Establishment of a New Classification regarding IoT (Internet of Things)

Feb 2017

JAPAN PATENT OFFICE
Rapid advances in IoT technology

R&D and Application to business of the IoT (Internet of Things), i.e. “technology of creating new values and services through utilization of information collected by connecting things with network” are rapidly advancing.

- Railroad, e.g. regulating running interval
- Business machine, e.g. management of expendable supplies
- Logistics, e.g. real-time tracking
- Transportation infrastructure, e.g. road maintenance
- Information
- New values & services
- Industrial robot, e.g. extraction of the optimal work condition
- Essential utilities, e.g. regulations on electric power supply
- Housing, e.g. 24 hours watching
- Health care, e.g. health control by wearable device
- Stockbreeding, e.g. judging health condition
- Construction equipment, e.g. judging timing of maintenance
- Automobile, e.g. a robotic taxi
- Disaster prevention, e.g. flood prediction
- Agriculture and forestry, e.g. yield prediction
- New values & services
- Communication network
- Thing
- Information
- New values & services
- Thing
- Utilization of information (gathering and analyzing)
- Utilization of information (controlling and communicating)
A New Classification regarding IoT

IoT
● Cross-cutting technology
● Concept is vague and a broad sense
● Difficult to predict fully promising and applied areas

IPC, FI and CPC system is not enough
● Comprehensive cross-cutting prior art search of IoT
● Catch up technical trend of IoT

All IP Offices and Industrial sector need a new classification regarding IoT as soon as possible
A New Classification regarding IoT

JP has a national classification Facet in addition to FI and F-term

- Facet covers all field of FI (A section to H section) or the part of the fields of FI, e.g. plural of subclass or plural of group. Facet is able to set the coverage area larger than F-term

- The Facet enables to prior art search of viewpoint differing from that in FI and F-term
A New Classification regarding IoT

Symbol of Broad Facet

- Three Alphabet symbols
- Leftmost symbol is “Z”
- JP has 13 Broad Facets except a new patent classification regarding Internet of Things (IoT)
New Broad Facet

- JP established a new Facet ZIT regarding IoT in Nov 2016 and started to classify the Facet into Japanese patent documents

- JP is planning to subdivide of ZIT in April 2017
A New Classification regarding IoT

<table>
<thead>
<tr>
<th>Symbol:</th>
<th>ZIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable Area:</td>
<td>All</td>
</tr>
<tr>
<td>Main Aim:</td>
<td>Identify new patent application regarding IoT and enable a comprehensive search</td>
</tr>
<tr>
<td>Title:</td>
<td>Internet of Things[IoT], i.e. technique of creating new values and services through utilization of information collected by connecting things with network.</td>
</tr>
</tbody>
</table>

Note(s): In this facet, the following term with the meaning: “creating new values and services” means generating new information by use of the collected information and then provision or utilization of the new information.
Target of JP Documents

Target:

- New filing patent applications
- Granted patent applications analyzed by JPO patent examiner
- Intellectual classification of some of backfiles under consideration

About 0.65% of granted patent applications classified into ZIT since end of Dec 2016
How to find ZIT-allocated Document?

J-PlatPat has a function of Classification search

1) Click ‘FI/F-term Search’.

2) Fill FI/F-term column with ’ZIT’ and click the search button.

3) You can see a list of documents classified into ZIT.

URL: https://www.j-platpat.inpit.go.jp/web/all/top/BTmTopEnglishPage
## Analysis Results (Class distribution)

### IPC class distribution of ZIT-allocated documents

<table>
<thead>
<tr>
<th>Class</th>
<th>Title</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>G06</td>
<td>COMPUTING; CALCULATING; COUNTING</td>
<td></td>
</tr>
<tr>
<td>G01</td>
<td>MEASURING; TESTING</td>
<td></td>
</tr>
<tr>
<td>A63</td>
<td>SPORTS; GAMES; AMUSEMENTS</td>
<td></td>
</tr>
<tr>
<td>G08</td>
<td>SIGNALLING</td>
<td></td>
</tr>
<tr>
<td>A61</td>
<td>MEDICAL OR VETERINARY SCIENCE; HYGIENE</td>
<td></td>
</tr>
<tr>
<td>G09</td>
<td>EDUCATING; CRYPTOGRAPHY; DISPLAY; ADVERTISING; SEALS</td>
<td></td>
</tr>
<tr>
<td>H04</td>
<td>ELECTRIC COMMUNICATION TECHNIQUE</td>
<td></td>
</tr>
<tr>
<td>B60</td>
<td>VEHICLES IN GENERAL</td>
<td></td>
</tr>
<tr>
<td>others</td>
<td></td>
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</tr>
</tbody>
</table>

Some patents are classified into several classes.
Analysis Results *(Specific use distribution)*

Japanese business sector asks to create entries of specific use

Specific use distribution of ZIT-allocated documents.

<table>
<thead>
<tr>
<th>Category of specific use</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>for health care, e.g. hospitals, medical treatments or diagnosis; for social work</td>
<td></td>
</tr>
<tr>
<td>for transportation</td>
<td></td>
</tr>
<tr>
<td>for amusements; for sports; for games</td>
<td></td>
</tr>
<tr>
<td>for service</td>
<td></td>
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<tr>
<td>for communication</td>
<td></td>
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<tr>
<td>for manufacturing</td>
<td></td>
</tr>
<tr>
<td>for home and building; for home electric appliances</td>
<td></td>
</tr>
<tr>
<td>for agriculture; for fishing; for mining</td>
<td></td>
</tr>
<tr>
<td>for supplying electricity, gas or water</td>
<td></td>
</tr>
<tr>
<td>for finance</td>
<td></td>
</tr>
<tr>
<td>for construction</td>
<td></td>
</tr>
<tr>
<td>for logistics, e.g. warehousing, loading, distribution or shipping</td>
<td></td>
</tr>
<tr>
<td>others</td>
<td></td>
</tr>
</tbody>
</table>

● Analysis results indicate that the entries of specific use shown above will catch the trend of IoT
IPC revision proposal by JP:

- JPO submits IPC revision proposal regarding IoT in the IP5 phase based on JPO assignment work of ZIT in February 2017

- IPC entries should be obligatory supplementary classification such as B33Y(ADDITIVE MANUFACTURING TECHNOLOGY)

- No obligation of reclassification because it’s difficult to identify the scope of reclassifying documents
Roadmap of IPC revision regarding IoT

**JP National Phase**
- Analysis of ZIT has been done and subdivision of ZIT has decided yet
- In Nov., ZIT assignment work has already started
- In Apr., subdivision of ZIT assignment work will start

**IP5 Phase**
- In Feb., revision proposal

**IPC Phase**
- IPC revision request
- IPC approval and new IPC enters into force in 2019.01

In 2017
- Nov. IP5 WG1
- Mar. IP5 37th RWG

In 2018
- Oct. IP5 WG
- Nov. IP5 38th RWG
- Jan. IP5 39th RWG
Thank you