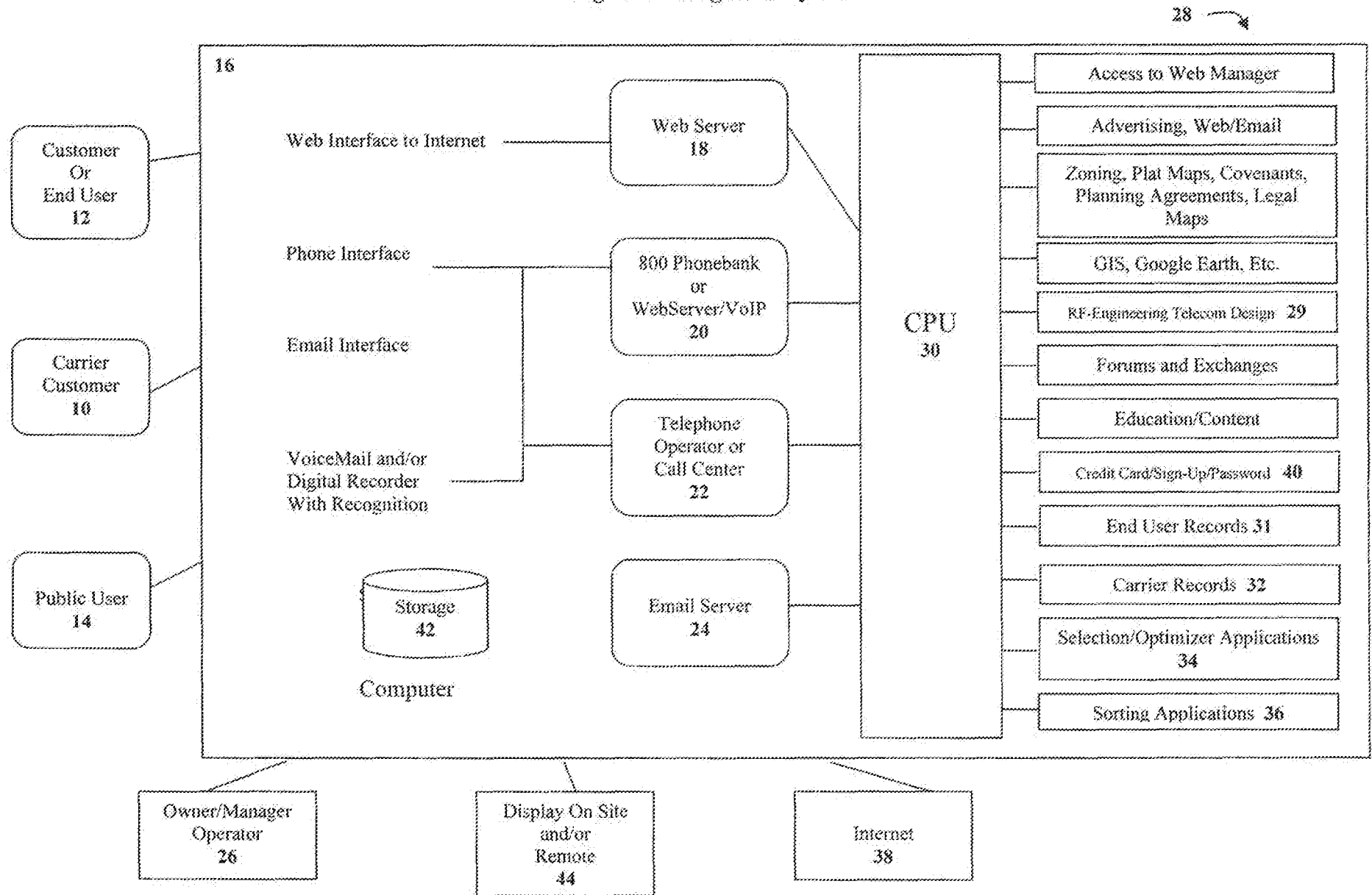


Fig. 2 All Records

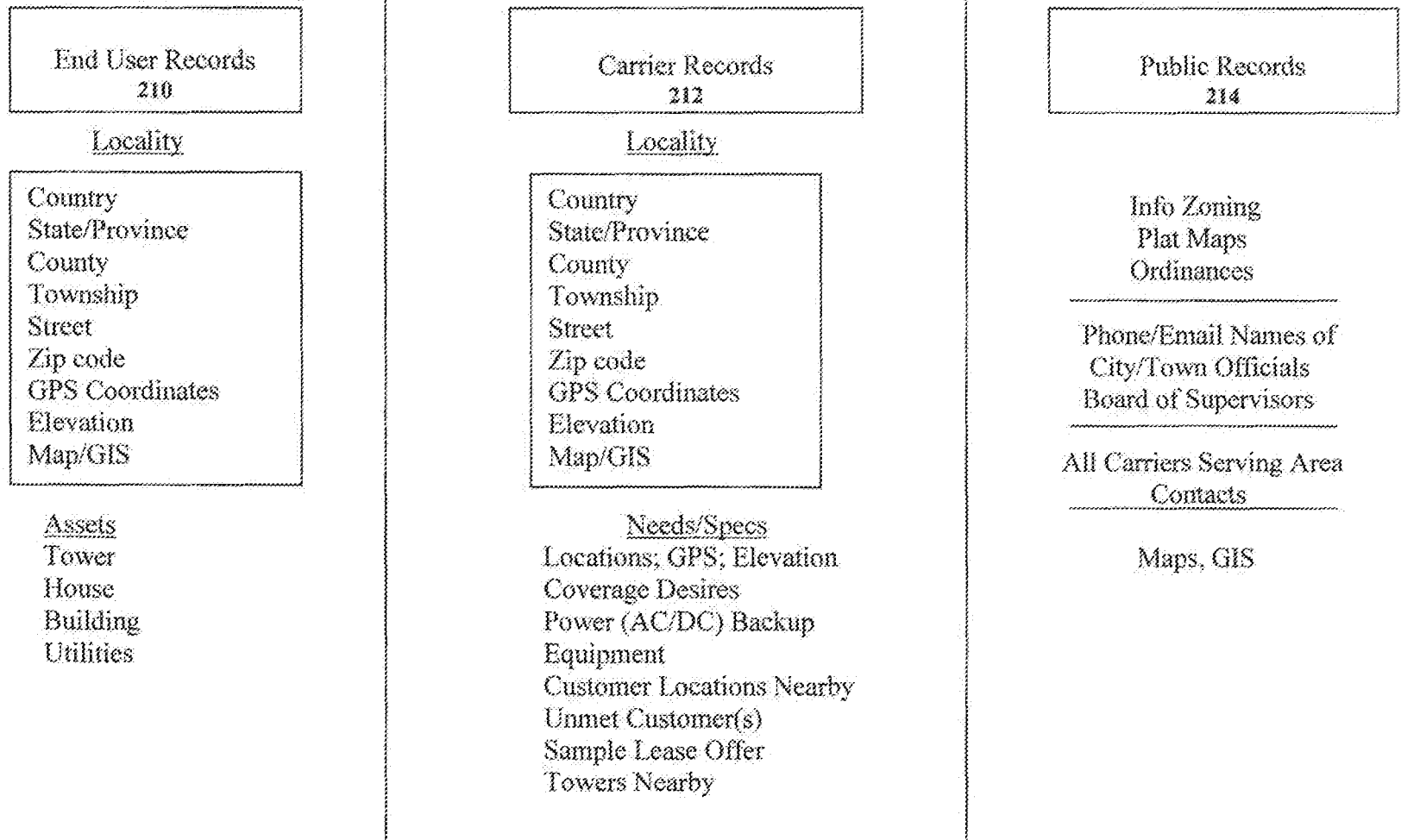


Fig. 3

End User Form

Name
Address
Phone/Email
Own or Rent?
Property Size
Identify Plat Map or Similar
Locator _____
Call _____

Your Interests:

I have a: Tower ☐
Rooftop ☐
Outbuilding ☐
Church Steeple ☐
AC Power ☐
Backup or Generator ☐

I would like: Free Internet ☐
Installed Tower ☐
Installed Generator ☐
Monthly credit on service ☐
Nothing ☐

Click On
Map 310

Carrier Form

Name
Address
Phone/Email
Market _____

Number of Customers Currently in
Market _____

Number of Desired Customers in
Market _____

Enter GPS Coordinates of Current
Equipment

Number of Sites:

Site 1 Latitude _____ Longitude _____
Site 2 Latitude _____ Longitude _____
Site 3 Latitude _____ Longitude _____

Specific Needs:

Towers ☐
AC ☐
AC Backup ☐
Cable Right of Way ☐
Storage Barn ☐
Base Station ☐

Click On
Map 311

Fig. 4

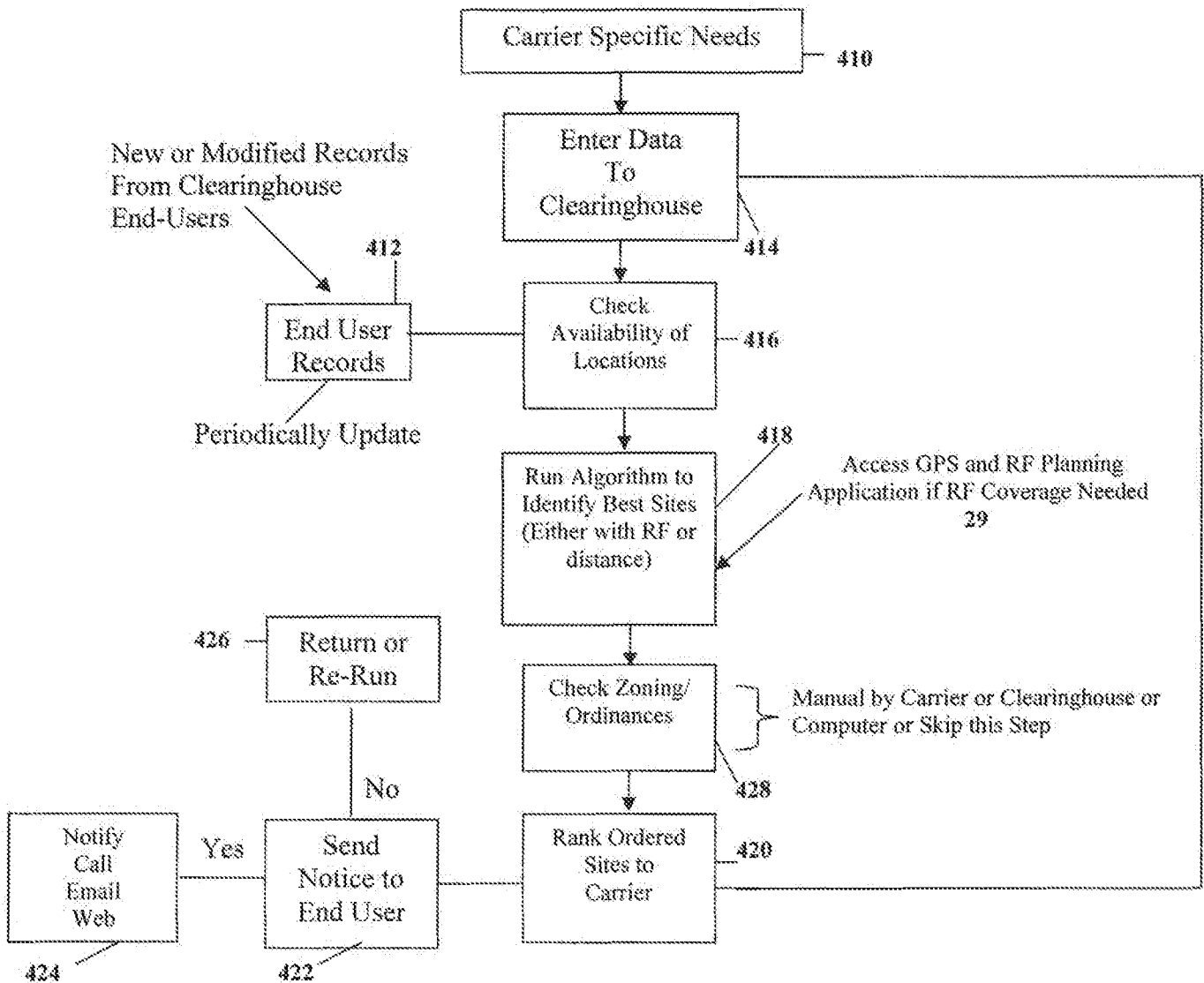


Fig. 5

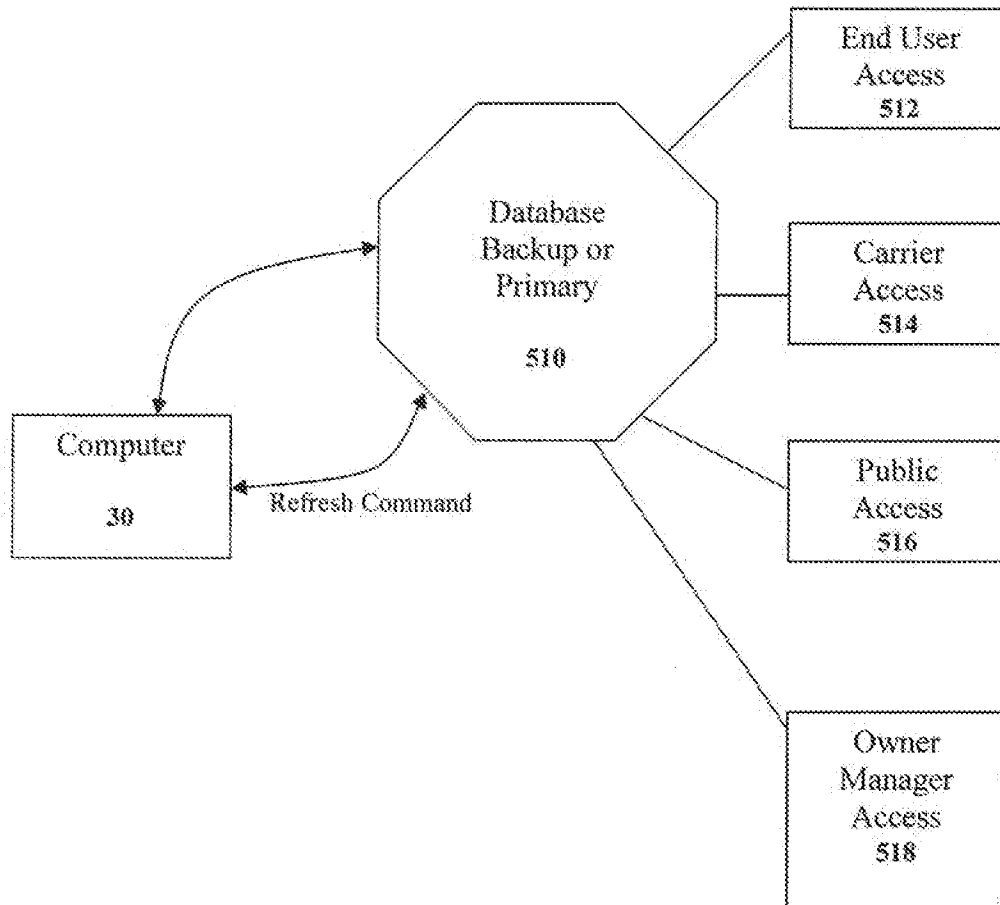


Fig. 6

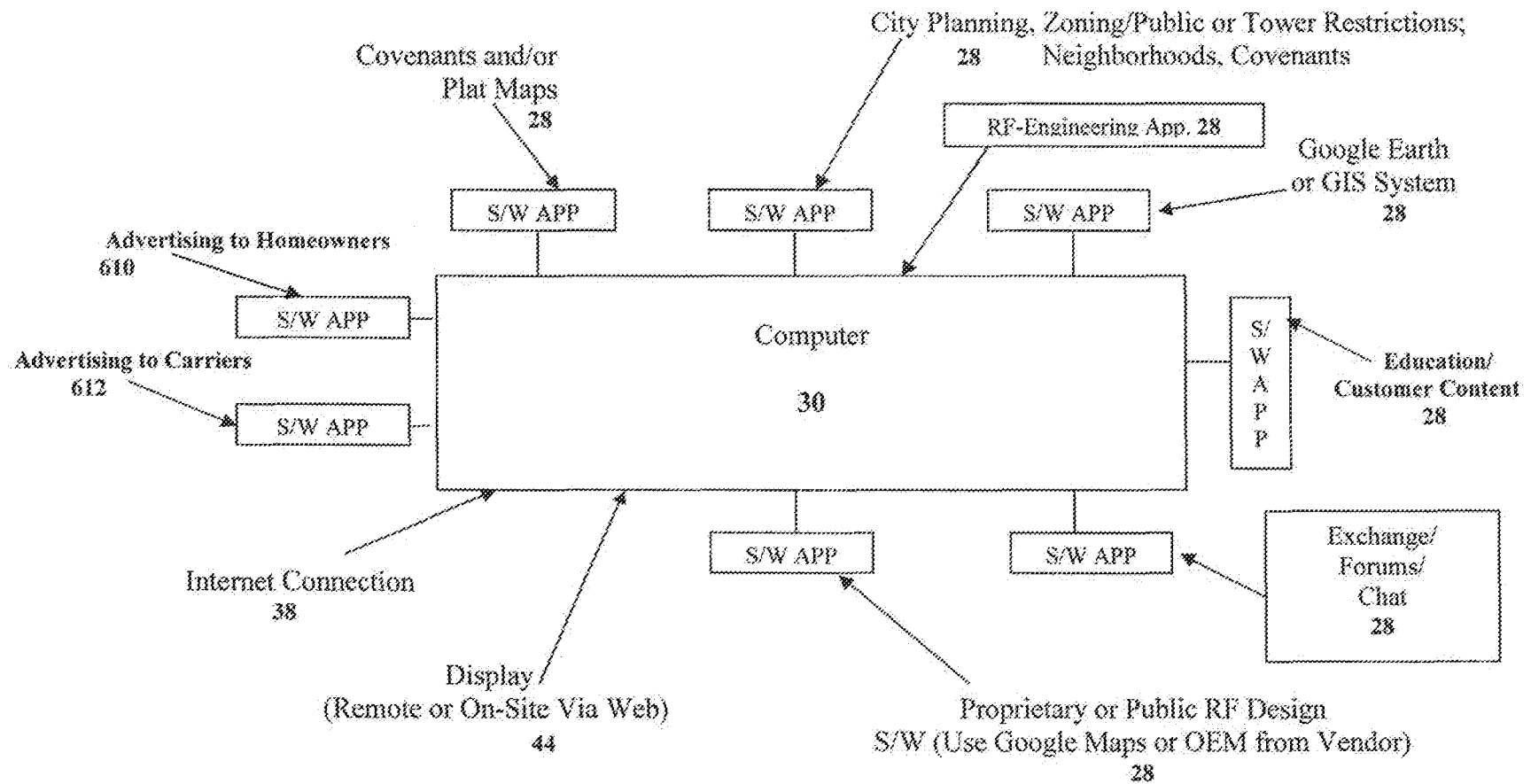


Fig. 7

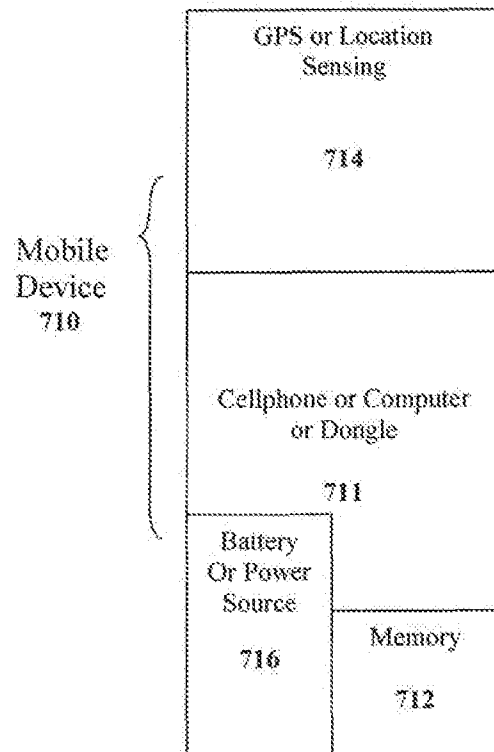
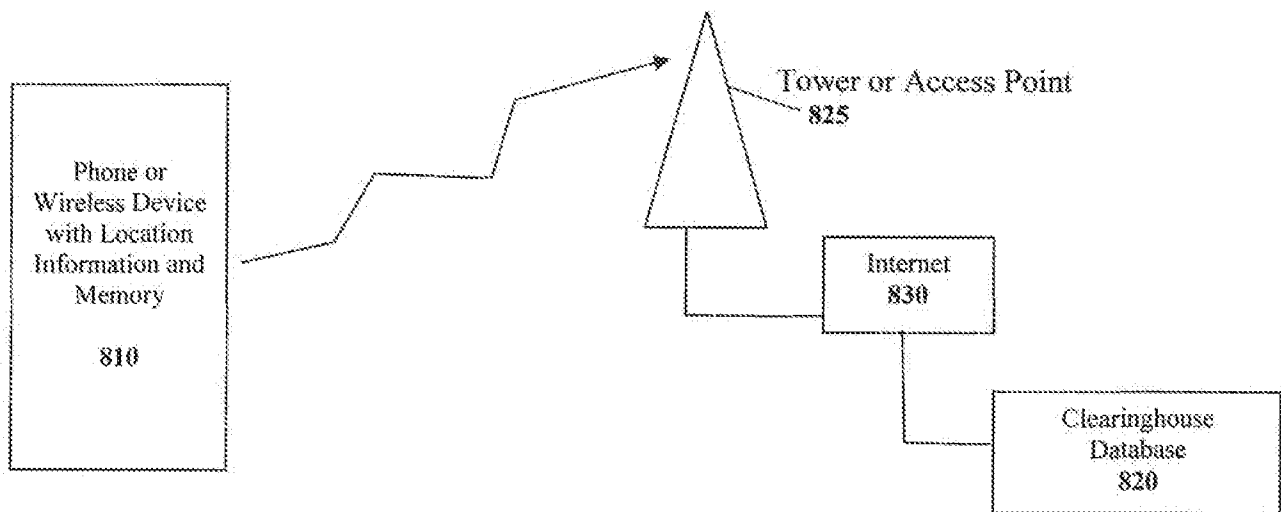


