



Standard-based IoT Service Platform

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OM2M ?

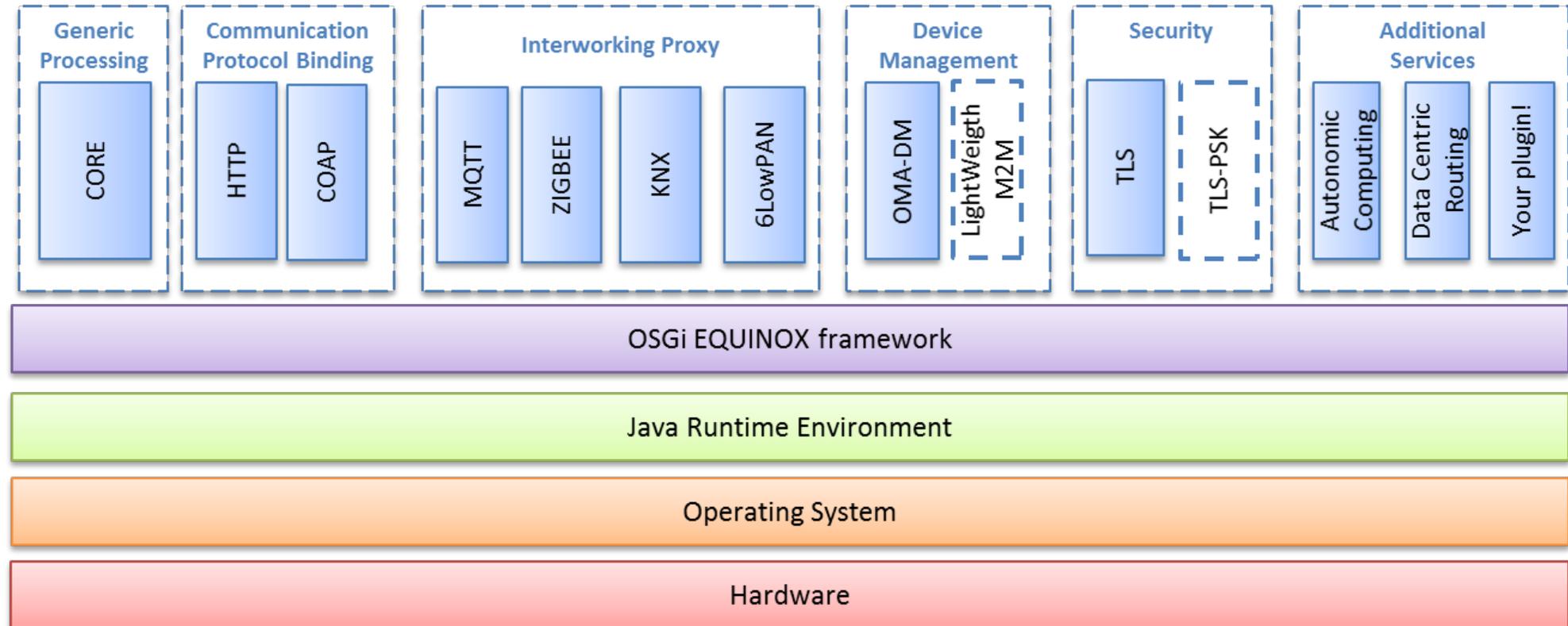


- › **Horizontal** service platform for M2M **interoperability**
- › **Restful** API with a **generic** set of service **capabilities**
- › **OSGi-based** architecture **extensible** via plugins
- › Allow developing services **independently** of the underlying network
- › Facilitate **deployment** of **vertical** applications
- › **Compliant** to **SmartM2M** Standard and will be the basis of **OneM2M** Standard
- › Main features:
 - Machine registration, application deployment, container management, resource discovery, access right authorization, subscription / notification, group management, and resource announcement.



Dev / Code

- Simple and fast plugin development and build using Maven and Tycho.



