

(51) International Patent Classification:
H04L 12/28 (2006.01)

(21) International Application Number:

PCT/KR2010/000168

(22) International Filing Date:

11 January 2010 (11.01.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10-2009-0021775 13 March 2009 (13.03.2009) KR

(71) Applicant (for all designated States except US): **KOREA UNIVERSITY RESEARCH AND BUSINESS FOUNDATION** [KR/KR]; 1, Anam-dong 5-ga, Seongbuk-gu, Seoul 136-701 (KR).

(72) Inventors; and

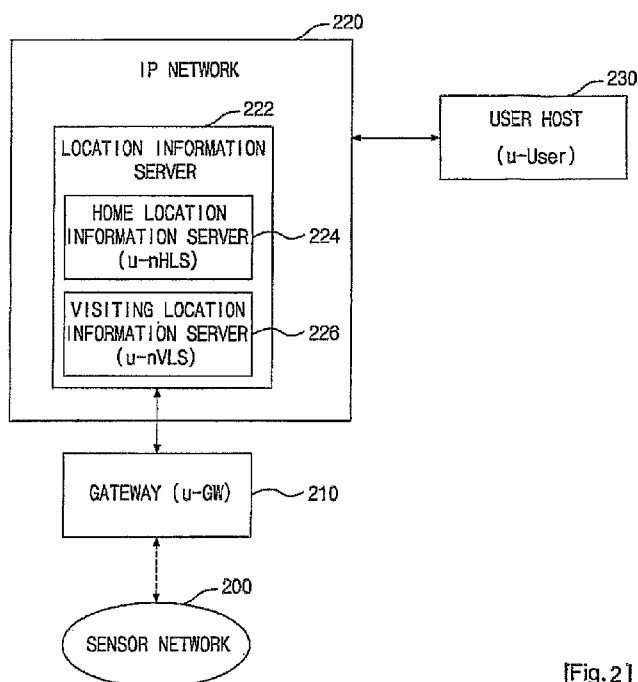
(75) Inventors/Applicants (for US only): **AN, Sun-Shin** [KR/KR]; #113-302, Hyundai Apt., Apgujeong-dong, Gangnam-gu, Seoul 135-900 (KR). **LEE, Sang-Bin** [KR/KR]; #501-2003, Daelim 1 Cha Apt., Sindorim-dong, Guro-gu, Seoul 152-070 (KR). **KIM, Sung-Jun** [KR/KR]; #802-904, Sinnae 8 Danji Hawseong Apt., Sinnae 2-dong, Jungnang-gu, Seoul 131-132 (KR).(74) Agent: **J.C.HYUN PATENT & LAW FIRM**; Dooji Bldg. 4F, 353-18, Sindang 2-dong, Jung-gu, Seoul 100-828 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR MANAGING SENSOR NODE IN RFID/USN INFRASTRUCTURE AND GATEWAY SYSTEM USED THEREFOR



[Fig. 2]

(57) Abstract: A sensor node management system in a Radio Frequency Identification/Ubiquitous Sensing Network (RFID/USN) infrastructure is provided, in which a sensor node has a local ID in a sensor network, a gateway receives, from the sensor node, node information including the local ID and an ID of a home gateway to which the sensor node initially belongs and registers the node information about the sensor node to a location information server, and the location information server registers and manages node information about sensor nodes within an area of the gateway. The location information server generates a global ID using the local ID and the ID of the home gateway, the global ID being recognized as an address of the sensor node by an Internet Protocol (IP) network.

**Published:****(88) Date of publication of the international search report:**

4 November 2010

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2010/000168**A. CLASSIFICATION OF SUBJECT MATTER****H04L 12/28(2006.01)i**

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: H04B, H04L, H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
KOREAN UTILITY MODELS AND APPLICATIONS FOR UTILITY MODELS SINCE 1975Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS, DELPHION, ESPACENET & Keywords : sensor node, Radio Frequency Identification(RFID), Ubiquitous Sensing Network(USN), ID, gateway, node information, , location information server, global ID, Internet Protocol(IP) and similar terms.**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0060147 A1 (SHIN, YOUNG SAM et al.) 15 March 2007 See abstract, pages 1-2, claim 1 and figure 2.	1-20
A	WO 2006-049374 A1 (LEE, KUN HONG) 11 May 2006 See abstract, pages 1-3, claim 1 and figure 1.	1-20
A	US 2008-0136708 A1 (KIM, SE HAN et al.) 12 January 2008 See abstract, claim 1 and figure 1.	1-20
A	KR 10-0827367 B1 (ETRI) 06 May 2008 See abstract, claim 1 and figure 1.	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 AUGUST 2010 (30.08.2010)

Date of mailing of the international search report

30 AUGUST 2010 (30.08.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM Dae Sung

Telephone No. 82-42-481-8237



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2010/000168

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0060147 A1	15.03.2007	None	
WO 2006-049374 A1	11.05.2006	JP 2007-532996 T JP 2007-532996 A KR 20060045549 A KR 10-0748367 B1 US 2007-0216531 A1	15.11.2007 15.11.2007 17.05.2006 10.08.2007 20.09.2007
US 2008-0136708 A1	12.06.2008	KR 10-0779105 B1	27.11.2007
KR 10-0827367 B1	06.05.2008	None	