Fig. 8



Phone reports back its "observations" to Clearinghouse

Fig. 9

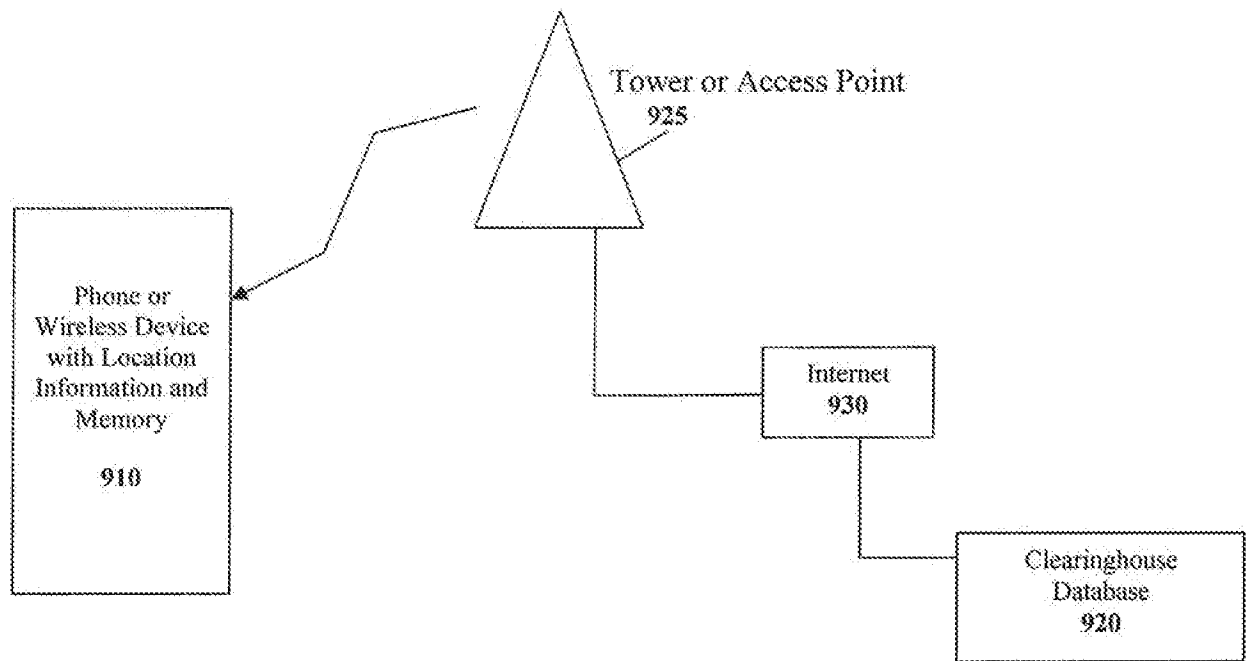


Fig. 10

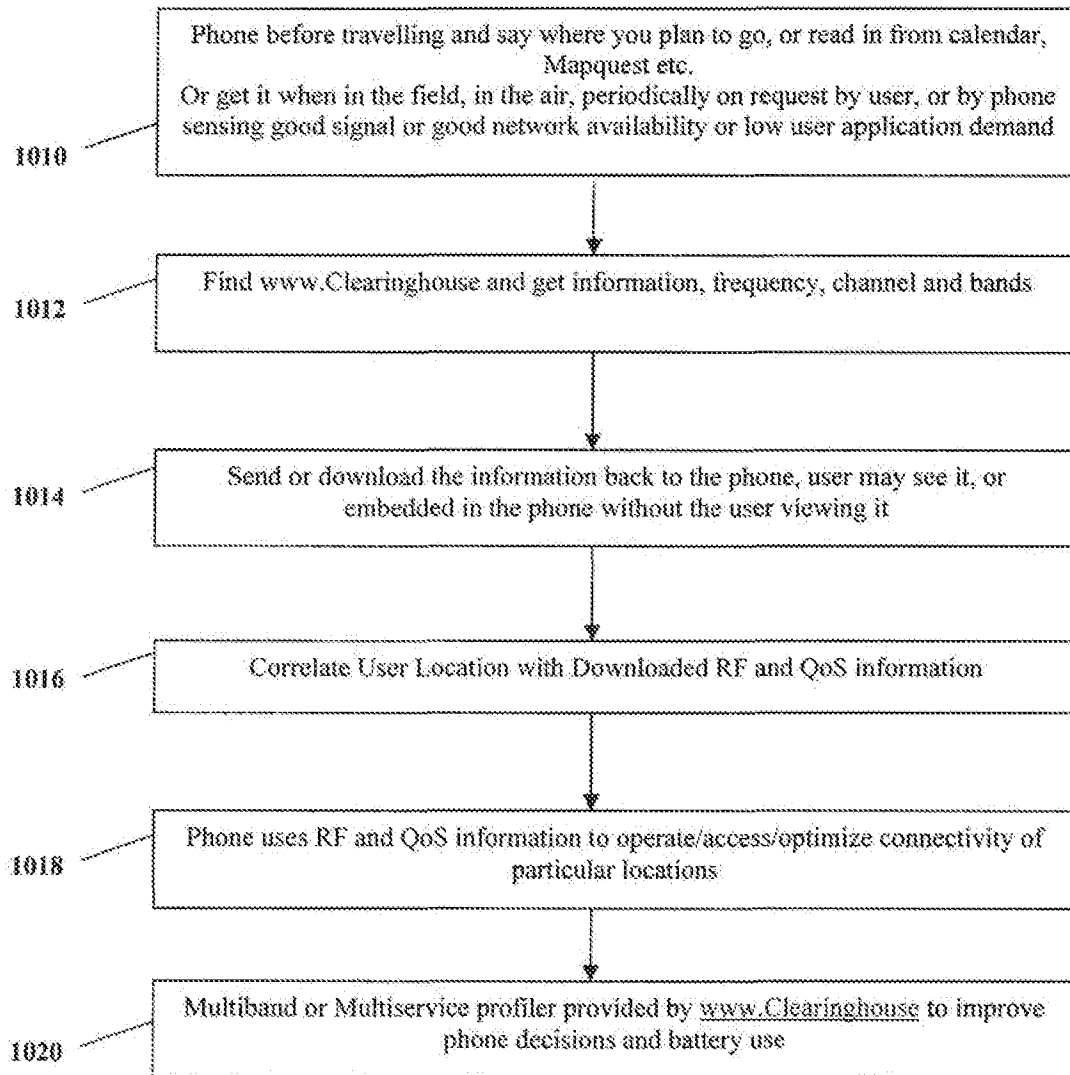


Fig. 11

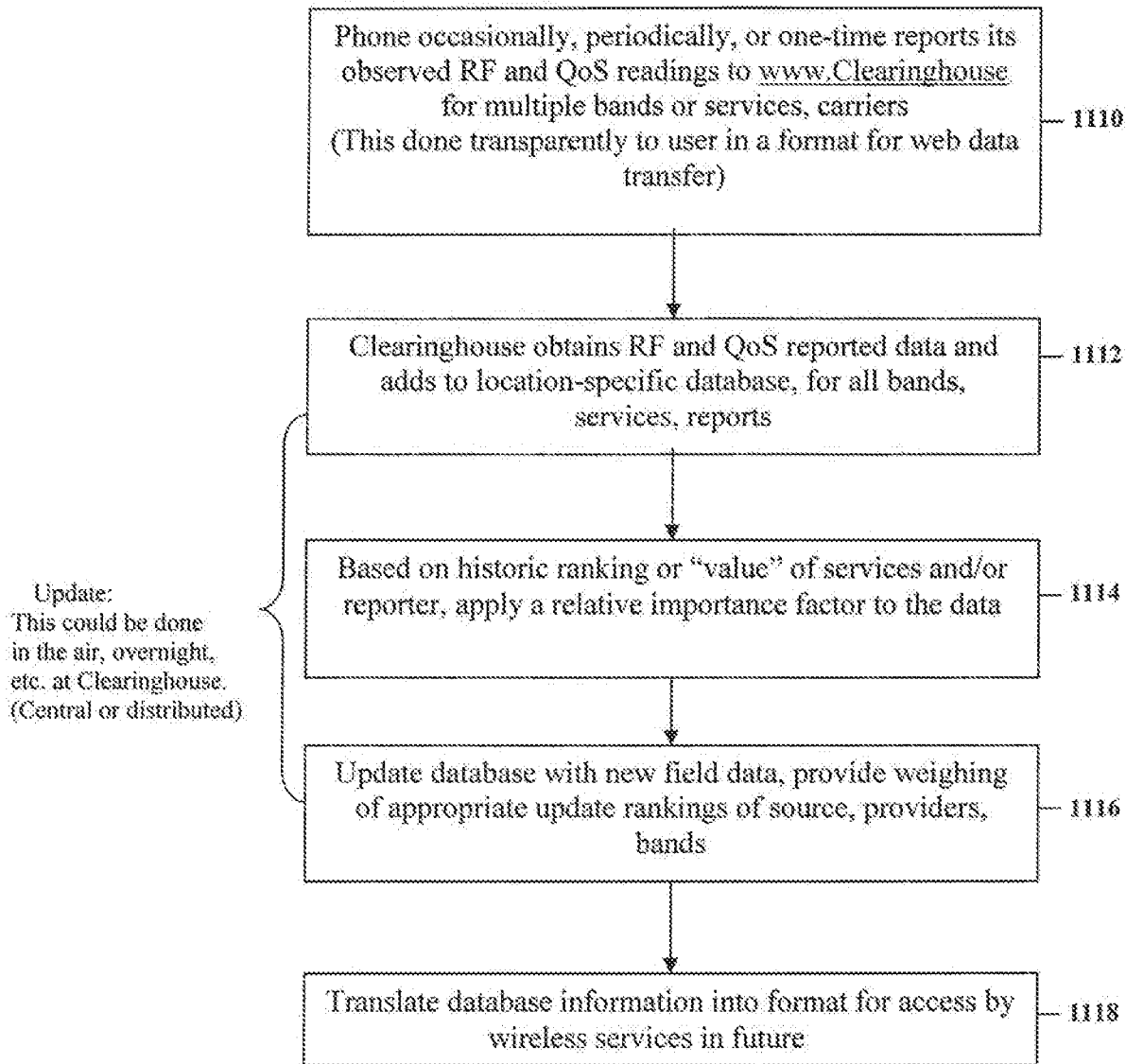


Fig. 12

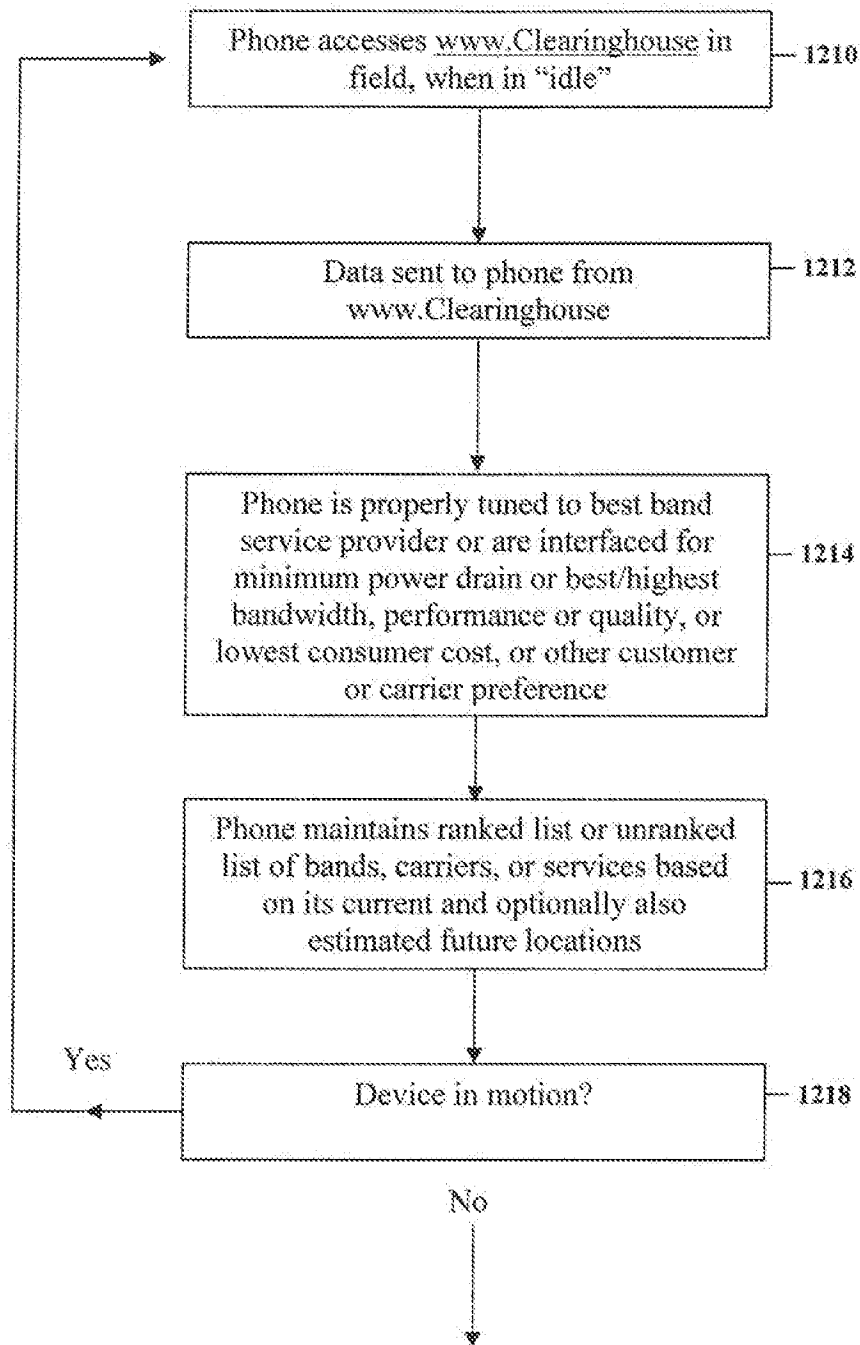


Fig. 13

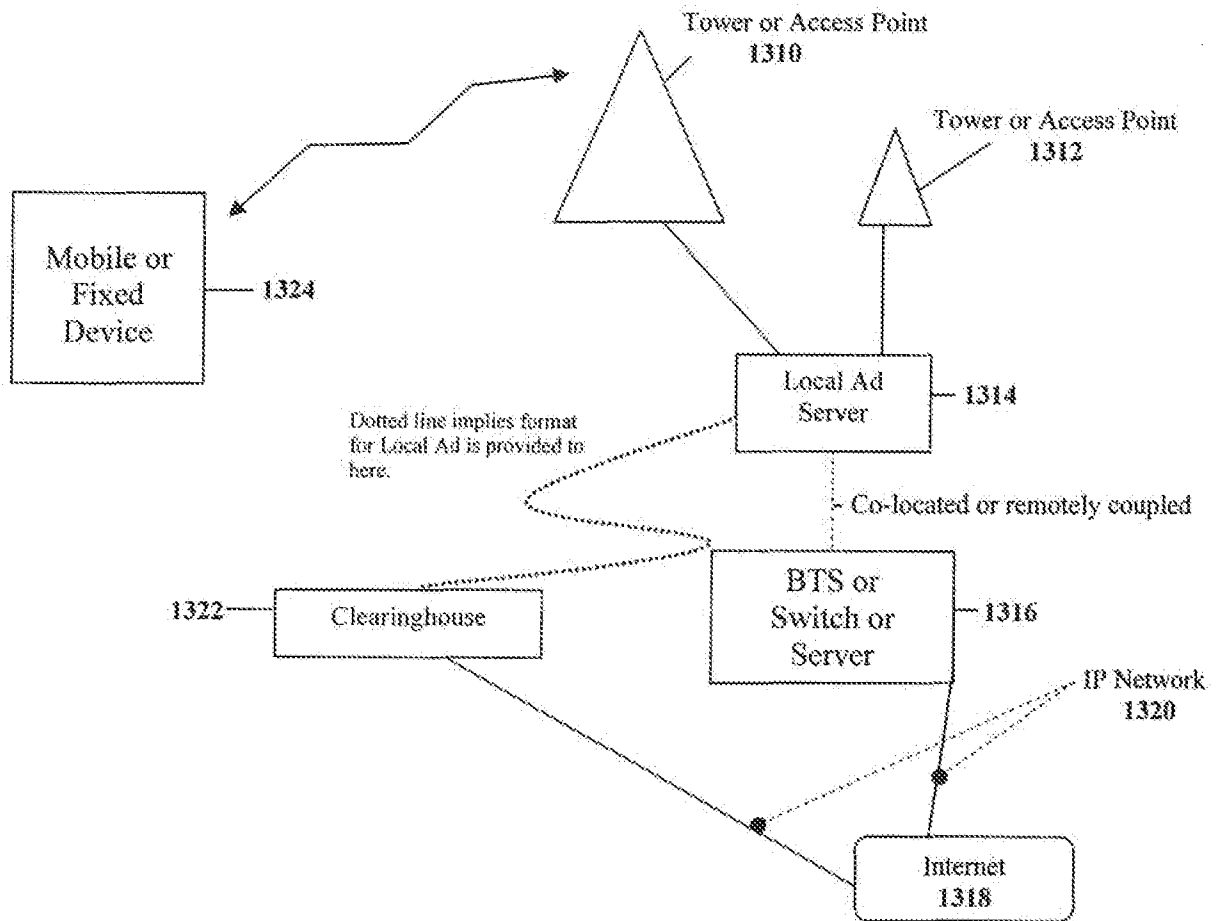


Fig. 14

Local Advertiser Flow Chart

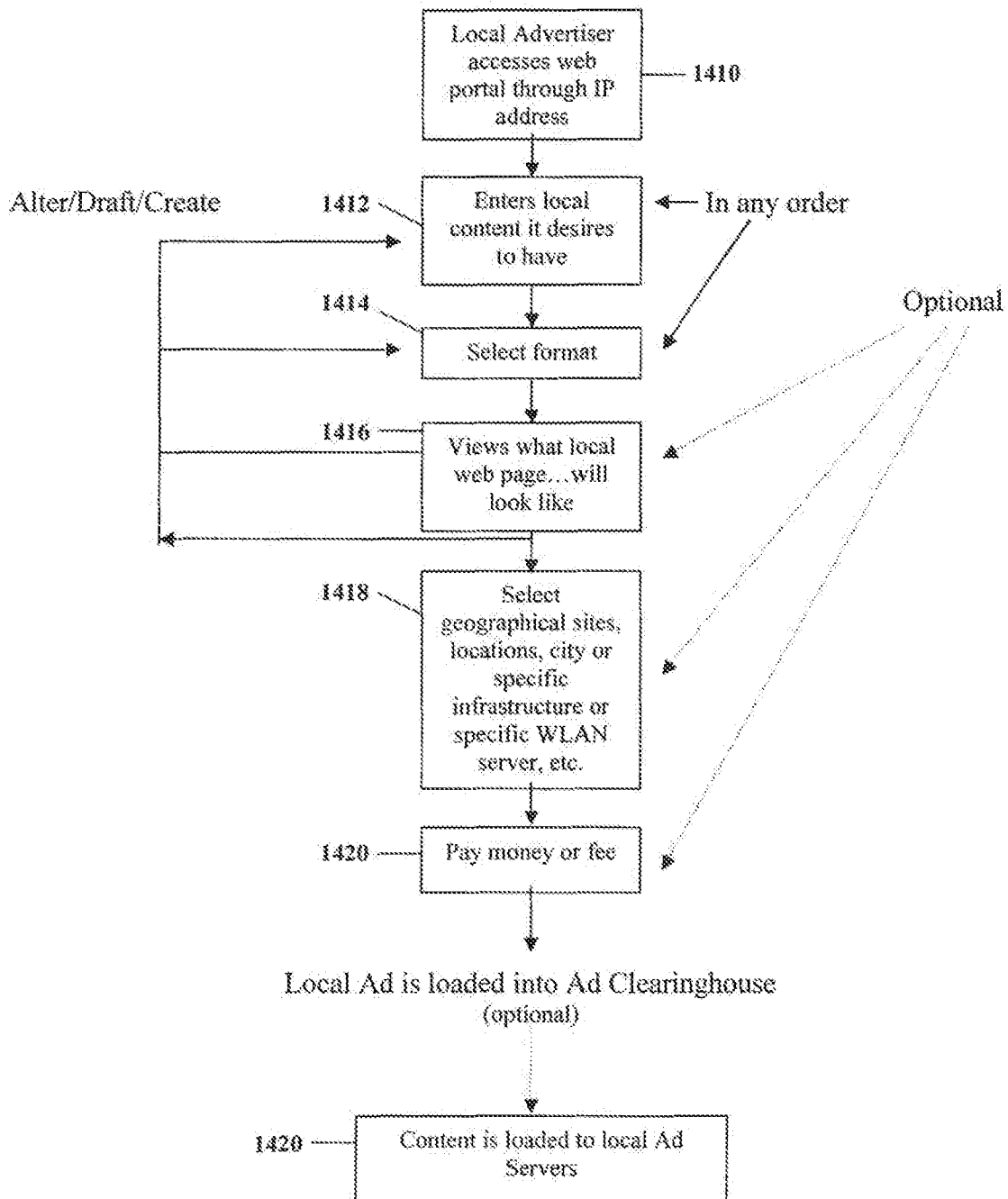
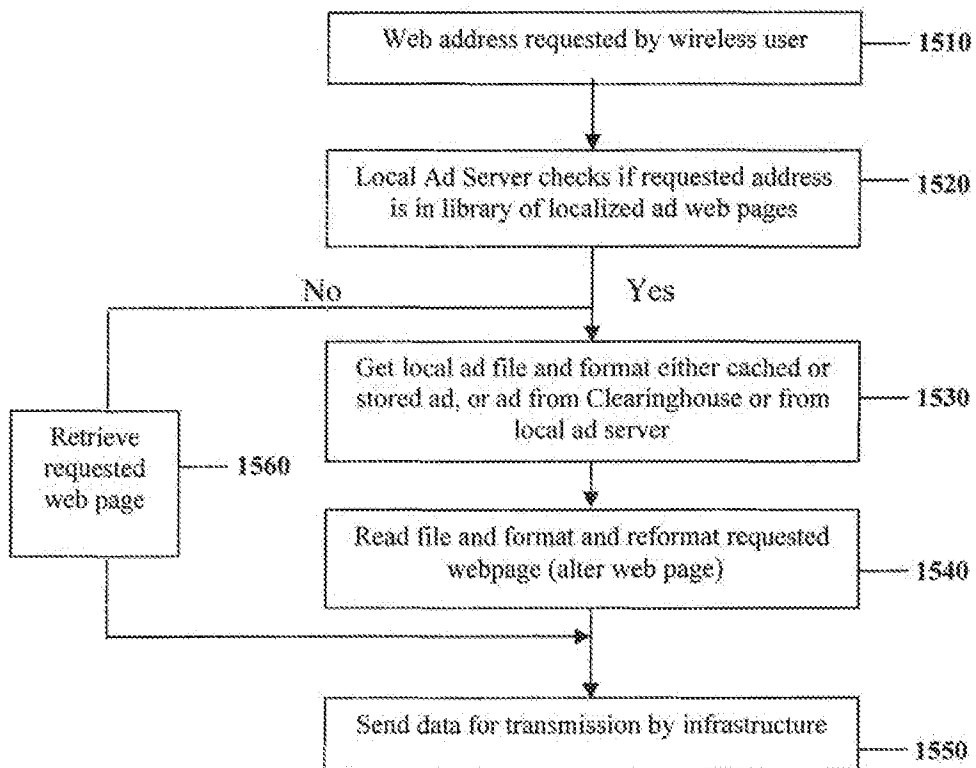


Fig. 15



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Rappaport

Confirmation No. (not assigned)

Serial No. (not assigned)

Group Art Unit (not assigned)

Filed concurrently herewith

Examiner (not assigned)

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR
INVENTORYING AND ACQUIRING INFRASTRUCTURE,
MONITORING AND CONTROLLING NETWORK PERFORMANCE
FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT
IN COMMUNICATION NETWORKS

This application is a continuation application of

Rappaport

Confirmation No. 1779

Serial No. 12/208,007

Group Art Unit 2157

Filed September 10, 2008

Examiner Channavahala

For CLEARINGHOUSE SYSTEM, METHOD, AND PROCESS FOR
INVENTORYING AND ACQUIRING INFRASTRUCTURE,
MONITORING AND CONTROLLING NETWORK PERFORMANCE
FOR ENHANCEMENT, AND PROVIDING LOCALIZED CONTENT
IN COMMUNICATION NETWORKS

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee or examination on the merits, please
amend the application as follows:

Listing of the Claims: begins on page 2

Remarks: begins on page 12

74. (new) The method of claim 70 wherein said step of identifying a geographic location includes the step of determining one or more of towers and frequencies being used by one or more of said one or more mobile or fixed devices.

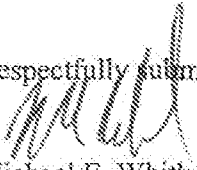
75. (new) The method of claim 70 wherein said local ad servers provide content to said one or more mobile or fixed devices tuned to a specific transmitted signal.

REMARKS

The application is a continuation application of USSN 12/208,007, now allowed. Claims 1-32 have been canceled. Claims 33-75 have been added.

Please compute the filing fee and proceed to examination on the merits based on this preliminary amendment.

Respectfully submitted,


Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400
Fax. (703) 787-7557
Customer No.: 30743

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Rapp, et al.

Confirmation No.: not assigned

Serial No.: not assigned
(CON of USSN 12/208,007)

Group Art Unit: not assigned

Filed: Concurrently

Examiner: not assigned

For: Clearinghouse System, Method, and Process for Inventorying and Acquiring
Infrastructure, Monitoring and Controlling Network Performance for Enhancement, and
Providing Localized Content in Communication Networks

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria 22313-1450

Sir:

Under the provisions of 37 C.F.R. 1.97 through 1.99 and pursuant to applicant's duty of disclosure under 37 C.F.R. 1.56, applicant respectfully brings the following documents, listed on the attached form PTO-1449, to the attention of the Examiner in charge of the above-identified application. The references cited in the attached PTO-1449 (1 page) are readily available to the Examiner in co-pending U.S. Application Ser. No: 12/208,007 filed on September 10, 2008.

Thus, according to the rules of practice, these references are not provided herein, but are listed on the PTO-1449 form and should be considered by the Examiner. If the Examiner is unable to obtain the listed references, applicant will gladly provide such references upon notification by the Examiner in charge of the examination of the above-identified application.

These citations do not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Respectfully submitted,



Michael E. Whitham

Registration No.: 32,635

Date: 6/6/12

Whitham, Curtis, Christofferson & Cook, PC

11491 Sunset Hills Road - #340

Reston, VA 20190

703/787-94000

Customer No. 30743

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO. 08610004C2	APPLICATION NO. not assigned
	APPLICANT(S) Rappaport	
	FILING DATE concurrently	GROUP ART UNIT not assigned

U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,317,599	11/2001	Rappaport et al			
		6,442,507	08/2002	Skidmore et al			
		6,493,679	12/2002	Rappaport et al			
		6,499,006	12/2002	Rappaport et al			
		6,625,454	09/2003	Rappaport et al			

U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
		WO 2009114923	09-2009	PCT			
		WO 9524093	09-2005	PCT			

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>			

EXAMINER	DATE CONSIDERED
----------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO.	APPLICATION NO.
	08610004C2	not assigned
	APPLICANT(S) Rappaport	
FILING DATE		GROUP ART UNIT
concurrently		not assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	7,096,173	08/2006	Rappaport			
	7,155,228	12/2006	Rappaport			
	7,164,883	01/2007	Rappaport			
	7,171,208	01/2007	Rappaport			
	7,243,054	07/2007	Rappaport			

U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
----------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO.	APPLICATION NO.
	08610004C2	not assigned
	APPLICANT(S) Rappaport	
	FILING DATE	GROUP ART UNIT
	concurrently	not assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	7,019,753	03/2006	Rappaport et al			
	7,035,642	04/2006	Rappaport et al			
	7,055,107	05/2006	Rappaport et al			
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>
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EXAMINER	DATE CONSIDERED
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO.	APPLICATION NO.
	08610004C2	not assigned
	APPLICANT(S) Rappaport	
	FILING DATE	GROUP ART UNIT
	concurrently	not assigned

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		6,721,769	04/2004	Rappaport et al			
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	US-2004/0230583	11-2004	Mahon et al.			

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			Request for Proposals Planning, Data Gathering Database development, and Website creation. Plattsburg State University of New York. 02/16/2010 pp.1-9. http://www.cbnconnect.org/pdf/RFP-Wireless-Clearinghouse.pdf
			Infrastructure Audit for the campus center port. Prepared by: Tech knowledge consulting corporation March 2003, 13 pages

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	FILING DATE concurrently	GROUP ART UNIT not assigned

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		US-2008/0065570	03-2008	Schultz, Justin F.			
		US-2002/0147726	10-2002	Yehia et al.			
		US-2003/0167175	09-2003	Salom, Silvio			
		US-2010/0142446	06-2010	Schlicht et al.			
		US-2007/0176746	06-2007	Gibson et al.			

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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			Christoph Lindemann et al. " Adaptive performance management for universal mobile telecommunications system networks", Computer Networks 38 (2002) 477-496

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		2009/0313318	12/2009	Dye et al			

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	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

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		PCT INTERNATIONAL SEARCH REPORT ISSUED 11/18/08. PCT/US08/75847

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Clearinghouse system, method, and process for inventorying and acquiring infrastructure, monitoring and controlling network performance for enhancement, and providing localized content in communication networks

Cross-Reference to Related Applications

This application claims priority to U.S. Provisional Patent Application 60/971,175 filed on September 10, 2007, U.S. Provisional Patent Application 60/977,582 filed on October 4, 2007, and U.S. Provisional Patent Application 61/028,261 filed on February 13, 2008, and the complete contents of each of these applications is herein incorporated by reference.

Background

Many companies own or lease towers, and have expertise in the positioning (sighting), leasing, designing and/or building of towers and other equipment that are used in providing or installing telecommunications networks. American Tower, Crown Castle, InnerWireless and America Connect, are examples of companies that own, lease, use, or construct towers or distributed antenna systems in and around towers or buildings to enable wireless communications services to be distributed by various users, including without limitation either their own company or their customers, such as AT&T Wireless, Vodafone, Sprint, or public or private radio system operators. These companies have proprietary techniques, and their own staff which is generally quite large and includes lawyers, engineers, sales people, and accountants, to conduct some or all of the following businesses: charge rent for towers and or antenna systems, charge for tower/antenna maintenance or tower location services, provide engineering or physical plant maintenance for towers, or antennas, and other associated equipment, install equipment, provide wireless service for telecom carriers, argue zoning ordinances and request variances for tower or equipment installations, negotiate leases of rooftops or tower sites, and other related products and services pertaining to towers, antennas, and wireless infrastructure in general, in order to maintain and grow a business.

The aforementioned companies often use maps and population projections, along with topographical or geographical features, and radio frequency (RF) software simulators, in order to determine where to place towers or antennas for effective coverage of a service region, how high the tower should be, where a distributed antenna system (DAS) should be placed, what types of antennas are best suited for a particular need, and other technical, esthetic, physical, legal, or economic details regarding how towers and/or antennas will effectively support radio communications through its coverage regions and through its building database and tower database. These firms also generally use lawyers to review and assess zoning ordinances involved with the erection of towers or equipment, and to negotiate site leases or purchases.

US patents 6,317,599; 6,442,507; 6,493,679; 6,499,006; 6,625,454; 6,721,769; 6,850,946; 6,876,951; 6,971,063; 6,973,622; 7,019,753; 7,035,642; 7,055,107; 7,085,697; 7,096,160; 7,096,173; 7,155,228; 7,164,883; 7,171,208; 7,243,054; and 7,246,045, as well as patents and publications of such organizations as American Tower, Spectrasite (which merged with American Tower, Crown Castle International, Galaxy Engineering, InCode (bought by Verasign), and InnerWireless deal with technical issues that must be engineered for specific applications in the telecommunications business. These solutions are not aimed at or directly useable by ordinary end-user customers or ordinary landowners, homeowners, farmers, church parishioners, public service organizations, local governments, or building tenants who are generally not at all familiar with the technical details of telecommunications engineering, radio frequency planning, zoning restrictions, lease negotiations for tower sites, neighborhood covenants, or network management and operations. Further, the prior art does not at all contemplate the future, open-spectrum world of wireless, where carriers will likely be required by law to share their end users (e.g. subscribers) with other carriers or services, in a way that is similar to the Carterphone ruling and MCI rulings in the US that required AT&T to provide open access of equipment to its telephone (landline) infrastructure, and which is now adopted globally in the landline world.

Other companies, such as power utility and television cable companies, also have a need for accessing, designing, acquiring, or leasing towers, and using towers, light poles, rooftops, and other structures such as parts cabinets, remote power supplies,

storage facilities for vehicles, and the like, for supporting the provisioning of their services. These carriers also have a need of being able to access the location of towers and other equipment, such as utility boxes and cabling, for maintenance purposes, and need to be able to access the physical locations of their equipment and cabling runs, for the purpose of installing or modifying, or upgrading equipment associated with its distribution of services. These companies pay staff and consultants large amounts of money to acquire real estate or to determine possible solutions to these problems.

In the specific case of tower companies, they typically lease or sell access to their towers to carriers, often with complicated lease arrangements, and at times may also sell their towers in undesirable or less useful locations. Typically, these leases and sales require complicated contracts, deal terms, and protracted negotiations through brokers and technical consultancies. Sometimes carriers own their own tower business subsidiary, again requiring large staff and costly consultants. The public is generally not aware of these activities and has no way to participate in this business or activity, which is a disadvantage for both the carriers and the public at large.

It is well understood that Ebay has emerged as a leader for citizens to auction goods directly over the internet, and the Ebay website allows people to auction off items through the internet without having to deal with a large staff or complicated legal agreements. Meanwhile, many Web 2.0 companies, such as MySpace, Itaggit, eHarmony, and Facebook allow people with similar interests or specific needs to meet on line, and allow the exchange of information between people, often resulting in bartering or sharing of knowledge or information. Google has become one of the most trusted sources to find information on the web, because of its powerful searching capability to find postings on many topics. The public is able to access items quickly, efficiently, and at no cost to them. All of these previously mentioned websites allow people to easily and directly interact, without a lot of overhead or hassle.

Unfortunately, however, customers of internet or telephone service are generally viewed by the carrier as passive subscribers, paying a monthly bill to the telecom provider but not actively participating in the engineering or business improvement of the telecom provider's service. Today, telecommunication customers generally have no ability to readily participate in the improvement of services or the quality of their

provider, or to actively play a useful role in the distribution of the telecom company's capabilities, except through the action of calling customer service to complain about their personal service experience. Today's telecom end-user customer is virtually powerless to readily participate in the improvement of delivery of service of a commercial telecommunication company's product, and is thus shut out from benefiting financially from any such improvement that that individual customer might otherwise be able to offer. While there may be special cases, where "someone knows someone at the telephone company who has a problem", by and large, telecom companies have no way to readily scale or access the interests of individual customers who have a willingness and interest to help improve their own telecom experience, while also helping the carrier.

In short, today, there does not exist a system or method or apparatus that allows for the general public to easily alert or notify their telecommunications carrier, or any carrier, that they are interested and willing to offer their premises to allow the carrier to improve service. Further, there does not presently exist a public clearinghouse where carriers can explore readily (and without public knowledge, if so desired) available tower sites or available real estate or land available to their business needs. Not only does the public lose the ability to help the carrier, but the carriers also lose out because they are not aware of those customers who would be willing to help them with infrastructure or over-the-air monitoring needs. Instead, carriers pay high priced consultants in a close marketplace for infrastructure acquisition, thereby missing out on a virtually unlimited untapped number of viable sites for use by their businesses.

Currently, companies such as Tropos Networks, and the MotoMesh and Canopy products (by Motorola), and many other companies are offering wireless telecom gear that can offer communications network connectivity, where network traffic is sent wirelessly through one or several nodes of a network over a geographic area such as a city. An example of this was explained at the 2006 Texas Wireless Summit conference by a Tropos Networks executive, Oct. 2006, in Austin Texas. Many cellular, WIMAX, and Wireless Internet Service Providers (WISPs) today are deploying cellular or hub and spoke networks using line of sight radios at 900MHz, 2.4 GHz, and 5 GHz in various unlicensed (and sometimes licensed) bands for backhaul, and cable television over wireless and T1/T3 wireless replacements are sure to emerge as a vital marketplace.

WiMax and 4th Generation cellular, with increasing bandwidths, will require more tower/site locations per square km, in line with the Power vs. Bandwidth tradeoff, that requires that more towers per square kilometer be used when the operating bandwidth increases for a given transmit power. See *Wireless Communications: Principles and Practice*, c. 2002, Prentice Hall, written by the inventor. Many cellular carriers, public/private network carriers, municipalities, WISPs, etc. today struggle with finding suitable towers or rooftop locations, or struggle gaining access to water tower locations, and are often hindered by zoning ordinances, lack of public understanding, or knowledge of why and how they could easily place their equipment to serve customers. Even though many rural residents would love to have wireless service, it is difficult for many WISPs to deploy broadband networks with limited capital, and the difficulty with dealing with town ordinances, neighborhood covenants, and other restrictions, regulations, or bureaucracy involved for gaining permission to use or erect towers and other infrastructure deployments.

As an example, in today's implementation of Mesh or WiFi Networks, the deployments of such systems usually rely on a particular municipality (muni-wifi customer) to have its own tower infrastructure (for example, city lamp poles, or water towers or police towers near city hall, etc.) in order to build the system. Keeping track of this infrastructure currently is difficult, often requiring consultants or different software, operating in a stove-pipe fashion, across different municipalities, where there is little or no public way to view or add to the knowledge base of the infrastructure.

An important emerging trend is that as carrier frequencies go higher, and as digital signal processing and modulation techniques such as MIMO and OFDM improve, the physical size of antennas will decrease, or at least become distributed in space, meaning that the future tower structures and physical size of antennas needed for telecom's wireless communications links will shrink. Cooperative networking, mesh networking, and peer-to-peer communications will also likely evolve, making the base station infrastructure less different than the end user equipment, and less bulky than today's infrastructure. Thus, towers of the future will not need to be today's large, bulky and ugly cellular or line-of-sight microwave variety, but will be much more lightweight, less obtrusive (e.g. skinnier), and more convenient, less expensive, and readily available

for use on rooftops, billboard, church towers, or home TV or ham towers, and requiring many more tower locations per square kilometer than today.

Wireless equipment is being installed throughout the world to bring telephone and internet services in locations where broadband previously did not exist. This trend is certain to remain in other countries throughout the world, and most particularly in countries such as China, India, and other emerging nations that have a strong need to be connected on the world's telecom grid, e.g. the world wide web or telephone network. Because of the necessity of towers or antennas, and associated network equipment, to be situated at particularly good radio locations that are specific to each telecom company and their customer's specific locations, and given each carrier's need is specific to their own network's specific design criteria and history of evolution, and because of the radio propagation aspects and geographical impact associated with wireless transmissions, it has been heretofore impossible for telecom companies to engage in direct communication with a large customer base, in order to energize and engage its customer base to help its product and service delivery.

Today, the inventor envisions very early signs of what will eventually be the "democratization" of the telecommunications infrastructure industry, where all users may participate in helping carriers locate infrastructure, and where open-access spectrum will require that all subscribers of any particular carrier be allowed too use the spectrum and services of competing carriers. Today, end user customers are willing to subscribe to satellite TV services, such as Echostar or Direct TV, and as part of that service, home owners allow the satellite carrier to bolt antennas and cables onto their homes or on masts in their yards. These satellite services require that a technician come directly to the end user's home, and in a matter of just a few hours, the technician installs a satellite dish and receiver on the roof, yard, or telephone pole or tree of the end- user's property, often having to drill holes through the exterior of the home, or through a wiring cabinet to bring the cable into the end users home, all the while hammering/bolting hardware to the exterior or roof of the home. Customers are willing to allow equipment to be installed at their premises, as shown by the satellite TV industry, and its very rapid growth in just a few years. While satellite dish antennas serve the individual homeowner, the satellite system is a receive-only system and the equipment installed at the homeowner does not

allow the satellite provider to improve the delivery of its content to neighboring houses or neighborhoods. Furthermore, there does not exist a public clearinghouse that lets others know which homes have satellite dish equipment in their yards, and which do not. But this example is an early indicator, illustrating how citizens are now willing to have alien telecom equipment installed on their own premises, and to allow a technician to climb around on the roof, yard, and drill holes in the house, if it provides some benefit to them (e.g. gives them the ability to watch satellite TV). Note that satellite antennas being installed today by Echostar and DirecTV are relatively small and unobtrusive, which is a harbinger of future wireless technologies.

Today, customers do not have a methodical, computerized way of receiving perks or bartered value in addition to improved service from carriers, in exchange for giving carriers the right to install and operate the carrier's special equipment on its own property. However, if the carrier was able to communicate and take inventory of each end user's capabilities, the carrier could derive great value in its business and technical operations beyond just servicing the end user, in exchange for the end user's willingness to allow the carrier access to its dwelling and property for the carrier's overall benefit. End users, if allowed to provide access to carriers, could enjoy the goodwill of the surrounding neighbors, as they would be acting as a provider and enabler of services that would benefit households around them.

Today, thousands of small, medium, and large telecom companies, such as wireless cable companies, wireless Internet service providers (WISPs), and mainstream wireless carriers throughout the world such as those companies mentioned above are deploying wireless broadband networks, using an inventory of towers and or building structures where they have access, to deliver last-mile services, but with no ability to enlist or solicit the interests of ordinary citizens or even hobbyists who, if they were aware of the opportunity, might be willing to offer assistance to carriers. Today, the telecommunications industry is unable to solicit the help directly from its customer base, or from the citizenry at large, because of the previously mentioned technical difficulties and trust issues involved with tower and equipment site selection, and the sheer lack of ability to communicate the needs and wants and capabilities of the service provider, and the needs and wants and capabilities of the end customer, in an easy, clear, and orderly

manner. There has not been, to date, a trusted source that carriers can rely upon to broker communications directly between end users and the carrier, itself. That is, there has not been, to date, such a "convener" for the telecommunications industry that would allow carriers to tap the interest of its end user customers to aid it in the rapid expansion, or improvement of quality and capabilities of telecommunication services, particular broadband, multimedia, WiFi, WiMax, cellular, satellite, public/private network, RFID or sensor based mass- communication networks, and at lower design, operating, and ongoing cost levels. Furthermore, as shown herein, there are enormous benefits for the provisioning of network services and content, on a localized or specific end-user basis, through the establishment of a trusted clearinghouse.

Summary of Invention

An exemplary embodiment of this invention is to provide a system, method, process, and apparatus that will dramatically enhance the knowledge of available wireless network infrastructure locations, which will reduce the costs of antenna, equipment, or tower site acquisition, dramatically improve the ability for carriers to deploy wireless networks from a cost, efficiency, and quality standpoint, and provide previously unavailable, non-obvious, and unknown methods, systems, processes, and techniques for carrier networks to be augmented or built from scratch more efficiently through the aid and participation of end users. In addition to the assistance offered by citizens through this invention, the invention further contemplates the public at large being able to contribute to and expand the knowledge base that may be exploited by both carriers and end users, since the invention contemplates that ordinances, laws, zoning regulations, technical details, and graphical data such as plat maps, topographical contours of land, and radio coverage zones, as well as educational information and public data, be made available through the disclosed clearinghouse. From this expanded knowledge, the invention exploits the clearinghouse to provide the ability to monitor and control large numbers of wireless devices across different networks and frequency bands for enhanced operation, based on location specific information. The invention also allows for location-

specific content, such as advertising, to be provided to particular groups of telecommunication users in specific areas where infrastructure exists.

The present invention allows the customers of a carrier to benefit from better service, lower price for service, as well as receive benefits from the carrier for being a "helping" or "value added" customer, etc. while the carrier is able to use the "helping" customer to improve its service or better utilize its resources, better locate its infrastructure, and improve its capital expenditures. In the specific case of a telecom carrier, more effective, reliable and cost effective provisioning and placement of network gear, antennas, bandwidth allocation over its geographic region, more effective equipment or tower locations, etc. results from awareness and access to end users who are in a position to help the carrier. Furthermore, with this clearinghouse and included database comes the ability to monitor, in real-time or in non-real time, through automatic or manual processes, the performance or quality experienced by various end users and to provide rank ordering of various carrier services for end users in various locations throughout the earth, so that either/both the clearinghouse or an end user of wireless telecommunications services (or even a third party) may enjoy and archive/remember/know the performance or quality of service, such as performance metrics of wireless service, availability of service, a ranked list of preferred carriers, etc., as a function of where the wireless end user wishes or plans to use wireless service. The clearinghouse and database further allows localized content to be delivered to particular end users, or users in particular local areas, in a way not contemplated before.

It is the complexity of tower height, tower engineering and installation, antenna design and radio propagation fundamentals, and town ordinances and restrictions in neighborhoods, combined with the often secretive nature of a network operator's approach to coverage and quality issues, that has led to the current state of affairs, where specific companies and high priced consultancies serve as tower owners or brokers, and where specific, specialized companies provide for the telecom carrier detailed technical or electrical services, such as antenna engineering or propagation design, or access to building structures or towers, at higher costs than what telecom companies would likely pay if they otherwise could deal directly with their end customers in a non-confusing and trusted way. Not only is wireless infrastructure a problem for carriers today, but there

are instances where a carrier would like to install power conditioning, wired infrastructure, vehicles, parking places, or backup equipment or gear in a particular location, and if the carrier could locate such devices or infrastructure on a particular customer's premises, it would be of great value to the carrier, particularly if the end user was trustworthy, had expressed an interest and willingness to help the carrier, and gained some consideration (e.g. free internet or payments to help with her power bill). The invention solves the problem stated in this paragraph, by democratizing the site acquisition process, and furthermore builds on the inherent knowledge created through the clearinghouse to create powerful quality/performance monitoring as well as localized content provisioning.

Mobiledia and its extension, CellReception.com, were started by Allen Tasi. These are firms or websites that use the FCC database of tower locations, and plot the approximate coverage for customers to see using Google Maps. These websites also allow customers to share comments on cellphone reception. Consumer-based websites and companies such as Mobiledia.com and CellReception.com provide revenues for the website owner by allowing for advertising by companies such as Radio Shack and various cellphone vendors, and the sites provide for public comments regarding cell reception, individual cellphones, and other cellular and wireless issues, but they do not serve in a clearinghouse capacity as contemplated by this invention. Antennasearch.com is a website provided by General Data Resources that provides a search of various public domain databases regarding tower locations and tower filings, such as the database provided by the FCC website that lists all tower locations and pending tower applications. Antennasearch.com generates an on-line report that shows a map of tower locations for a specific street address or zipcode. The on-line report may be completed by someone browsing the worldwide web. Google has recently begun to show the location of WiFi hotspots (infrastructure locations) on its Google Maps or Google Earth applications, in order to provide a position location capability for end-users. However, Google, AntennaSearch, and everyone else for that matter, has not offered a clearinghouse that allows any citizen or any carrier to exploit a database of wants and needs in order to create a marketplace for determining available infrastructure sites, and furthermore has not exploited such a clearinghouse in order to provision, monitor, or control wireless

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networks for the benefit of end users or carriers, nor has anyone further exploited such a database to offer localized advertising or site-specific content.

Clearly the aforementioned companies, services, and websites do not allow customers or the public to offer their own assets for the deployment of telecom services, nor do they shed light on antenna regulations, zoning ordinances, RF planning (suitable for specifying new or inventoried tower sites), or neighborhood restrictions. These types of websites furthermore offer no forum to exchange or add public domain documents pertaining to town ordinances or covenants for neighborhoods in specific zip codes, which would be of great value to end users, the public, and carriers wishing to serve that particular area. Zip codes are a popular sorting technique for parcel delivery services that are scheduling using the world-wide web for companies such as FedEx, DHL, and UPS. These websites also do not allow a carrier to discretely determine which of its customers, or potential customers, might have some land, tower site, rooftop, or building that he would be willing to allow the carrier to use for buildout of its network. Thus, there is no attempt currently to create a clearinghouse of telecom infrastructure assets, which may further be exploited to offer the capabilities disclosed herein.

Use of mapping technologies and applications such as Google Maps or a GIS package, such as the USGS, or commercial programs such as those made by EDX Engineering, Wireless Valley Communications (now owned by Motorola), Comsearch, Celplan, etc., are well known in the art. In schools across the world, students are learning how to interact with Google Maps and other GIS applications, even when they have no or little regard for wireless theory, telecom regulations, the needs of the telecom industry, or RF propagation. For example, at the Massachusetts Institute of Technology (MIT) in Spring 2007, a computer science course on pervasive human-centric and mobile computing (MIT 6.883 taught by Larry Rudolph) had students using Google Maps to create circular contours of hypothetical tower locations, without regard for tower zoning ordinances or RF coverage or equipment installation guidelines, and with no contemplation of the invention disclosed herein. The user's manuals for these mapping technologies and applications, and the course notes and links to information which are posted on the worldwide web for the Spring 2007 Class of 6.883 at MIT are hereby

incorporated by reference. It should be evident that none of these contemplate or make obvious the invention disclosed herein.

See:

<http://people.csail.mit.edu/rudolph/Teaching/home883.html>, and

<http://people.csail.mit.edu/rudolph/Teaching/ps1.pdf>

This patent describes a computerized "convener" apparatus, system, and method where individual citizens or businesses of a community may offer the use of their homes, land, building structures, outbuildings, apartments, billboards, churches, water towers, towers, trees, light poles, barns, and any other possible location on or about their premises to eager telecom service providers. Up until now, telecommunications companies were not able to alert a wide customer base that it needs a specific tower located at a particular latitude and longitude or street address, for example, that it needs a tower that complies with neighborhood covenants, town ordinances, and yet requires a tower that permits RF propagation with a signal strength (say of -70 dBm), and a particular front to back ratio (say of 20 dB) at a particular address or geographic region in order to cover a particular neighborhood that is just out of reach of its existing towers. Until this invention, a telecommunications company could not acquire the information from its large customer base as to who would be interested in helping them with a specific tower location. It simply has not been done in the history of the telecommunications industry, and this invention solves this unmet need to allow both customers and telecom providers to benefit. Furthermore, this invention provides the key to offering services to end users and to carriers, as well as third party intermediaries as the telecommunications world evolves to an open-standard, where end users may share the networks of many competing providers.

Today, carriers are often secretive about where they have service problems because it may alienate customers in that area, and could allow competitors to seize opportunities where the carrier is known to be having poor quality or coverage problems. This invention solves this problem, among others.

Furthermore, this patent describes a new kind of apparatus, system, and method that can exploit the inventorying and clearinghouse information provided by end users, carriers, and the public, in a form such that it may be franchised or distributed in a

private label or Original Equipment Manufacturing (OEM) manner, and where the systems and methods described herein may be offered as a trusted service by carriers, non-profits, for-profit companies, governments, intermediaries and the like, either across specific customer types, or within specific geographic localities.

This invention applies to any carrier-based system, but is preferably used for a telecommunication network, no matter what the distance is between users of the network, whether it is wired or wireless, or what the transmitter-receiver separation distance is of wireless components, or what the technology, modulation, access method, etc. may be. That is, this patent is not limited to wireless, optical, cellular, WiMax, Mesh, WiFi, RFID, LMDS, cable, or satellite, and not limited to fixed, mobile, or portable operation by users, as it is intended to be used in its broadest form, as would be understood by one skilled in the art in deploying, designing, operating, or using such a network that has end users, and where infrastructure is needed and must be located, at physical locations, for carrying out communications, either wired or wireless communications, and also as well anticipating the provisioning of an open access environment where federal or local regulations require end users to have access or the ability to specify or select (either manually, pre-selected, or automatically on-the-fly as the wireless device is used by the end-user) more than one single carrier for broadband access with a particular end user and/or her device. Thus, this invention serves the needs of indoor/enterprise networks or femtocells within public or private buildings, as well as microcell or macrocell cellular network usage and coverage ranges, emerging WiMax systems, satellite systems, future cable TV/wireless networks, and city/county, country, or worldwide networks, and public safety networks, whether public or private.

Furthermore, this invention may be extended beyond telecommunications, and may be applied to any carrier-based service, where subscribers pay for an on-going service over a period of several days, months, or years, and where participation of the end users, and direct interaction between the carrier and the users could improve the efficiency, quality, business operations, or technical operations of the carrier over its serving areas.

The invention allows a 3rd party entity (A person, or a corporation, say a website company, or tower holding company, or an intermediary, for example) to offer inventory

and polling services to carriers and the carrier's customers (end users), as well as to the public, through the use of the knowledge-base that is created from the clearinghouse of interested citizens willing to assist telecom companies.

The invention further allows a person or a carrier or an intermediary to inform, educate, and solicit inputs from its customers regarding its customer's interest or ability to help the carrier with expansion, alteration, or improvement of the carrier's network, or on multi-carrier networks, through the use of the knowledge-base that is created from the clearinghouse of interested citizens willing to assist telecom companies.

The invention provides a system and method and process that allows a person or a company, such as a publisher, a Web 2.0 company, a carrier, or a trusted web portal, to offer an e-magazine, a printed magazine, a newsletter, a website, and/or an internet blog, where each may include an inventorying service between one or more carriers and its customer base of end users, such that end users are able to provide the carrier an inventory of their assets that may be used to help the carrier(s).

The invention provides a system and method and process that allows a person or company, such as a publisher, a Web 2.0 company, a carrier, a tower holding company, or a trusted web portal, to offer an e-magazine, a printed magazine, a newsletter, a website, or an internet blog, where each may include a bartering system and method between one or more carriers and its customer base, for the bartering of installation or redeployment of equipment at the end user's dwelling in exchange for compensation of some type from the carrier(s) or an intermediary.

The invention provides a system and method and process that allows a person or a company, such as a publisher, a Web 2.0 company, a carrier, or a trusted web portal, to offer an e-magazine, a printed magazine, a newsletter, a website or an internet blog, where each may include a registration system and method between a carrier and its customer base, whereby end user customers may register to express interest and ability to support equipment at their dwelling with one or more carriers, and where each may include a system and method that allows a carrier to execute an agreement regarding the installation or modification of telecommunications equipment at the dwelling owned or or used or controlled by end users in its customer base, with pre-negotiated or selectable terms for remuneration, or with terms handled over the internet or through computer

access, thereby eliminating the need of costly lawyers and protracted, cumbersome negotiations for site acquisition which is the state of affairs today.

The invention provides a system and method and process that permits carriers or an independent clearinghouse, or a third party intermediary, to communicate with end user customers, or the wireless devices of end-user customers, in order to aid the end-user in determining how and where new or existing telecommunications assets may be deployed or where service and which service is best or more preferred to the end user, while allowing performance or quality of service knowledge or rank ordering of available telecommunication services to be provided to a wireless end-user. The invention furthermore allows for the control of the operation of a wireless device for enhanced operation, in a particular location based on a ranking of performance or specific requests (made either automatically or as preset) by an end -user, or carrier, or a clearinghouse that provides knowledge on multiple carriers.

The invention provides a system and method and process that permits a clearinghouse to communicate with end user customers, or the wireless devices of end-user customers, in order to allow the clearinghouse to monitor the radio operating conditions and location of end user devices, whereby the monitored radio operating conditions and locations may be stored, processed and used to update the clearinghouse for monitoring wireless network performance and quality.

The invention provides a system and method that permits a carrier, technician or the end-user to determine how and where new or existing telecommunications assets may be deployed or are available. The system and method is available to the end user, and allows one or more carriers, or a clearinghouse with knowledge of multiple carriers, to provide measures of wireless quality and rank ordering of available telecommunication services to a wireless end-user, for the benefit of the end user, or to control the operation of a wireless device for enhanced operation, in a particular location based on a ranking of performance or specific requests by an end -user or carrier. Furthermore, the invention provides a system and method that permits one or more end users to report their observations of wireless performance and quality, or rank orderings thereof, as a function of location, to the clearinghouse so that the clearinghouse may maintain archived or updated knowledge of wireless quality as a function of location throughout earth.

The invention provides a system and method and process that allows a person or company, such as a publisher, a Web 2.0 company, a carrier, or a trusted web portal, to offer one or more of an inventorying, registration, lease agreement execution, and bartering service, system, or method to specific types of real estate owners in order to aggregate the assets available to form a database for the clearinghouse.

The computerized system according to this invention serves at least two types of customers: end users or carriers, with password protection and opt-in capabilities where the end users may chose to have their availability/interest in supporting carrier needs shared among more than one carrier.

The computerized system according to this invention provides the entry of customer interests/desires, customer data, and provides access to documents such as town ordinances, town zoning rules, neighborhood covenants, and contracts or sample contracts or agreements between telecom carriers and end users for allowing end users to aid the carriers under mutually agreeable terms.

A computerized system according to the invention allows end users or carriers or a third party to add documents such as town ordinances, town zoning rules, neighborhood covenants, state or local laws, and contracts or sample contracts or agreements between telecom carriers and end users.

A computerized system and method where a graphical information system (GIS), such as (but not limited to) Google Earth, MapInfo, USGS, is used with a database of infrastructure locations provided by end-users through the clearinghouse in order to aid carriers or end users for determining radio coverage footprints or possibly useful/valuable infrastructure locations.

A computerized system according to the invention allows radio propagation prediction algorithms to be run using the GIS and equipment models in order to determine coverage regions, obstacles due to terrain or buildings, and viable locations for towers, antennas, repeaters, nodes, and end user premise equipment.

A computer system according to the invention can be built upon a database of customer needs, and may also include carrier needs, that allows the rapid sorting and pinpointing of available locations for a carrier or other party to build, lease, or use a Dwelling or existing location for improvement of services.

A computer system according to the invention allows end users to learn about telecom laws, ordinances, opportunities, and technical details so that they are more knowledgeable and interested in assisting telecom carriers in the provisioning of telecom networks.

A computerized system according to the invention allows end users to rank their happiness or satisfaction with their carrier, or with information providers to the clearinghouse, after entering into a relationship through the "convener" clearinghouse, and where carriers or other parties may also rank their happiness with end users, as well.

A computer system according to the invention includes a database of locations of end users who are willing to assist with the provisioning of telecom services at their premises, combined with RF coverage details that enable the determination of promising locations of towers or structures (either existing or to be built), combined with legal records such as covenants, town ordinances, combined with plat maps or zoning boundaries, so that a telecom carrier or end user can quickly and easily see what is viable for provisioning of telecom services. One embodiment of the invention allows for the computerized system and method to automatically determine the best locations from a wish-list provided by one or more carriers or third parties, based on the available public records and end user inventory of locations available.

A computer system according to the invention allows for an educational or newsworthy web publication or paper publication to be created rapidly from content stored on a computer, where such web publication or paper publication may be private labeled or customized specifically for a particular carrier, neighborhood, locality, or group of people or specific entities/customers.

Description of Figures

This invention will be further understood through illustrations provided in the accompanying figures, which are now described.

Figure 1 is a block diagram of the clearinghouse computer system, including applications that run on the computer system, the types of interfaces provided to end-users, and the types of users of the clearinghouse.

Figure 2 illustrates an embodiment of how the database of the clearinghouse system is organized, and the types of information and records maintained for each of the types of users.

Figure 3 illustrates an example form that is completed by an end user or carrier for input to the clearinghouse system, using the various types of available interfaces.

Figure 4 illustrates a flow diagram of how the clearinghouse determines matches between the end user interests, the carrier's infrastructure requirements, and local ordinances that apply, and how the clearinghouse notifies the carrier. This also can assume an automated process that may have carrier involvement/intercession if required by the carrier to notify end users that they may be of assistance to the carrier's needs, and the terms and conditions available to the end user. Not shown, but implied, is the ability to generate lease forms or business forms needed to codify a legal and business agreement between end-user and carrier.

Figure 5 illustrates a database, which may be a primary database or back-up database, which is accessible by various users of the clearinghouse, and which may be refreshed or updated upon computer command.

Figure 6 illustrates the various applications that may be actuated by the invention, and which are available to users.

Figure 7 illustrates a mobile device and how it may be connected by wireless or wired means through the worldwide web to the clearinghouse.

Figure 8 illustrates a mobile device and how it may report its observations of its location, as well as network quality and the available spectrum back to the clearinghouse.

Figure 9 illustrates a mobile device receiving information from the clearinghouse so that a mobile device may be manually or automatically configured for improved wireless operation.

Figure 10 shows a flow diagram of how a clearinghouse works with a wireless device, such as a cellphone, to enhance wireless performance at the wireless device.

Figure 11 shows a flow diagram of how the wireless device reports its observations to the clearinghouse for ranking of possible wireless connection options, and updating of knowledge of wireless environment at the clearinghouse.

Figure 12 shows a flow diagram of how a wireless device is able to receive updated information about its operating parameters, based on the knowledge of the operating environment by clearinghouse, so that the wireless device may be sent instructions that cause the wireless device to be automatically tuned to appropriate frequencies, air interfaces, and other operating parameters to provide enhanced operation for the particular wireless device, or the entire network.

Figure 13 shows a diagram of wireless infrastructure using an Internet Protocol (IP) network backhaul from the base transceiver station (BTS) or switch. The BTS or switch, as well as infrastructure components closer to edge of the wireless network, are coupled to the clearinghouse using IP or world wide web addressing, where through such addressing, advertising content is provided to particular pieces of infrastructure through an advertiser server that may be located centrally or may be integrated and coupled to various wireless infrastructure components.

Figure 14 illustrates a flow diagram of how local advertising may be cached or stored at the clearinghouse and may also be optionally distributed to local ad servers throughout a wireless network.

Figure 15 shows a flow diagram of how the clearinghouse may be used to provide local advertising content by identifying the requested IP address or worldwide web address requested by the wireless device (wireless user) and by formatting data suitable for interpretation by the wireless user.

DETAILED DESCRIPTION

This invention uses a computer, also known as a central processing unit, or CPU, which may be a single computer, a web server, a cluster of web servers, or some other configuration of computing equipment, whether in series or in parallel or distributed that is able to obtain information through telephonic, text, voice/telephone, internet communication, or other methods known now or in the future. The computer runs programs and algorithms in order to prompt and to determine an end-user's interest in adding his or her property and locations, and facts about the available real estate that the end-user wishes to make available. The computer provides for the storage of provided information in memory of the computer, for use in the clearinghouse repository. The CPU is also understood to use memory for storage and retrieval of operating instructions which dictate the proper operation of the website, the response to various inputs from users via the worldwide web, telephone, or other various interfaces, and the programs needed to interpret inputs, store and process the received information, and to properly format and display the information, and also uses memory to retain information stored in databases, where such databases represent the details provided by end-users, or carriers, or which represent data that has been obtained through the use of web-crawlers from public websites, as further described in the accompanying figures.

The computer interacts with employees from carriers, or from the computers of other companies, such as carriers or tower companies, or from public websites, as well as from intermediaries that may help to store, cache, process, or post data to memory (where such memory is coupled to the clearinghouse computer, or elsewhere) in order to determine the specific needs and interests of the carrier or tower company. The computer is able to provide or process one or more of: automated voice prompts, speech recognition, touchtone recognition, web-based communication, handwritten, or human to human interaction, and so on. Through the computer interface, and the associated systems and methods described subsequently, end user customers of telecommunications services are able to make its telecom carrier, or, optionally, even potential competitors to their current telecom carrier, aware of his or her ability and/or interest to help carriers with

their distribution of telecommunications services through the use of their own premises. Similarly, the computer interface and associated systems and methods described subsequently allow a carrier, a public organization, or optionally the general public to be aware of the locations at which citizens are willing or interested in allowing their locations to be used to house telecommunications infrastructure.

Below are some useful definitions of terms used throughout this patent.

Dwelling or Premises: any property, building, outbuilding, structure, tower, vegetation, or land, or any thing on or in or over or under a property occupied or used or controlled by an end user for which the end user may wish to make available for use by others. The definition of "dwelling" may also include one or more rooftops, silos, billboards, trees, church steeples, poles, towers, ledges, parts of a building, outbuildings, lookouts, extensions to buildings, or signs, and/or any improvements.

Carrier: Any company or entity that offers services to an end user on a regular basis over time. The term "carrier" is intended to be given its broadest possible meaning, as it is meant to describe companies that offer to end users services such as telecommunications, connectivity, entertainment (such as movies, cable, multimedia, music, on all possible media and all possible delivery mechanisms), AC power for the home, mail delivery/retrieval, archiving or storage, inventorying, cleaning, yard maintenance, water delivery, laundry service, and the like.

End user: Any person or entity that participates in an ongoing service from a provider. An end user may be someone who simply stumbles across the clearinghouse disclosed herein, who browses or interacts with the clearinghouse only one time, or someone who interacts with the clearinghouse many times, and who may even list their infrastructure location with the clearinghouse disclosed herein. Alternatively, an end user may be a telecommunications subscriber or a clearinghouse participant who obtains cellphone or internet service from a telecom carrier or quality/ranking/performance information or local content from the clearinghouse. End-users may also include those people or entities which are not yet subscribing to the service offered by a carrier or the clearinghouse, but who have interest in participating and inquiring about the content of the clearinghouse and possibly contributing assets or capabilities to the clearinghouse or to a carrier, either from their own personal interest or edification, or because they hope to

gain some benefit or remuneration of some kind at some point. An end user may be a person, but also may be an entity or an enterprise, such as a church, and apartment building complex, a co-op of people, a shopping mall, a car dealership or chain of car dealerships, or a business, either stand-alone or spread out on a campus or throughout the world, for example. End-users may be people from the general public, or may be a typical user from a specific type of user population (for example, employees within a large corporation may be end-users of the invention, if the invention were implemented in an enterprise fashion for a particular corporation. As another example, not meant to be limiting, an end user could be a ham radio operator who is a member of the American Radio Relay League, ARRL, if the invention were made available to all ARRL members). Other examples are readily understood.

Computer: May be a single computer or a group of computers, or CPUs, which may include associated circuitry and components, such as banks of memory (storage), back up gear, displays, human and machine interfaces of various kinds, parallel computer processors, distributed computer processors, distributed or single connections to the internet, distributed or single displays or editing/viewing capabilities, one or more web servers, mail servers, and multipurpose servers and routers, or any coupling of computerized components that allow for one or more of: telephonic answering, touch tone interpretation, voice recognition, handwriting recognition, facial or fingerprint recognition, stylus recognition or typed data entry (either directly from a keyboard, via telephone or internet connection, from a phone, over wired or wireless or optical connection), text recognition, file transfers, data transfers, file caching, file storage or entry or manipulation, running of software, hosting of applications, running of applications made up of computer programs from one or many sources, where components and software are coupled or combined as known to one skilled in the art. The term "Computer" is to be construed in its broadest interpretation, as the invention may clearly be practiced at a single location, distributed across a country, a city, or used worldwide with a network of computers and backup storage located throughout different continents, as it is contemplated to host at least one website, and to enable connections of the website with and between end users and carriers. This specification describes the operations implemented on a computer, but it must be understood that a computer with

memory may be implemented in many ways, and that the computer of the clearinghouse may need to directly or indirectly interact with other computers and databases as provided by web intermediaries, such as Akamai that can cache/store/stream content, Rackspace or INetU, that can provide web hosting, and so on. The disclosed invention, including the computer (CPU) described herein, is understood to include the ability to interface using some or all of these known techniques for hosting a web-based clearinghouse for end users as described herein through the use of sub-contractors and external vendors and service providers for internet access and commerce.

Many techniques are known in the art for computers to be able to interact with and assimilate data from people. Consider some examples of telephonic and touch tone phone inputs that are provided by humans and are processed by a computer. Furthermore, voice recognition systems, and voice over IP (VoIP) calls to a computer are well understood today, and it is further recognized that end uses of telecom services, and people throughout the world in general, may access a computer in many different ways using the worldwide web. For example, web interfaces are used in programs for personal computers, and personal computers may be connected via any form of internet connection to a computer that hosts a website. Websites may also be accessed by cellphones, PDAs, tablet computers, such as those made by Motion Computing with handwriting and fingerprint recognition, and many other devices.

Websites which allow for posted materials, updated materials, and graphical and text interactions, even podcasts or videos, are well known in the art, as demonstrated by Google, Inc.'s wide range of web portals, as well as those by eBay, YouTube, Yahoo, and the like. All of these websites and product companies described above use a "computer" as contemplated here. Furthermore, automatic document generators are also well known and are in regular use today, where content can be bundled and packaged into web form, electronic media form, or print form, to have a homogenous look and feel, based on content that is stored in file formats such as files in .XML, .HTML, .BMP, .TIG, .GIF, .PDF and other formats known now or in the future, and through use of JavaScript programming language, and cross-platform techniques such as AJAX (Asynchronous

Java Script and XML), which allows web applications to seem much more responsive by not interfering with normal web page loading.

To launch a commercial website, many companies provide tools and capabilities that make it viable. For example, InetU or Rackspace provide Managed Web Hosting, where they provide a computerized system that a customer (the website company) can use and access through a log in to edit, remove, add, or reorganize content in the form of webpages, downloads, documents, and a wide range of other viewable or useable multimedia forms that may be accessed by the public, or by password protected classes of users who may or may not pay a subscription for access to the website. Also, the website company may choose to simply do hosted services. In order to generate revenue, PayPal offers software and services that enables a hosted site to exploit the PayPal developer network to create webpage(s) that allows a website company to securely collect monies from the browsing public, accepting all major credit cards and PayPal currency through web transactions. To maintain databases that contain important information, a website company will use MySQL (open source) or SQLServer, or Postgress as a backend database system to store myriads of data records, for rapid access by the applications running on the computer, and other known document management techniques are used for archiving and retrieving documents, and for accessing applications over the web such as Google Earth, USGS, or county or local city/county plat maps, ordinances, or board meeting notes that are often available on line.

With reference to the drawings, Figure 1 shows an exemplary embodiment of the Clearinghouse system. On the left portion of Figure 1, various types of users of the system are shown. Note that Carriers 10, End user customers 12, and public users 14 each may have access to the clearinghouse 16 via a wide range of interfaces, including web 18, phone 20 or 22 (using cellphone or wired phone or VoIP phone), email 24, or through automated voice recognition or digital recorders (that may recognize speech, handwriting, fingerprinting, etc). The owner or operator or proprietor 26 (and any employees or subcontractors) of the clearinghouse 16 may also access the clearinghouse 16 by these interfaces, as well, and may have one or more additional proprietary interfaces to the system (not shown). On the right side of Figure 1, a number of applications 28, capable of running on the Clearinghouse computer 30, or being controlled by the computer on

distributed processors (not shown), and some applications which may be made available to only certain classes of users (e.g. end users, carriers, third parties, the public, owners/operators of the clearinghouse itself, and so on), are shown and are further described subsequently. Figure 1 also shows that carrier records 32 and end user records 31 are also available to the computer 30, and that a sorting and parsing application 36 is available to process these records. Note that the Clearinghouse computer 30 is preferably coupled to the Internet 38, as shown in Figure 1, so that the various users and user classes may access the Clearinghouse (Figures 1 and 6) and its database (Figure 5) through the Internet (e.g. worldwide web), as well as the other interfaces shown in Figure 1. Note that the Internet access shown in Figure 1 may be a public web connection, or provided on a private network.

The carriers 10 and end user customers 12 may or may not be regular subscribers or participants of the clearinghouse 16. A preferred embodiment is for the clearinghouse 16 to have revenue-generating subscribers, where the carriers 10 and end user customers 12 sign up for access, preferably using credit card (although written check or wire transfer or debit card or purchase orders may also be accepted by the clearinghouse) for monthly or annual billing. The sign up and password management and credit card billing is preferably handled by the credit card sign up and password management application 40 (shown on right portion of Figure 1). This application 40 is preferably run under computer control and provides various prompts through the interfaces for users to enter credit card data, password and user identification information, so that the Clearinghouse 16 may uniquely identify individual users, store their log in and password information, and store credit card information for billing purposes. These data may be stored in a single memory location 42 or in a distributed memory bank or in any other suitable storage medium or database, and would preferably be encrypted for privacy.

By signing up as a subscriber, for example over a year period, carriers have continual access to the clearinghouse and end user database (see Figure 5) during that time, and some of the features that they would enjoy are exemplified by the various applications shown in Figure 1 and Figure 6. For example, a carrier 10 that is a user of the Clearinghouse 16 could provide its current locations of all its infrastructure assets and could also include desired "wish list" locations for infrastructure access through the

carrier records application which is described in more detail subsequently (also see Figures 2 and 3). Based on the inputs, the computer 30 implements the sorting and parsing application 36 to periodically search the end user records 31 provided by end user 12. Note that in a preferred embodiment, the carrier 10 or the end user 12 may specify locations by simply clicking on a web page for "click on map" (not shown in Figure 2, shown on Figure 3 as 310), and then using a mouse or other computer indicating device, may simply click on a map displayed on a webpage in order to express or denote a particular location that is entered as a record 210. This capability is also available to general public users 14, and other users of the Clearinghouse 16 in order to rapidly denote locations of interest.

Figure 3 shows, as an example, both an end user form and a carrier form, that exemplifies what may be used by users and presented by the Clearinghouse for data entry to create information used in the end user records and carrier records. Of course, other data as contemplated within this patent may be included, and is not shown in Figure 3. Also, other approaches may be used to input data to the clearinghouse, including file transfers, catalog entries from third parties that aggregate user information, and other input techniques known to provide inputs of large numbers of customers into clearinghouses and their databases. For the case of a carrier 10 specifying its particular infrastructure needs, the user 10 (the employee, consultant, or agent of the carrier) could simply press "click on map" 311 shown in Figure 3 in the carrier record form, and could identify portions of a map where needs exist as indicated above. Alternatively, carriers 10 could indicate their "wish list" for infrastructure by entering streets, counties, zip codes, Lat./Long. Coordinates, or even text descriptions of where they need coverage, or uploadable files that contain many listings of locations, in GPS or Lat./Long format, address, or zipcode format, etc. such that the computer could interpret the entry to determine the geographic locations of needed infrastructure (not shown on Figure 3, but should be understood from this description). It is clear that carriers 10 could alternatively enter their current infrastructure locations using the carrier records (e.g., entering data on the form in Figure 3-the form in Figure 3 is preferably a computer-fillable form; however, paper based forms and electronic files can be used in some applications. In addition, the information in the form can include or more less information than that

shown on Figure 3). By having some or all of a carrier's infrastructure cataloged in the carrier records database (Figure 5), the Clearinghouse 16 can then better manage the carrier's assets and better display and process the end user databases to meet the carriers current and future needs. For example, the Clearinghouse 16, given knowledge of the carrier's 10 complete inventory of existing infrastructure, could implement the RF engineering/planning application to take into account RF propagation, interference, spectrum use, and antenna patterns to better determine site needs and to provide management of RF planning for the carrier 10. Information generated by the Clearinghouse 16 may be displayed 44 on site or remotely, and different displayed information can be provided to different users 10, 12, 14, and 26.

The Clearinghouse database 510, shown in Figure 5, is accessible by many different classes of users 512, 514, 516 or 518, and is made up of records provided and modified by end users and carriers, as shown in Figure 1 and described above. The Clearinghouse database 510 also includes data that is submitted or provided by the public (e.g. through public websites, through links to external databases, or which is provided as inputs from general public users). Also, the employees/owners/managers/suppliers of the Clearinghouse itself must be able to access and at times manipulate the database. The Clearinghouse computer 30 or a computing system under its control determines the refresh update rate of the database 510, and governs how often the databases are backed up, refreshed, and modified for presentation to the outside world through the interfaces shown in Figure 1. Thus, preferably the various classes of users, when accessing the Clearinghouse 16, are not necessarily obtaining the most recent information provided by all classes of users, but are obtaining information that is updated at a rate specified by or at least acceptable to the Clearinghouse computer 30, which would typically be once a day, but could be more often or less often. Data inputs might be made instantly at the discretion of the computer 30 or outside vendors or other computers which interface with computer 30. The term "database" means all of the data available to the Clearinghouse, but it should be clear when a subset of data is being discussed, the term "database" may only refer to that subset of information. The term database should not be viewed as limiting, as the database for the clearinghouse may be implemented in parallel, distributed, real time, non-real time, and a wide variety of forms known now or in the

future. Note that database 510 may incorporate a wide range of possible data formats, mixed formats, and may include data that is contained at various locations, by various suppliers or vendors. That is, while a MySQL format may be the preferred format for storing data in the database, nothing is meant to limit the way in which the database is formed, as it is understood that the database may comprise a wide range of different sources and formats of data, and in fact the database may be distributed geographically, and provided by many different sources and vendors, such as through Akamai for caching/storage, Rackspace as a web host, and public websites which are accessed by the clearinghouse to provide on-demand or cached versions of public data. This patent intends for the database 510 to include data that may be retained in current and future data formats that may not be known today, and it is understood that various methods for storing/archiving, modifying, and retrieving data, which includes the use of software that is run by the Clearinghouse CPU to provide hooks into/interact with other computers which may control access to external databases, as well as data maintained or owned by the clearinghouse itself, may be contained in database 510. Furthermore, the database may be populated or edited by various sources, including people who are remote or employed by third parties, and web crawlers that may or may not be under control of the Clearinghouse computer 30. Human intervention, to vet or approve data that comes from internal and external sources, may also be used, and the entry of human-approved data may also be included in the database 510.

When matches to the desired needs of the carrier are found in the database containing end user records, a "hit list" of all potentially available properties or locations that are deemed suitable is constructed by the applications. The computer then may implement the email application to send an email to the carrier 10, and optionally also to the end users 12 (depending on carrier preference), or alternatively, the web application may be implemented to provide the "hit list" in web viewable format available to the carrier 10 when they are logged in to the Clearinghouse 16. In this manner, the Clearinghouse 16 may over time allow the carrier 10 to be automatically notified when new end-users 12 offer dwellings for use, either by email or by on-screen notification when they log on or through a messaging feature.

Furthermore, the computer may run the selection/optimizer application 34 on occasion or periodically (on an hourly/daily/weekly/or some other time basis or on a random basis) where the application 34 uses inputs by the carrier 10 that are stored in the Clearinghouse 16. The interval may be determined by the clearinghouse provider 16, or may be selected by the carrier 10, perhaps with a premium being charged for searches that occur more often. The clearinghouse computer 30 preferably runs a computer program or subroutine, or groups of programs or subroutines that may be running in many geographically dispersed locations under control of the clearinghouse, or perhaps on various vendors/suppliers/subcontractors computers as well as on the clearinghouse computer 30, that systematically checks the carriers' needs with the end-user offerings (which are stored and processed using the end user record application and the sorting and parsing application 36). Figure 4 shows a flow diagram, where the computer reads the carrier records 410, and uses the specified data by the carrier to check all of the records in the database attributable to end user records 412. Note that end user records 412 are understood to also include public domain records available from public databases, or from data sources not provided by end users but which are blended with the end user records for sake of the applications being run at the Clearinghouse (e.g. Google Earth may have WiFi hot spot locations, and this information may be included along with end user records that have been provided by citizens to the Clearinghouse). Note that a user of the Clearinghouse may specify the option of including or excluding various public domain databases from the end user database processing, so as to distinctively identify and process only true end user submissions in the various applications. The sorting implemented by the computer to find the carrier needs may be done in any number of ways which are well known to those skilled in the art of computer programming and database sorting. Zip code sort, price/leasing terms sort, physical building type or land use sort, or past history or profile of the end user herself might be used to determine "best" sites that exist in the end user database. As shown in Figure 4, after entry into the clearinghouse 414 and checking of the availability of locations 416, algorithms at 418 that compare the end user database to the carrier needs may include the RF engineering application 29, which provides for RF propagation prediction coverage mapping in determining whether a particular end user entry satisfactorily meets the carrier needs.

Alternatively, no RF propagation may be used, where simple straight line distances, crude address matching or simple text string matches on zipcodes or street addresses, or even county addresses or GPS coordinates (Lat/Long.) are used to determine good matches in the database during the computer controlled sort. The carrier may establish one or more criterion for rank ordering the end user sites, such as based on fee wanted by an end user, the RF coverage of each end user location, the land use or type of property being offered by the end user, or if there are carriers already using the end user site. A hard or soft limit on what should be and should not be deemed suitable may be specified by the carrier, or may be preset by the Clearinghouse in order to manage database sizes and CPU time. A rank ordered list of properties is presented to the carrier at 420, either by email, by a web page hosted by the Clearinghouse specifically for the carrier, or by fax, mail, cellphone alert, or some other known method. Note that the rank ordering may be done in a wide range of methods, where close proximity to the carrier needs may be one rank, or lowest cost end-user access may be another, whereas the ranking may be based on a carrier's preset priority for properties that it needs (e.g. to fill an urgent customer request in a particular location. Alternatively, there may not be any ranking done by the Clearinghouse, leaving the data in an unsorted form for the carrier or third party to analyze on its own. The Clearinghouse may also alert the end users as to potential interest by the carrier at 422, if the carrier indicates in its records that it wishes for the Clearinghouse to do so upon finding a match (this may be done using a canned or prepared message by the carrier in order to entice interest by the end user). The sorting in the Selection Optimizer application may be run over and over again, as often as needed, and alerts may be issued by the Clearinghouse for just new hits, or the most recent several hits, or the entire rank ordered list. Pricing may be instituted to offer premium or basic notification and search results. Interest by the end user can be confirmed by a responsive message by telephone, e-mail or web posting at 424, and non-interest can be provided similarly at 426, which presumably results in a return and rerunning of the search processes. The sorting process may also include a check of zoning and other ordinances at 428 that may have a beneficial or negative impact on the suitability of any particular end user's assets by the carrier.

Alternatively, depending on the business model, the clearinghouse may be implemented without a subscriber model, where carriers and end users access the clearinghouse for no charge. In either case, the carriers or end users may simply be given unique ID's or clearinghouse names using the credit card/password application (their unique ID may be their email address, or a customer-specified log in name), and in any case, these customers are provided passwords (that may either be specified by them, or issued by the clearinghouse) that allows the end users and carrier customers access to the clearinghouse. The various access permissions allowed to each class of user of the clearinghouse is preferably managed by the access to web manager application 33.

The clearinghouse allows its users to connect over the myriad of connections, such as phone, internet, email, etc. The clearinghouse is preferably connected via the internet to allow dissemination of its content over the worldwide web, so that the public can gain access and view/use the information contained in the clearinghouse. The content of the clearinghouse is stored in a wide range of forms, such as databases that may be within the computer, databases that are located outside of the computer, in applications that may be run or managed by third parties, and may include public domain databases and information from links on the worldwide web.

Some of the information may be modified or viewed by different users. For example, and with reference to Figure 2, carriers may view the records of all end users 210 to help the carrier see what opportunities exist for it to locate its equipment, and the carriers could also use the clearinghouse to indicate its own desires, needs, interests, and problem areas where they have need to find locations for equipment in the carrier records 212. In one embodiment, other carriers, end-users, or the public users would not be privy to the carrier's specific desires or needs, but the carrier would be able to use these records. End-users may use the clearinghouse to enter their data, expressing their interest (an offer) in having their dwelling used by carriers. In one embodiment, other end-users would not generally be allowed to see the offers of a particular end-user, but carriers would be allowed to see it. The storing, parsing, controlling, and organization of end-user records 210 is done by the sorting and parsing applications 36 used by the clearinghouse (shown on right of Figure 1). The construction and creation of software applications to do

this are well understood, and this could be internally developed by the clearinghouse staff, or developed using well known third party programs.

All users, including public users could use the clearinghouse to view various zoning/covenants affecting their own neighborhoods. Users can preferably submit records, documents, plat maps, zoning ordinances, or provide web links thereto, by accessing the Clearinghouse and using one of the applications dedicated for such locationing and mounting or linking of records in the Clearinghouse. Thereby, all users of the Clearinghouse can readily access public records 214 in an easy manner, such as key documents, zoning records, or other public ordinances surrounding telecom regulations in their specific location, neighborhood, country, or city, etc. Such records can be mounted in the Clearinghouse and sorted using either Zipcode, city, county, township, state, country name, whereby applications allow the documents to be retrieved and stored in a manner that makes them easily retrievable and accessible by users of the Clearinghouse. For specific classes of users, such as end users and carriers, for example, lease agreements, which provide for the business and legal terms for a legal contract between an end user and one or more carriers, may also be available for download, execution, and upload between parties, where the Clearinghouse serves as the agent that provides this capability. By law, some documents may need to be notarized or faxed, instead of uploaded, but the Clearinghouse could nevertheless provide the appropriate legal documents and store them, crossing the transaction between the parties, and may also participate in a commission, either one time or on going during the lease of the end user property. Carriers and perhaps even end users could provide the Clearinghouse with a small commission, on the order of 2 or 3%, for the monthly rental charge paid by the carrier to the end user, and this could be automatically deducted from credit card or electronic banking funds, or other means known now or in the future.

Note that some documents may be uploaded to the Clearinghouse by PDF or other well known document formats, or may simply be pointed to using URL addresses or other techniques known now or in the future. Services such as Google or webcrawlers or web bots may also be used to provide the clearinghouse information, through end user records 210, carrier records 212 or public records 214 as shown in Figure 2, and in many instances a particular map or document might need to be categorized under a state or

national as well as local category. The Clearinghouse computer could maintain this data in its own storage facility (e.g in its own internal database), or rely on the web-based storage of other websites as part of its overall database 510 (although this latter approach may mean some data disappears or becomes incorrectly pointed to over time).

Figure 6 shows a number of the same elements as Figure 1 including the computer 30, display 44, internet connection 38, as well as a variety of applications 28 for covenants and/or plat maps, city planning and zoning ordinances and neighborhood covenants, Google Earth , GIS or other mapping applications, forums and exchanges including chat features, education and customer content, re-engineering applications, and proprietary or public RF Design. Figure 6 also shows customized advertising or web content provided to homeowners or other end users 610 and carriers 612. Carriers, end users and public users may access the Clearinghouse with phone banks, web servers, telephone operators (either its own phone operators, or through a leased or rented call center, or using a 3rd party provider for telephone answering services), automatic speech recognition devices (not shown), voice mail, or digital recorders and email servers. Note that some or all of these may be used in an actual embodiment, and it is understood that other embodiments other than the one shown could be used, based on the cost or preference or technology or rollout of the Clearinghouse. It should be clear that not all applications shown in Figures 1 and 6 would need to be installed or used at once, and one skilled in the art can envision different applications, or different approaches to organizing content, or subsets of the applications, or a merge between some of these applications could be implemented over time, while keeping in the spirit and intent of the invention.

Given the aggregation capabilities of the Clearinghouse, advertisers, attempting to focus on various customer segments, can preferably provide advertising to the various users of the Clearinghouse, either through email, the website display, through voice mail and video/multimedia services when users access the Clearinghouse, and through regular mail, based on the address records contained in the end user records and carrier records applications. Web advertising is an emerging business, and the Clearinghouse would serve as a highly targeted and useful medium for advertising over many domains, given the new capability and targeted clientele afforded by the present invention. The email application may also be used by the Clearinghouse, itself, to send email alerts to users of

the Clearinghouse (e.g. to end users or carriers, or to the public which has registered their email with the Clearinghouse), and the web application may be used by the Clearinghouse, as well, to provide web postings to specific users who are allocated specific web addresses or password protected access for confidential or specialized data.

Figures 1 and 6 show the Clearinghouse also supports forums and exchanges, where end users may communicate with one another, where carriers and end users may communicate with each other, and where carriers may meet and communicate with each other. This may be provided using chat facilities, instant messaging, VoIP, or web posting, as well as other forms of peer-to-peer and peer-to-group hosting applications. The archives in this portion of the Clearinghouse will help others in gaining knowledge and understanding of the clearinghouse and the needs of the telecommunication industry, carriers, and end users in general, thereby providing valuable insights for a growing customer base. In addition to the forums, Figures 1 and 6 show the Clearinghouse serves as an educator, a trusted resource that provides content, links to important telecom rulings and happenings, and provides open content for the world to access. This education/content application allows the Clearinghouse to also publish, either in print, email, or web, or podcast, or broadcast form, newsletters, information pieces, and promotional pieces that may advance the needs of particular carriers or segments of the telecom industry.

Access to carriers and end-users as described herein allows the Clearinghouse to be private labeled or OEMed by particular carriers, or by particular intermediaries in the infrastructure industry, or entities, such as the American Radio Relay League or JARL, which has many constituents who own towers or have interest in advancing telecom in general. By creating a private labeled enterprise or user class web presence or print presence, the knowledge and content of the Clearinghouse can be dispensed to particular groups of customers or end users, for the benefit of the industry or for the benefit of a particular carrier, intermediary, business, or industry segment. Thus, the knowledge contained by the Clearinghouse may be distributed in many different ways in parallel. This perpetuates the growth of subscribers or users of the Clearinghouse, while serving an unmet need which would benefit many carriers or organizations, particularly small and medium WISPs, citizens in general, expanding telecom providers in rural or emerging

lands, large carriers looking to roll out "small iron" infrastructure, and large and small telecom companies that realize that the clearinghouse is a less expensive resource to promote their own technology or their own presence or needs.

In addition to the abilities mentioned above, the computer provides the Clearinghouse with the ability to allow a carrier to exploit the end-user information in order to identify locations or dwellings where end users will allow it to install equipment or towers, etc. Without divulging the needs of the carriers, or the entire contents of the end user database, the Clearinghouse may allow the general public to view its own local areas of interest, say through zip code search or street search, to see who in their community is offering site opportunities. Of course, the end user must first have opted to have his or her listing made public for the general public to be able to see it, which is an option that may be provided when end user records are provided to the Clearinghouse. By viewing local listings, the community may validate that the listing, the map, and description is good – generally people in the same neighborhood will be interested in seeing if it's the right plat map, the right link, etc). If made public by the end user or carrier, or clearinghouse, neighbors may also be interested in the remuneration provided to the end user from one or more carriers. The Clearinghouse preferably would allow the general public to rate the quality of the postings (for example, one to five stars), and to provide customer feedback, thoughts on the experience, etc. (social commerce and word of mouth). Everyone who uses the Clearinghouse website would optionally and preferably need to have an assigned account or screen name so they can be credited with finding and posting info/data, and get ranked by the community.

In one embodiment, the Clearinghouse allows carriers or intermediaries to have a look at all end user offerings without giving away what the carrier wants or needs. Carriers may list their standard legal and business term agreements and have the ability to use the Clearinghouse to see readily if there will be local ordinance hassles, neighborhood hassles, limitations due to covenants, as shown in Figure 4 and as described above. Letting the end users and the public post this information, on a zip code or neighborhood by neighborhood, county by county, township by township, sq mile by sq mile basis, is best, as these maps for the boundaries exist.

Ham radio operators already have towers and are technically savvy, often ready to help with the provisioning of broadband. The Amateur Radio Relay League, (ARRL); Japan Amateur Radio League (JARL), Radio Society of Great Britain (RSGB), etc. would likely have interest in hosting or rebranding the Clearinghouse to its own purposes and for its membership, possibly as a revenue generating opportunity for its own society and as a service to its ham radio operator members, who often have towers and have already taken care of the zoning issues in their own neighborhoods. Amateur radio towers are often exempt from tower restrictions due to the common good and emergency preparedness that amateur (or "ham") operators provide to society. The lower profile ("small iron" footprint) of today's wireless telecom equipment, such as WiFi, WiMax, and much of the emerging broadband wireless infrastructure, does not require bulky cell towers, and can readily be installed on most ham radio towers today. The invention will allow carriers or intermediaries to immediately find these hams and offer leasing terms, so that the carriers may approach this community for potential tower sites. This helps quicken the deployment of wireless without the need to erect new towers or to go through extensive zoning hearings. Increasing the time to build out coverage or capacity is very valuable to a carrier, and thus the carrier would likely pay to have access to the Clearinghouse.

Record Forms shown in Figure 3 are submitted via web or submitted by voice, email/ touch tone, data entry/handwriting, fax, and other electronic means known now or in the future, including file transfer, etc. The forms reflect data shown in Figures 2 and 3, which is processed, sorted and parsed by the sorting and parsing application 36, and stored in the Clearinghouse database 510 (Figure 5). The data preferably indicate where the end user is physically located, and whether the end user has a Tower, or places on roof, house, building for antenna mounting or equipment mounting, etc. For example, either through entered data by the end user, or through public access to records that augments the end user provided records, or from file transfers from third parties, the carrier or third party uses the clearinghouse to determine answers to questions such as: Does the end user have to be on site when telecom company comes? Does end user have power or utilities available? Does end user want maintenance of tower/building? Will user want cash, cash rebate, or free internet or phone service? Does end user own the land

or rent? Is user aware of any zoning or limitations, neighborhood covenants that would prevent stuff going up, if so where? Does the owner have insurance, and what liability insurance is needed, required, on hand? Has end user successfully leased to a carrier before? Is the end user a ham radio operator or technically minded? Can cabling be buried on the premises? How close is the end user to other towers included in the end user database or public databases? What is the value of end users home, as identified by tax plat public tax record database, and is it a single family residence, apartment, commercial building, etc.? What are the desired business and/or legal terms to do a lease transaction, and what is the first/best/desired offer. These types of data would be linked in with town/country records of public land, and further linked with Google maps or another mapping technology, so that end users and or carriers or third parties could view potential locations with a vast amount of information contained in the Clearinghouse database.

Of course, some end users may wish to negotiate for deal terms on leases to carriers, in which case the Clearinghouse can provide the forum for an electronic negotiation, or an auction, where a carrier may find a potential site of interest, notify the end-user through email about their interest and with a first offer, and then wait for a reply from the end user as to how to move to a final negotiation and signed lease agreement. Alternatively, the end user may have an idea of their initial business terms, and this may be provided in the end user's provided records. All of these steps are handled by the Clearinghouse and its applications as described above, preferably through the worldwide web, or by other electronic interface means.

Using the Clearinghouse for radio quality and service for wireless devices

As described above, the Clearinghouse provides a database of tower locations provided by end users and carriers, and further provides for the ability to access public records such as governmental tower databases and frequency planning rules and regulations. Thus, it is clear that the Clearinghouse is able to maintain information about more than one carrier, and in fact can store information about every publicly disclosed tower, as well as the inventory of towers provided by end users, as well as infrastructure information provided by multiple carriers. Data such as transmitter frequencies, antenna

heights above ground, owners of spectrum, leaser of spectrum, type of license, date the license expires, type of services offered, may all be cataloged and stored in (or accessible to) the database in the Clearinghouse so that there exists, on the worldwide web at the Clearinghouse website, a position-tagged listing of wireless assets for multiple bands, and multiple carriers. This web site may be private access (password/subscriber protected) or open access to the world, depending on the desired business model.

Given that the clearinghouse is coupled to the internet, the Clearinghouse database can be used for cataloging the wireless availability (signals, bandwidth/capacity, services, carriers who provide service, quality of offered service, over multiple bands and for one or many carriers and services that are available to a particular wireless device in a specific location or locations on earth. Furthermore, the Clearinghouse may average, smooth, or provide best/worst/average estimates of the quality of wireless service, and its availability, based on the on-going measurements reported by end users and their devices at various parts of the globe. Thus, the Clearinghouse becomes an archived record of wireless quality at various locations, and this record is included in the clearinghouse database and updated or refreshed under computer control as described in Figure 5. This invention can be extended to work for different kinds of wireless devices, for example WiFi LANs are different than cellular/WiMax/LTE networks, so this Clearinghouse capability could be available for each type of service, or providing information for all services in a single clearinghouse.

The inventor envisions a clearinghouse that can be used/updated/accessed and built upon, by individual's experiences in accessing wireless connectivity across the globe. As shown in Figure 7, the reports of RF quality and capacity are preferably done by the end user or the end user's device, where the user of the wireless device, or the wireless device 710 itself (as shown in Figure 7), reports to the web Clearinghouse its experiences over a wide range of bands, frequencies, providers, and services. The wireless device 710 may be capable of voice, data, multimedia, and/or wireless call connections. Web connections could be in band, the same channel as current wireless "call" connection or out of band, or different channels than the present wireless call. Note that the coupling of the mobile device 710 to the internet (e.g. the Clearinghouse website) is done over the wireless call connection. However, this coupling may also be

done over a wired means as described below, or may be conducted at a different time or location using a different wireless carrier or frequency than used for a wireless call or internet session. While not shown explicitly in Figure 7, another embodiment of this feature of the invention would be for the base station or fixed infrastructure of a wireless network (and not the wireless end user device) to collect measurements or performance metrics over a wide range of spectrum for the quality of RF coverage, capacity, and overall communications quality, on either/both the forward and reverse wireless links, and to provide that data to the Clearinghouse via worldwide web connection that is often provided at the base station or fixed infrastructure. Of course, both the fixed infrastructure and the mobile device could collectively and cooperatively report back data to the clearinghouse, as well as receive data from the Clearinghouse.

Preferably, the end users phone 710 would report its observations to the Clearinghouse in an automatic manner without ongoing user control and even without knowledge by the user. Indeed, phones or wireless mobile devices 710 of the future may be simple dongles, computers, and a wide range of wearable or sensor devices 711 that may access the Clearinghouse in real time, or prior to a wireless phone call, or intermittently during or after a call, while the mobile device 710 is idle, or even when the cellphone (e.g mobile device) is off or not in use (but connected to the internet by wired means). That is, the memory 712 of the wireless device 710 may store the measurements and observations of various radio quality and performance metrics, for uploading to the Clearinghouse using any type of connection to the worldwide web – wired or wireless, not necessarily just during a call or during travel. These measurements will be paired with geographic location information obtained uses a GPS or any other location sensing or position estimating techniques 714 that may involve an onboard computer (not shown) in the cellphone or computer 711, or external to the mobile device 710, such as through infrastructure position location methods. Thus, the Clearinghouse is able to continue to build a database that is built upon location-specific reports of radio coverage, services, carriers, bandwidths, and past user experiences, even when certain mobile devices must wait to report their observations (due to poor coverage, priorities of the device or user in providing communications, or when battery 716 is too weak to justify accessing the Clearinghouse at certain times). Figure 7 contemplates a mobile device 710 that is able

to access the Clearinghouse via the worldwide web, in order to query or determine information, in either real-time or non-real time, about the radio environment and performance quality in its particular location. This access may also be in real time or non real time by either wireless or wired means.

As shown in Figure 8, using the invention described herein, a wireless device 810 is able to couple to the Clearinghouse website (and consequently the Clearinghouse database 820) through its wireless carrier to automatically provide (e.g. upload) its readings, measurements, or observations to the Clearinghouse, either in a batch (stored) method, or periodic, intermittent, or random update method, using either wireless 825 or wired connectivity to the internet 830, and is also able to access the Clearinghouse database (e.g. download) to determine general information about the radio environment (to help optimize the battery use, RF radiation, or mode/data rate selection of the mobile device) or to find what channel to tune to, what carrier to use, or what services to expect or access, without wasting transmit power, battery life. Thus, the Clearinghouse can both rely on data provided by wireless devices at various locations in order to provide data that allows particular inquiring wireless devices to adjust their access techniques to the wireless channel in a certain geographic area in a manner that matches the specific coverage/RF/quality of the location. While Figure 8 shows a wireless connection, the device 810 could be connected by wired/optical connection through the Internet 830 to the Clearinghouse database 820. Note that location information may be provided by the mobile device 810, or may be obtained through an external or alternative means, perhaps from the carrier's infrastructure, or through other methods.

The network performance or quality of service information as a function of location may be downloaded to the wireless device from the Clearinghouse either before a user of the device travels to a location, or during the travel, itself, as illustrated in Figure 9. While Figure 9 shows a wireless connection, it should be noted that clearinghouse information may be provided to the mobile device 910 using wired means, as well. Figure 9 is substantially similar to Figure 8, and shows the flow of information from the Clearinghouse, and consequently the Clearinghouse database 920 to the wireless device 910 through the Internet 930 and Tower 925. As shown in Figure 9, recent snapshots or data values of quality as a function of location, as obtained from the

Clearinghouse, may be stored in the memory of a mobile device 910, and updated at a rate determined by either the Clearinghouse, the end user, or the wireless carrier providing end user service. When in the field with a planned trip, the user can get downloaded information after handshake by the wireless device 910 being able to retrieve from the Clearinghouse 920 (in an automated fashion or with a user interfacing interval) the local "state" of the RF environment he or she is in or traveling to which may include the services that are available, carriers, locations of towers, etc., so that the phone can use power and allocate spectrum better. This handshake may be provided over the air in real time or pseudo real time, or may take place earlier when the phone is connected or idle at home in a wired or wireless home network, or docked in its charger, etc.

Figure 10 shows a flow diagram of how the Clearinghouse and mobile device work together to provide enhanced service for the wireless subscriber end user. The network quality information, and relative ranking of carriers, frequencies, or selected power levels or data rates/modulation types as a function of location may be downloaded from the internet at steps 1010 and 1012 (e.g. Clearinghouse website) before leaving for the trip, where the position location coordinates are obtained prior to the trip path from Google Map, Mapquest, or some other path finding method that allows for interpolation or storage of position coordinates, and these position location coordinates are stored in the memory of the mobile device. Alternatively, if implemented in real time or in near real time during a trip, the mobile device may use a road navigation system in the car, a navigation application in the phone, or GPS in the phone in order to determine its position location as shown at step 1010. The wireless device thus has latitude/longitude or GPS coordinates, either measured by GPS or by its own navigation application, or as interpolated or as stored from a pre-planned trip route stored in memory. These locations are then provided by the mobile device to the Clearinghouse at 1012, (note that the locations provided by the mobile device to the Clearinghouse could be determined on the fly as the user moves with her wireless device on the trip, either in band or out of band, across a wireless network during the travel.) The Clearinghouse, based on the locations presented by the mobile device, provides to the device specific performance or quality of service metrics or rankings, such as desired frequencies, best or rank ordered list of carriers to use at each specific location, preferred modulation types, upper or lower limit

on data rate, upper or lower limit on bandwidth, or a ranked listing of available (in the area who provide service) wireless carriers at the various interpolated locations at step 1014. This information may be transparent to the user of the mobile device, as shown at step 1014, and may match a user profile, such as "highest download speed", or "cheapest cost" or "always pick Verizon if it can give me better than 10 Mbps", which the user may have programmed on his cellphone or programmed through his wireless carrier through a website or in the store upon purchase or renewal. Alternatively, the information provided by the Clearinghouse may be visible to the end user, as also shown at step 1014, either over the wireless device, or at the Clearinghouse website, provided the end user is a participant of the Clearinghouse. In this manner, the Clearinghouse facilitates multiple-carrier operation at step 1020 and may provide network enhancements over a wide range of spectrum for a single user, which will be required if federal regulations require an open spectrum policy where various carriers must support traffic by users of a specific carrier network. Such operation enhances battery life and improves phone and network performance through control of interference, spectrum usage, and power, while being impartial to any one particular wireless carrier.

Given the location (whether actual or estimated) of the wireless device, and information of the radio frequency (RF) quality and coverage and the services and bands available for access are identified at step 1016, the wireless device may make good decisions at step 1018 as how to access wireless in the particular location, thereby saving battery life, cost, time, or improving connectivity for the particular desired application used by the user of the wireless device. The Clearinghouse/database on the web would communicate to wireless devices either in real time over the web, or prior to the wireless device going to a location, with information that allows the phone to determine the best or 2nd best (or a priority/ranked list) of frequencies, or carrier providers, or services, or bandwidths, based on the customer's predetermined desires/needs (lowest cost service, highest data rate service, longest battery life service, etc). Or the user may adjust their desires for service priority on the fly as they travel and learn the quality of the networks they are in. This may be done automatically (with preset user settings) or may be visible/shown to the user through an application on the web or via the wireless device. Note that the carrier/service provider, or the wireless device manufacturer, or some other

party, may also set the priorities for desired service based on price, availability, instant channel loading in the network, or other factors.

In fact, the world's RF/QoS/coverage/service map could be loaded on to a wireless device from the web clearinghouse, and the updated periodically or infrequently, at either the request of the phone user or automatically by the wireless device, to update the database of the RF/QoS/services, capabilities over location.

The phone/wireless device could access the web either through a user application or this could be done autonomously, where a web server that hosts the clearinghouse communicates over wireless or wired means with the wireless device. This can be done using low level formatting that would not be readable by a regular user, but which is loaded into memory of the wireless device.

The web server and clearinghouse may be central or distributed, and can store and represent the services, locations, frequencies, carrier/owners, and other information that would be useful for a wireless device to automatically determine what frequencies or applications or capabilities it might experience in a particular location on the globe. Global coordinates may be represented in many ways known to those skilled in the art, and the ability to autonomously access the web is well understood today.

Users may also, either by their own activities, or through the wireless device autonomously either known or unknown to the user, communicate updates or in-the-field readings of the various signals and capacities/bandwidths received by the wireless device in a particular location back to the clearinghouse. That is, wireless devices may report back (autonomously in a preferred embodiment) to the clearinghouse their user experiences over a wide range of frequencies, bands, applications, along with the location of the wireless device. Figure 11 indicates a flow chart that shows how a mobile device provides information to the Clearinghouse, and how such information is applied to the location-specific database maintained by the Clearinghouse. The idea of using GPS or some other position location means, even if as crude as sensing what major tower or market or carrier signal or nearby TV or FM or AM transmitter, etc. is received by the wireless device (crude position locationing) could be used, as could more accurate TDOA or GPS methods. In any case, the invention contemplates the ability of users to report back to the Clearinghouse in step 1110, either in real time or when they become located

where network access is easy or free, the measured quality and coverage and capabilities of wireless in a particular location/geographic region. The coarseness of the geographic region may be determined based on speed of user, the application used by the user, or set by the Clearinghouse, or by many other methods. Similarly, the coarseness or the position location may be specified or set by the Clearinghouse, and more value or cost or premium preference may be given to certain subscribers or users of the Clearinghouse who wish to have more accurate (fine resolution, say within a few meters, few hundred meters) of wireless spectrum quality/availability than those who are satisfied with course position locationing (say a few thousand meters).

The measurements reported back to the Clearinghouse by wireless users are added to the location specific database in step 1112, and just like the obtaining of various radio qualities and metrics for a particular location of the wireless user, may also be done without knowledge by the user, and may be done in an autonomous communication between the wireless device and clearinghouse.

This database can also be contributed to by users who wish to add/record their own experiences, either autonomously or manually through a public website offered by the Clearinghouse. Carriers could enter their own database into the web clearinghouse, or the clearinghouse could use bots or automated web crawlers to find websites from FCC, Chinese government, private or public company websites, Comsearch, etc. to build a large database of spectrum availability and tower locations and bandwidths/services with a common website. Note that this Clearinghouse could also have users provide inputs as to their perceived or experiential views of radio coverage or phone/web quality at step 1114 when they were in a particular location. Note that the entry of this "performance" data could be added by users based on their own experience, and could also be provided by carriers based on their known infrastructure locations. Alternatively, phones of the future, equipped with GPS or any other type of location capability, could automatically, without any human interaction, upload to the website, on a periodic, one-time, infrequent, or regular basis, the perceived/measured radio reception quality, bitrate, capacity, availability, average use profile, average available profile, statistics on outage or reliability or coverage or capacity carrying capabilities, or an evaluation of the RF or end-user application performance, and this information may be loaded to the Clearinghouse

for inclusion in the database that is available. The database is updated at step 1116 at various intervals that make sense for the implementation of the Clearinghouse (daily, hourly, by minute, by week, and this may be done on a global or on a specific location basis across the clearinghouse database, that itself may be distributed or located centrally). The updated information is made available to users on an ongoing basis, for further utility and enjoyment.

Reporters of RF quality and quality of the services, and access to the clearinghouse may be shared between carriers, user populations, owners, etc. so that information may be made available to update the global clearinghouse while providing those updates to large numbers of users who own wireless devices, for the improvement of operation of the wireless devices, or benefit to the carrier(s) or to the customers of wireless devices or customers of the wireless service access.

Once this clearinghouse is created, then future phones or wireless devices could access this Clearinghouse web site at step 1118, either conducted by the person who is the subscriber, or automatically by the phone device itself, or by the carrier or service provider, and could even be accessed by the application running on the mobile device that is intended to be used at the specific location, and over a wireless channel, to rapidly determine the type of coverage/ quality of coverage, the various vendors in the geographic region of the user, how to best send the message, how to conserve bandwidth, improve battery life, etc.

Figure 12 illustrates the flow diagram of how a mobile device may access the Clearinghouse, whether in the idle mode, or during a cellphone or internet session, or whether connected to the internet via wireless or wired means. The mobile device is able to use the Clearinghouse-provided rankings of best service providers or air interface specifications and observations in order to enhance or optimize its own performance. This may simultaneously correspond to enhanced performance of the entire network that the phone is operating in. The wireless device is able to maintain a ranked list of preferred operating modes and carriers or services based on its current location, as well as estimated future locations, as it provided to the Clearinghouse. Future locations may be determined from past records maintained in the phone itself as to where it often in use (using past position location measurements), or future locations may be determined by

the carrier, which may provide intermittent measurements of an end user's location. Alternatively, the Clearinghouse may maintain records of past usage and location information of particular end users, through low overhead wireless internet connections or through batched (stored) records from particular wireless devices.

The exchange between the end user mobile device and the Clearinghouse's worldwide web address (e.g. IP Address) requires a handshake so that users may be properly identified and properly monitored and controlled uniquely by the Clearinghouse at step 1210. Thus, there is a negotiated password/access that must take place whenever the mobile device attempts to connect with the Clearinghouse, and vice versa. This may be facilitated through the credit card sign up and password management application of the Clearinghouse, or may be a separate application under computer control. The end user's Mobile ID number (MIN), Electronic Serial Number (ESN), or some combination of data using one or both of these numbers may be used for registration/access to the Clearinghouse, and so that mobile devices may be identified uniquely through over the air or web-access data exchanges. Once identified, data can be sent to the phone from the Clearinghouse at step 1212, and the phone can be properly tuned to the best band service provider or be interfaced for minimum power drain at step 1214. The Clearinghouse will also allow reporters of information to be ranked based on their accuracy and collaboration with other reporters of quality/RF/services/information. Furthermore, the service providers or spectrum allocations, themselves, would be ranked by the Clearinghouse (e.g. at this Location, WiMax band is best, and gets 5 stars, whereas PCS Band has bad coverage or performance, and only gets 1 star, etc). This listing information can be maintained in the phone at step 1216 and can be updated based on current and estimated future locations. Step 1218 shows that when the device is in motion, updates can be obtained automatically from the Clearinghouse. Individuals who report in their observations may also be ranked (e.g. Bill Smith does a good job reporting quality of different radio bands and services near Austin, and gets 5 stars, or a 99% rating, as opposed to someone who frauds the system by reporting bogus measurements – the peer group or the web crawlers/data analysis of the database would find these outliers. and give them lower rankings, say 1 star or 10% accuracy). These rankings could be weighted to give assessment of the entire radio spectrum and services/quality/coverage in

any location on the earth. This will be a critical and vital invention for the future of multiband radios, and has clear applications in open-access wireless which is likely to evolve with the 700 MHz FCC spectrum auction, and the entrance of Google, Amazon, EBay/Skype into the wireless world. This invention also has strong impact and will assist the evolution of Cognitive or Software defined radios (SDRs).

Using the Clearinghouse for Local Advertising using wireless infrastructure

This invention may be extended further to allow for distributed wireless content, either provided through standard internet browsers, or through recorded, or real-time means in audio or video or multimedia or text formats, that may be transmitted through transmission to cellphone devices, computer devices, or other mobile devices or other devices that are connected using wireless transmission, known now or in the future, to be delivered on a location-specific basis. As mentioned above, media content may be audio, video, multimedia, or webpage based, as well as other forms that may be known now or in the future. This invention has particular applicability to local advertising, as advertising content is often difficult to provide through the worldwide web. Furthermore, this invention can be used generally for any type of content, not just advertisement content, that has specific value to users or viewers in specific geographic, physical locations. That is, the invention may be used for signage that provides location-specific content to wireless displays or wireless users, for example, or which, for example, provides information about movies that are playing in a movie theater to wireless users who are in the parking lot of the movie theater.

Today, the internet advertising industry has difficulty in providing location-based content, since people who log onto the web may be located anywhere in the world. For example, on a Google search page, ads that appear on the right hand column of the display, are generally not displayed in a location-specific basis. Indeed, access over the internet allows users from all over the planet to access a particular webpage, through a web address (an Internet Protocol address). Thus, the standard internet protocol does not allow a web server to know, ahead of time, the specific physical location of a particular browsing user. While there are techniques to improve the guess as to where web browsers

are located, through the use of cookies and previously entered data by a fixed internet user, wireless communications (which includes optical communications, and all electromagnetic signals), based on the law of physics such as Friis free space equation, is the best way to provide local coverage, since wireless is limited in propagation distance based on a number of factors such as the radiated power of the transmitter, the height of the transmitting and receiving antenna, antenna gains, and carrier frequency, obstructions in the physical environment, etc. Thus, wireless provides a built in ability to ensure location-based advertising which has not been previously exploited. This invention describes a way that advertising content can be pushed to users within the radio frequency (RF) propagation range of mobile/portable/fixed users who are tuned to a specific transmitted signal. Similarly, the processes described herein have application for devices that are capable of receiving multiple transmitted signals, from multiple radiating sources, either simultaneously or in sequence, or sporadically.

The concept of today's internet-based advertising is to use generic, nationwide webpages, such as a typical webpage that may use banner ads to offer a product or service, or the use of banner ads on web blogs or other web pages, or adsense or adword ads (by Google, for example). However, the difficulty with these ads, from the standpoint of the advertiser, is that it is unknown where the specific user is physically located, thus it is very difficult to offer, in an efficient or market-driven manner, ads that are specifically local to the wireless users that might have interest (for example, a local coffee shop in a particular city would not want to pay for a national ad on a national webpage, but would rather pay only for those ads which are viewed specifically by mobile or fixed wireless users who are in the same city/town or neighborhood of the café and who want to take advantage of special coffee specials.

One approach to provide location-based ads, is being pursued by Loopt, where they are working to sign up carriers in the cellular radio field. It was reported in December 2007 that Loopt has partnerships with Sprint Nextel and Boost Wireless. Loopt relies on users being able to run a middleware application on their cellphone device, which allows the mobile device to send its GPS coordinates through the cellular infrastructure, and based on the cellular infrastructure and GPS location, the location of user is determined, and an ad may be pushed to the device from the carrier network. See

New York Times, Feb 6, 2008, Business Day article, "In CBS Test, Mobile ads find users"

In the invention, I approach location-based advertising in a different, and more efficient way than Loopt. The invention allows for the Clearinghouse and its database to be an integral and valuable part of a novel local advertising system and method, that uses readily available hardware to store, reformat, revise and transmit altered web pages that have specific local content. No middlewear is required on the mobile/fixed wireless device in this invention, although in some embodiments it may be used for acquiring user data, and helping to cache or provision the invention in a more efficient manner.

By using the Clearinghouse and database for radio quality and service for wireless devices, and by maintaining an on-going list of performance records of users and infrastructure locations, it becomes possible to build a listing of towers, frequencies, types of service, users who have permission/access abilities to the network, coverage regions of a particular tower or transmitting signal, etc. as well as the physical location and proximity of users on one or more wireless services. However, even without the GPS information from users, one can provide location based advertising, as disclosed herein and in conjunction with the knowledge of towers, frequencies, and services offered.

Instead of having to determine the GPS location of each mobile user, as with Loopt, using the present invention it is possible to use the information of the specific tower or transmitter site in order to "alter" or "fill" the national webpage with specific, local ads in particular places on the displayed webpage. That is, a server, which may be remote or located at the same location as the wireless infrastructure providing the local signal, would be used to alter, modify, or rewrite the "original" webpage, and then would transmit the "localized" webpage over the local infrastructure, so that local advertisements would be used in place of national advertisements, in various places on a webpage, or in various audio or video fill locations, or in specific text messages that are tailored for specific locations.

In this manner, its possible for a national or international organization, or an international web portal, to be able to provide local, target-specific ads, through knowledge of the location of specific base stations. In addition, the clearinghouse system would further allow particular users to be monitored for what type of ads they use, how

they select different links (in the case of a webpage) and the internet browsing patterns or effectiveness of the localized ads.

Figure 13 shows a diagram of local content wireless infrastructure. Figure 13 shows a computerized Clearinghouse system, that may be a web-server, or multiple servers, that may be located at, near, or remote from the base station infrastructure 1310 or 1312, whereby this server 1314 (or group of servers) may be provided the local-advertising information, in a machine readable format that allows the server 1314 to "override" or replace the national webpage server in particular parts of the displayed webpage at the mobile/fixed wireless device. Note that the fixed infrastructure at the edge of the wireless network, shown as a base transceiver station (BTS) or Switch or WLAN access point 1316, is connected to the Internet 1318 through an IP network 1320 backbone. The Clearinghouse 1322 is also connected to the IP Network 1320, thus it is possible to couple the Clearinghouse 1322 content to the edge infrastructure 1316, as contemplated above (see Figures 1, 5, 6, 7, 8 and 9, for example). The Clearinghouse 1322 provides format information for the content server (also called an ad server), so that the content server 1314 knows what content to offer, and how to integrate the local content it has to offer along with the standard content provided over the wireless network. Noted that Clearinghouse 1322 can be copied to the local ad server 1314. The local advertising content or content from the Clearinghouse 1322 is transmitted to the mobile or fixed device 1324, thereby assuring delivery of localized advertising to the mobile or fixed device 1324.

The local content server 1314 is shown coupled to the edge infrastructure 1316 in Figure 13. This local content server 1314 may receive copies of local content as provided by the Clearinghouse 1322, or may obtain content from other sources over the worldwide web, under the control of the Clearinghouse 1322. Note, however, the local content server 1314 may be located remotely from the edge, or it may alternatively be embedded within the hardware of the edge infrastructure 1316. Since there is internet connectivity, the physical location of the content server 1314 doesn't matter tremendously, unless very high speed traffic is contemplated, in which case providing the server near the edge infrastructure 1316 is the best choice.

Using the position-tagged listing of wireless assets for one or multiple bands, and one or multiple carriers, the disclosed invention provides the ability to provide local advertising content for transmission in the datastreams at particular local infrastructure locations. This may be done by providing content for a localized ad (or other content) in a computer file, and then providing a format for said content within the file so that it may be conveniently packaged/placed, as either a banner or pop-up or adword type or other form suitable for use on a partial webpage display that is transmitted by the edge infrastructure 1316. The mobile or fixed device 1324 receives the local advertising content from the infrastructure 1310 and 1312, and establishments desiring localized advertisements to devices within range of the infrastructure can be assured of a more targeted advertising campaign.

Figure 14 shows a flow chart that allows local advertisers or local content providers to access the Clearinghouse system through the worldwide web, where the local advertisers can create and alter localized content. When the content is created at step 1410 and loaded onto the Clearinghouse system at step 1412, the advertiser is then able to use the Clearinghouse to specify the format of their local content at step 1414, and view it at step 1416 as it will appear in the local edge transmissions, and may select geographical areas, cities, or specific locations at step 1418 where the local content may appear. The Clearinghouse may use its billing application to receive revenues at step 1420 for local advertisers, and the local content is then loaded into the Clearinghouse, and may be distributed to the network edge servers at step 1422. As noted in Figure 14, the order of steps can vary, and the process allows the advertiser to alter, draft, and create in an iterative fashion to achieve the content or style that is desired and to better identify the targeted audience. In some embodiments, the advertising may be distributed to a plurality of local ad servers 1420 (e.g., distribution to multiple states during a primary campaign season for a national elected office, etc.) Also, as noted in Figure 14, some of the steps are optional and can be varied in the practice of the invention. For example, instead of a monetary payment, the advertiser may provide some other form of service in exchange for the local advertising afforded by the invention.

Figure 15 shows how the local ad server continually checks the web pages that are accessed by the local users in the vicinity of the edge infrastructure. Once a local

advertiser has registered with the Clearinghouse, and has placed its content on the Clearinghouse (and also the local ad servers, if caching is done), then the local content provider's web address is added to a list of local advertisers. When any webpage is requested by a local wireless user at step 1510, the local ad server (or, alternatively, the Clearinghouse or the edge infrastructure itself) searches the list of local advertisers at step 1520, and if a local advertiser's web address is received at step 1530, the local ad server replaces the "normal" national webpage with the content specified in the local format at step 1540. This modified, local format web page is then passed to the edge infrastructure at step 1550 for transmission over the local edge network. It should be clear that while web pages are discussed here, any type of content could be replaced, and any type of local content could be inserted in this manner. If the local advertiser's web address is not received the requested web page is retrieved at step 1560.

The local webpage may be of ordinary form, with the local content in standard form as would be used for display on a wireless device (such as a laptop or cellphone). Then, a server computer or computers is used to take a source webpage (say from the national or the standard template provided over the internet) to then alter the datastreams transmitted from the local infrastructure, being different from the datastream obtained from the source (such as a national webpage), and altered specifically for the specific physical location of the transmitter tower, or group of towers, or infrastructure that is located in some physical location such that wireless coverage is provided within a specified geographical range. The transmitted local webpage is altered efficiently based on the format of the local content file, which provides instructions as to where, specifically on the web page, the local ad should be placed. This placement may either replace an ad on the national webpage, or it could be a complete replacement of the national webpage with a custom local webpage, or some other content could be made to be transmitted from the local infrastructure.

This allows an advertiser to have local information filled in the proper locations on a web page display, or at the proper time sequence or file location in an audio or video or multi-media transmission. This also allows web portals such as Google or Yahoo or Ebay or any other to provide localized advertising without requiring a specific GPS coordinate for each user in its region, thereby preserving valuable wireless resources that

would otherwise be used up to provide position acquisition and handshaking between the wireless infrastructure and the mobile device.

The invention also has the ability to measure web statistics, web page viewing, information about the use, page views, and click-through activity of localized advertisement or content webpages that are provided by the Clearinghouse or the local ad-server. It is understood that web hits may be counted and tabulated, using many commercial providers of such web statistics, or may be implemented by software running at the local content server, or at the Clearinghouse, in order to count the various views and uses of webpages by local end users. This data would be valuable for justifying and presenting the value and utility of local ad or local content provisions to the owner of the wireless network, as well as determining formats, presentation techniques, delay times, and other technical and non-technical implementation of local content for improved activity, use, and monetization.

The Clearinghouse could maintain a large archive of local advertisement files, and formats, that could be used and invoked over multiple bands and for one or many carriers and services that could be provided over wireless infrastructure for specific locations on earth. This invention can be extended to work for different kinds of wireless infrastructures and devices, for example WiFi LANs are different than cellular/WiMax/LTE systems, which are different than standard 2.5 cellular. The advertising system could be used in conjunction with the clearinghouse system described above, and one can envision this type of local advertising system being available for each type of service or carrier, or for a specific set of infrastructure (e.g. a WLAN system in a convention center, where our invention would provide specific local advertising for the specific convention center, whereas other convention centers around the world would have their own specific ads placed on their web pages). This invention could also be used to provide local ad content and information for all types of infrastructures and wireless standards from a single clearinghouse.

It is envisioned that the local ad content can be updated by a specific advertiser, where they are able to access a web portal and format their ad, along with payment for their ad, and having the ability indicate which city, specific tower locations, or specific

geographies they would like to have their ad appear on. Furthermore, they may pick if they want continual, or partial time ad placements, which would be at differing costs.

The advertiser would have the ability to view through the web portal what their ad would look like to mobile users in the specific selected geographic area, and they could compare that to the template, or national website.

Figures 13 through 15 illustrate an exemplary embodiment of how the local ad sever and Clearinghouse work together. They may be the same device, or information from the Clearinghouse may be copied, in part or in whole, to the local ad server. The local ad server, itself, may be collocated with base station or network provider infrastructure, or itself may be remote and addressable, although speed is of the essence to allow the localized webpage to quickly be revised and sent out over the infrastructure. It should be clear, however, that this disclosure is not limited to advertising, but any type of content may be applicable (e.g., localized emergency alerts; localized traffic announcements, etc.).

While the invention has been described in terms of several embodiments, it will be recognized that the invention can be practiced in a variety of forms within the scope of the appended claims.

CLAIMS

1. A clearinghouse system for communications networks, comprising:

a database including

records for one or more telecommunications carriers which identifies infrastructure needs for one or more telecommunications carriers in terms of one or more of (i) types of equipment and performance characteristics for said types of equipment, (ii) location information including one or more of geographical areas, and (iii) desired business terms for said infrastructure needs, and

records of a plurality of end users which identify one or more of (i) telecommunications assets owned or controlled by said end users including geographic location and type of available or existing telecommunications assets (ii) property assets owned or controlled by said end users including geographic location, and (iii) desired business terms or preferences for use of said telecommunications assets or said property assets;

one or more electronic interfaces which permits one or more telecommunications carriers and one or more end users to selectively view or catalog information about (a) available telecommunications assets or properties and locations thereof, (b) the owners or tenants of said available telecommunications assets or properties, (c) infrastructure needs of one or more telecommunications carriers for one or more locations, and (d) proposed or initial business terms for said infrastructure needs and said telecommunications assets or said property assets.

2. The clearinghouse system of claim 1 wherein said database includes

public records which include, for a plurality of geographic locations, one or more of mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations.

3. The clearinghouse system of claim 1 wherein said one or more electronic interfaces permits one or more public users, who are not telecommunications carriers or end users, to selectively view or catalog information about said available telecommunications assets or properties and locations thereof, and said infrastructure needs of one or more telecommunications carriers for one or more locations.

4. The clearinghouse system of claim 1 wherein said one or more electronic interfaces includes one or more of an Internet interface, a telephone, a speech, handwriting or fingerprint recognition device, electronic mail interface, a facsimile, voicemail, a webserver, VoIP, or a digital recorder.

5. The clearinghouse system of claim 1 wherein at least one of said one or more electronic interfaces is connected to the world wide web, and wherein said records for a plurality of telecommunications carriers and said records for a plurality of end users can be viewed using a browser and can be retrieved by a web crawler.

6. The clearinghouse system of claim 1 further comprising a security application which protects the identity and infrastructure needs of said one or more telecommunications carriers.

7. The clearinghouse system of claim 1 further comprising a security application and billing application which permits charging said one or more telecommunications carriers or said one or more end users at selectable rates for use of said clearinghouse system.

8. The clearinghouse system of claim 1 further comprising a communications application which permits secure negotiation and acceptance of business and legal terms between one or more telecommunications carriers and one or more end users for use of said one or more telecommunications assets or one or more property assets.

9. The clearinghouse system of claim 8 wherein said property assets are selected from a building, a roof top, a billboard, a tower, and a lot or acreage.

10. The clearinghouse system of claim 1 wherein said database includes performance or quality of service information for specific locations.
11. The clearinghouse system of claim 10 wherein one of said one or more electronic interfaces provides automatic updates of said performance or quality of service information from one or more mobile or fixed devices located in said specific locations.
12. The clearinghouse system of claim 10 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or land devices that is located in or will be located in said specific locations.
13. The clearinghouse system of claim 10 wherein said performance or quality of service information includes multiple bands and multiple carriers.
14. The clearinghouse system of claim 1 further comprising
one or more local ad servers connected to said one or more electronic interfaces, said local ad servers providing localized content to one or more mobile or fixed devices in a specific location.
15. The clearinghouse system of claim 14 further comprising
one or more base stations connected to said one or more electronic interfaces.
16. The clearinghouse system of claim 14 wherein said local ad servers provide web page view and usage statistics to said database through said one or more electronic interfaces.
17. The clearinghouse system of claim 1 further comprising a computation application which identifies optimum locations for said infrastructure needs based on said records of said plurality of end users.

18. The clearinghouse system of claim 2 further comprising a computation application which identifies optimum locations for said infrastructure needs based on both said records of said plurality of end users and said public records.

19. The clearinghouse system of claim 1 further comprising an application program for forming binding agreements between at least one of said one or more telecommunications carriers and at least one of said plurality of end users.

20. A clearinghouse system for communications networks, comprising:

a database including performance or quality of service information for one or more specific locations, and
one or more of

records for a plurality of telecommunications carriers which identifies infrastructure and location information for one or more specific locations,

records for a plurality of end users which identifies telecommunications assets or property assets owned or controlled by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations; and

one or more electronic interfaces which permits performance or quality of service information obtained from one or more mobile or fixed devices that are located in one of said one more specific locations to be automatically updated into said database, and which permits at least one of said plurality of telecommunications carriers or said plurality of end users or one or more parties which are not telecommunications carriers or end users to review, catalog or sort information in said database.

21. The clearinghouse system of claim 20 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices that are located in or will be located in said specific locations.

22. The clearinghouse system of claim 20 wherein said performance or quality of service information includes multiple bands and multiple carriers.

23. The clearinghouse system of claim 20 further comprising means for sending instructions from one of said one or more electronic interfaces to one or more mobile wireless devices for configuring or reconfiguring of said one or more electronic devices based on a ranking of performance or specific requests of an end user.

24. The clearinghouse system of claim 20 further comprising means for sending a rank ordering of available telecommunications services from one or said one or more electronic interfaces to one or more mobile wireless devices.

25. The clearinghouse system of claim 20 further comprising a monitoring application which permits monitoring of radio operating conditions of one or more wireless devices, wherein monitored radio operating conditions are used to update performance or quality of service information in said database.

26. The clearinghouse system of claim 20 further comprising an updating application which permits one or more wireless devices to update performance or quality of service information in said database by reporting of observations of wireless performance and quality to one of said one or more of said electronic interfaces.

27. A content providing system which provides selected content to one or more mobile or fixed devices located in specific locations, comprising:

a clearinghouse system for communications networks, said clearinghouse system including

a database including one or more of

performance or quality of service information for one or more specific locations,

records for a plurality of telecommunications carriers which identifies infrastructure and location information for one or more specific locations, records for a plurality of end users which identifies telecommunications assets or property assets owned or controlled by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations; and

one or more electronic interfaces which permit one or more mobile or fixed devices to be connected to said clearinghouse system, said one or more electronic interfaces permitting one or more of

performance or quality of service information obtained from said one or more mobile or fixed devices that are located in one of said one more specific locations to be automatically updated into said database, and

at least one of said plurality of telecommunications carriers or said plurality of end users or one or more parties which are not telecommunications carriers or end users to review, catalog or sort information in said database;

means for identifying a geographic location of one or more mobile or fixed devices; and

one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system, said local ad servers providing localized content to said one or more mobile or fixed devices in a specific location.

28. The content providing system of claim 27 further comprising

one or more base stations in communication with said one or more electronic interfaces of said clearinghouse system.

29. The content providing system of claim 27 wherein said local ad servers provide web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces.

30. The content providing system of claim 27 wherein said means for identifying a geographic location includes a GPS associated with each of said one or more mobile or fixed devices.

31. The content providing system of claim 27 wherein said means for identifying a geographic location includes a means for determining one more of towers and frequencies being used by said one or more mobile or fixed devices.

32. The content providing system 27 wherein said local ad servers provide content to said one or more mobile or fixed devices tuned to a specific transmitted signal.

Abstract

A computerized system, method and process allows telecommunications carriers to find, evaluate and select locations for equipment through direct access to end users, while providing citizens the opportunity to offer the use of their dwelling or other assets to carriers. The system and method further provides a computerized mechanism for (a) creating an inventory and marketplace for available properties for use in telecommunications networks, (b) providing quality and/or performance monitoring and control for wireless communication systems based on data in the clearinghouse, and (c) providing localized content over wireless networks using the clearinghouse.

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1-32. (canceled)

33. (new) A method for providing a clearinghouse system for communications networks, comprising the steps of:

providing one or more computers which interface with a database, said database including

records pertaining to one or more telecommunications carriers which identify infrastructure for one or more telecommunications carriers in terms of one or more of (i) types of equipment and performance characteristics for said types of equipment, (ii) location information including one or more of geographical areas, and (iii) business terms for telecommunications services or for provision of said infrastructure, and

records pertaining one or more end users which identify one or more of (i) telecommunications assets or devices or equipment owned or controlled by one or more of said end users, (ii) property assets owned or controlled by one or more of said end users, (iii) locations or types of devices or equipment used by one or more of said end users, (iv) performance, quality of service, or perceived value experienced or desired by one or more of said end users at one or more locations, and (v) desired business terms or preferences for use of said telecommunications assets, said devices, said equipment or said property assets by one or more of said end users;

permitting, using said one or more electronic interfaces to said one or more computers, said one or more telecommunications carriers or one or more of said end users or one or more third parties to selectively use, view, collect, or catalog information about one or more of (a) available telecommunications assets or properties and locations thereof, (b) locations or types of equipment or devices or property assets used by one or more of said end users (c) the owners or tenants of said available telecommunications assets or properties, (d) infrastructure needs of

one or more telecommunications carriers, (e) proposed business terms for fulfilling said infrastructure needs and with said telecommunications assets or said property assets, and (f) performance of quality of service experienced by one or more of said end users; and

either or both providing access to information associated with said records in said clearinghouse system or providing a notification to either or all of:

one or more of said end users,

one or more of said one or more telecommunications carriers;

one or more of said third parties who are not end users or a telecommunications carrier,

wherein notification is performed when one or more of the following events occur:

(1) one or more of said end users, or one or more of said one or more telecommunications carriers, or one or more of said third parties who are not end users or a telecommunications carrier request information associated with records in said clearinghouse system pertaining to either one or more telecommunications carriers or one or more of said end users,

(2) suitable available telecommunications assets or properties for said infrastructure needs of said one or more telecommunications carriers at one or more locations are identified

(3) performance, quality of service, or perceived value of delivered telecommunications service for one or more of said end users, or said one or more telecommunications carriers, becomes worse or better than a specified tolerance or desired performance level as specified by one or more of said end users,

(4) performance, quality of service, or perceived value of delivered telecommunications service for one or more of said end users, or said one or more of said one or more telecommunications carriers, becomes worse or better than a specified tolerance or desired performance level as specified by one or more of said telecommunications carriers, and

(5) performance, quality of service, or perceived value of delivered telecommunications service for one or more of said end users, or said one or more

telecommunications carriers, becomes worse or better than a specified tolerance or desired performance level as specified by one or more of said third parties.

34. (new) The method of claims 33 wherein said database includes public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations.

35. (new) The method of claim 33, further comprising the step of permitting, using said one or more electronic interfaces, one or more public users, who are not telecommunications carriers or end users, to selectively view or catalog information about said available telecommunications assets or properties and locations thereof, and said infrastructure needs of one or more telecommunications carriers for one or more locations.

36. (New) The method of claim 33 wherein said one or more electronic interfaces includes one or more of an Internet interface, a telephone, a speech, handwriting or fingerprint recognition device, electronic mail interface, a facsimile, voicemail, a webserver, a computer, a mouse, a keyboard, VoIP, a wireless or portable computing or communications device, or a digital recorder.

37. (new) The method of claim 33 further comprising the step of allowing for communications between at least one of said one or more electronic interfaces and the world wide web, and wherein said records for one or more telecommunications carriers and said records for one or more end users can be viewed using a browser and can be retrieved or obtained.

38. (new) The method of claim 33 further comprising the step of providing a security application which protects the identity and infrastructure needs of said one or more telecommunications carriers.

39. (new) The method of claim 33 further comprising the step of using a security application and a billing application operating on one of said one or more computers to charge or allow for payment to made to one or more of said one or more telecommunications carriers, or said one or more end users, or said one or more third parties, for use of said clearinghouse system.

40. (new) The method of claim 33 further comprising the step of using a communications application operating on at least one of said one or more computers to permit secure negotiation and acceptance of business and legal terms between at least two parties including one or more telecommunications carriers, one or more third parties, and one or more end users, for use of said one or more telecommunications assets or one or more property assets.

41. (new) The method of claim 40 wherein said property assets are selected from a building, a roof top, a billboard, a tower, a light pole, and a lot or acreage.

42. (new) The method of claim 33 wherein said database includes performance or quality of service information or perceived quality or value information for specific locations or specific end users.

43. (new) The method of claim 33 further comprising the step of updating, either automatically or manually, by one or more end users, one or more fixed or mobile devices, one or more of one or more telecommunications carriers, or one or more third parties using said one of said one or more electronic interfaces, said performance or quality of service information or perceived quality or value information.

44. (new) The method of claim 43 wherein said step of updating is performed by said one or more electronic interfaces providing performance or quality of service information or perceived quality or value information to or from one or more mobile or fixed devices that are located in or will be located in said specific locations.

45. (new) The method of claim 44 where updating is performed manually.

46. (new) The method of claim 44 where updating is performed automatically using one or more programs or applications or devices.

47. (new) The method of claim 43 wherein said step of updating is performed by said one or more end users, said one or more fixed or mobile devices, said one or more telecommunications carriers, or said one or more third parties that are not end users or telecommunications carriers providing performance or quality of service information or perceived quality or value information to the clearinghouse system.

48. (new) The method of claim 47 where updating is performed manually.

49. (new) The method of claim 47 where updating is performed automatically using one or more programs or applications or devices.

50. (new) The method of claim 43 wherein said performance or quality of service information or perceived quality or value information includes information from one or more of multiple bands, multiple carriers, multiple mobile or fixed devices, or multiple end users from multiple bands or carriers.

51. (new) The method of claim 33 further comprising the step of providing localized content to one or more mobile or fixed devices in a specific location using one or more local ad servers in communication with said one or more electronic interfaces.

52. (new) The method of claim 51 wherein one or more base stations are in communication with said one or more electronic interfaces.

53. (new) The method of claim 51 wherein said local ad servers provide web page view and usage statistics to said database through said one or more electronic interfaces.

54. (new) The method of claim 33 further comprising the step of identifying optimum or prioritized locations for said infrastructure needs based on said records of said one or more end users using a computation application which interfaces with at least one of said one or more computers.

55. (new) The method of claim 33 further comprising the step of identifying optimum or prioritized locations for said infrastructure needs based on both said records of said one or more end users and said public records using a computation application which interfaces with at least one of said one or more computers.

56. (new) The method of claim 33 further comprising the step of submitting location, performance, quality of service, or perceived quality or value information, experienced or desired, from at least one of said one or more telecommunications carriers, one or more fixed or mobile devices, and at least one of said one or more end users, using an application program which operates on at least one of said one or more computers or which is accessible to at least one of said one or more computers through an electronic interface.

57. (new) The method of claim 56 wherein said step of submitting is performed manually by one or more end users or by one or more carriers or by a third party.

58. (new) The method of claim 56 wherein said of submitting is performed automatically by one or programs or applications associated with a device of said one or more end users or by one or more carriers or by a third party.

59. (new) The method of claim 33 further comprising the step of querying or updating the clearinghouse system by one or more of an Internet interface, a telephone, a speech, handwriting or fingerprint recognition device, electronic mail interface, a facsimile, voicemail, a webserver, VoIP, a wireless or portable computing or communications device, or a digital recorder.

60. (new) The method of claim 33 further comprising the step of forming binding agreements between at least one of said one or more telecommunications carriers and at least one of said one or more end users using an application program which operates on at least one of said one or more computers, or which is accessible to at least one of said one or more computers through an electronic interface.

61. (new) A method for providing a clearinghouse for communications networks, comprising:

- providing one or more computers which interface with a database, the database including performance, quality of service, or perceived communications service quality or value information for one or more locations, and one or more of records pertaining to one or more telecommunications carriers which identify infrastructure type and/or location information for one or more locations, and

- public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about one or more carriers serving said geographic locations;

- updating in said database either automatically or manually, using one or more electronic interfaces to said one or more computers, performance, quality of service, or perceived telecommunications service value information, experienced or desired, obtained from one or more mobile or fixed devices; and

permitting at least one of said one or more telecommunications carriers or one or more end users of said one or more telecommunications carriers, or one or more parties which are not telecommunications carriers or end users to review, catalog, store, view, use, or sort information in said database.

62. (new) The method of claim 61 wherein said database includes one or more of records for said one or more end users which identify one or more of equipment, devices, telecommunications assets, and property assets owned, controlled or used by said one or more end users.

63. (new) The method of claim 61 further comprising the steps of obtaining and providing said performance or quality of service or perceived telecommunications service quality or value information, experienced or desired, to said one or more electronic interfaces using one or more applications operable with said one or more mobile or fixed devices or said one or more computers.

64. (new) The method of claim 61 wherein said one or more electronic interfaces provides performance or quality of service information to one or more mobile or fixed devices or one or more end user devices that are located in or will be located in said locations.

65. (new) The method of claim 61 wherein said performance or quality of service information or perceived communications service quality or value information includes information from one or more of multiple bands, multiple carriers, multiple fixed or mobile devices, or multiple end users from multiple bands or carriers.

66. (new) The method of claim 61 further comprising the step of sending instructions from one of said one or more electronic interfaces to one or more wireless devices for configuring or reconfiguring said one or more wireless devices based on one or more of: ranking of performance, enhanced spectrum usage, control of interference, or requests of an end user.

67. (new) The method of claim 61 further comprising the step of sending a rank ordering of available telecommunications services or frequencies from one of said one or more electronic interfaces to one or more wireless devices.

68. (new) The method of claim 61 further comprising the step of monitoring radio operating conditions of one or more wireless devices, and using monitored radio operating conditions to update performance or quality of service information or perceived communications service quality or value information in said database.

69. (new) The method of claim 61 further comprising the step of using one or more wireless devices to provide said performance or quality of service information or perceived quality or value information to one of said one or more of said electronic interfaces.

70. (new) A method of providing selected content to one or more mobile or fixed devices located in specific locations, comprising the steps of:

providing a clearinghouse system for communications networks, said clearinghouse system including

one or more computers which interface with a database, said database including one or more of

performance or quality of service or perceived telecommunications service quality or value information, experienced or desired, for one or more locations,

records for one or more telecommunications carriers which identify infrastructure information for one or more locations,

records for one or more end users which identify equipment, devices, telecommunications assets or property assets owned, used, or controlled by said one or more end users, and

public records which include, for a plurality of geographic locations, one or more of maps, location coordinates, or mapping information for said geographic locations, zoning information for said geographic locations, local

ordinances for said geographic locations, contact information for government officials for said geographic locations, and information about carriers serving said geographic locations;

permitting one or more mobile or fixed devices to be in communication with said clearinghouse system using one or more electronic interfaces to said one or more computers to perform one or more of

updating, either automatically or manually, performance or quality of service or perceived telecommunications service value information obtained from said one or more mobile or fixed devices that are located in one of said one or more locations into said database, and

at least one of said one or more telecommunications carriers or said one or more end users or one or more parties which are not telecommunications carriers or end users reviewing, cataloging, viewing, storing, using, or sorting information in said database;

identifying a geographic location of one or more mobile or fixed devices; and

providing localized content to said one or more mobile or fixed devices using said geographic location and one or more local ad servers in communication with said one or more electronic interfaces of said clearinghouse system.

71. (new) The method of claim 70 wherein one or more base stations are in communication with said one or more electronic interfaces of said clearinghouse system.

72. (new) The method of claim 70 further comprising the step of said local ad servers providing web page view and usage statistics to said database of said clearinghouse system through said one or more electronic interfaces.

73. (new) The method of claim 70 wherein the step of identifying a geographic location is performed using a GPS associated with one or more of said one or more mobile or fixed devices.