OM2M main building blocks

Architecture



End user devices

HTTP/CoAP



OM2M Connecting things
M2M Server



Data Analytic

HTTP/CoAP

HTTP/CoAP



SCADA Interface

Network domain



PHIDGETS



OM2M Connecting things
M2M gateway

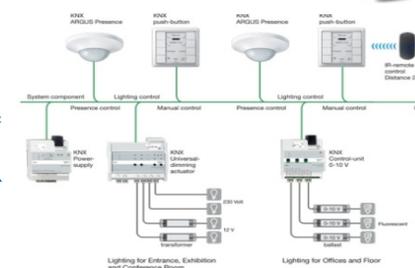
ZIGBEE



6LoWPAN



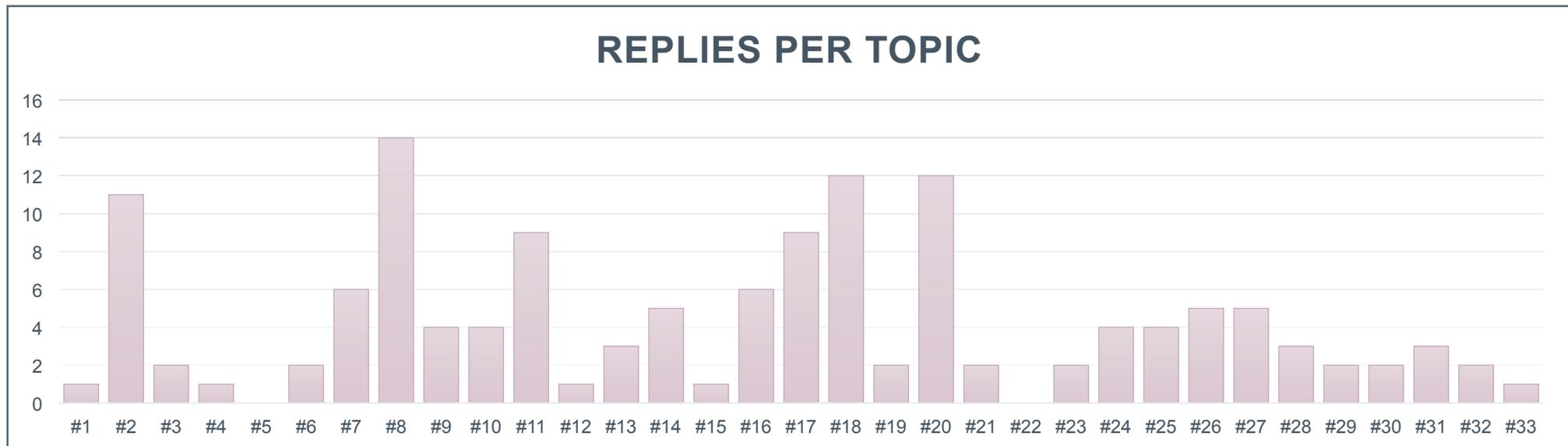
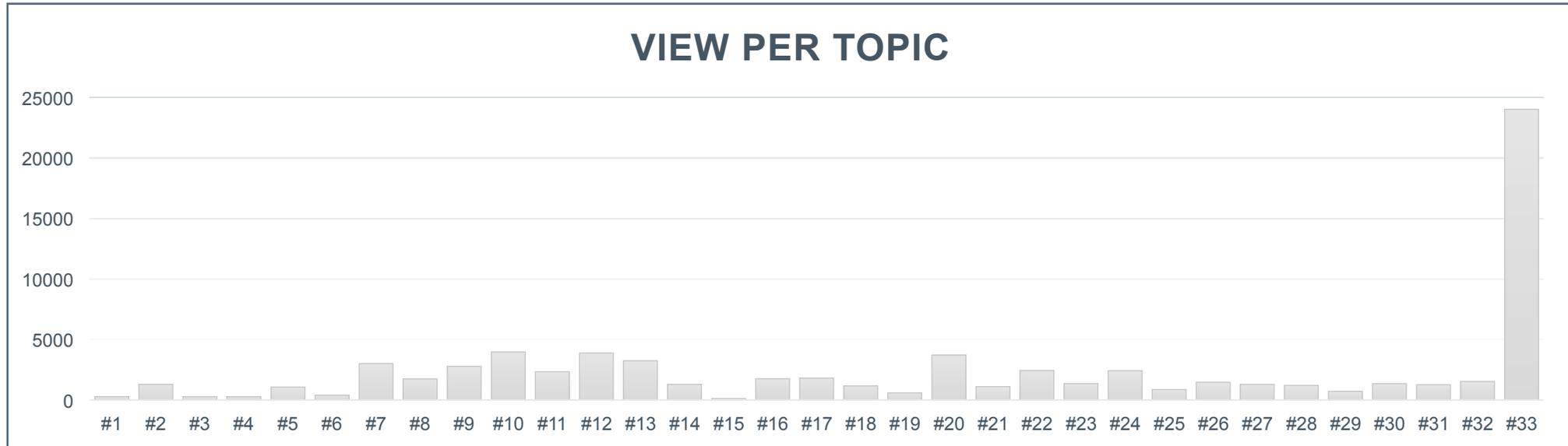
KNX



Device and Gateway domain

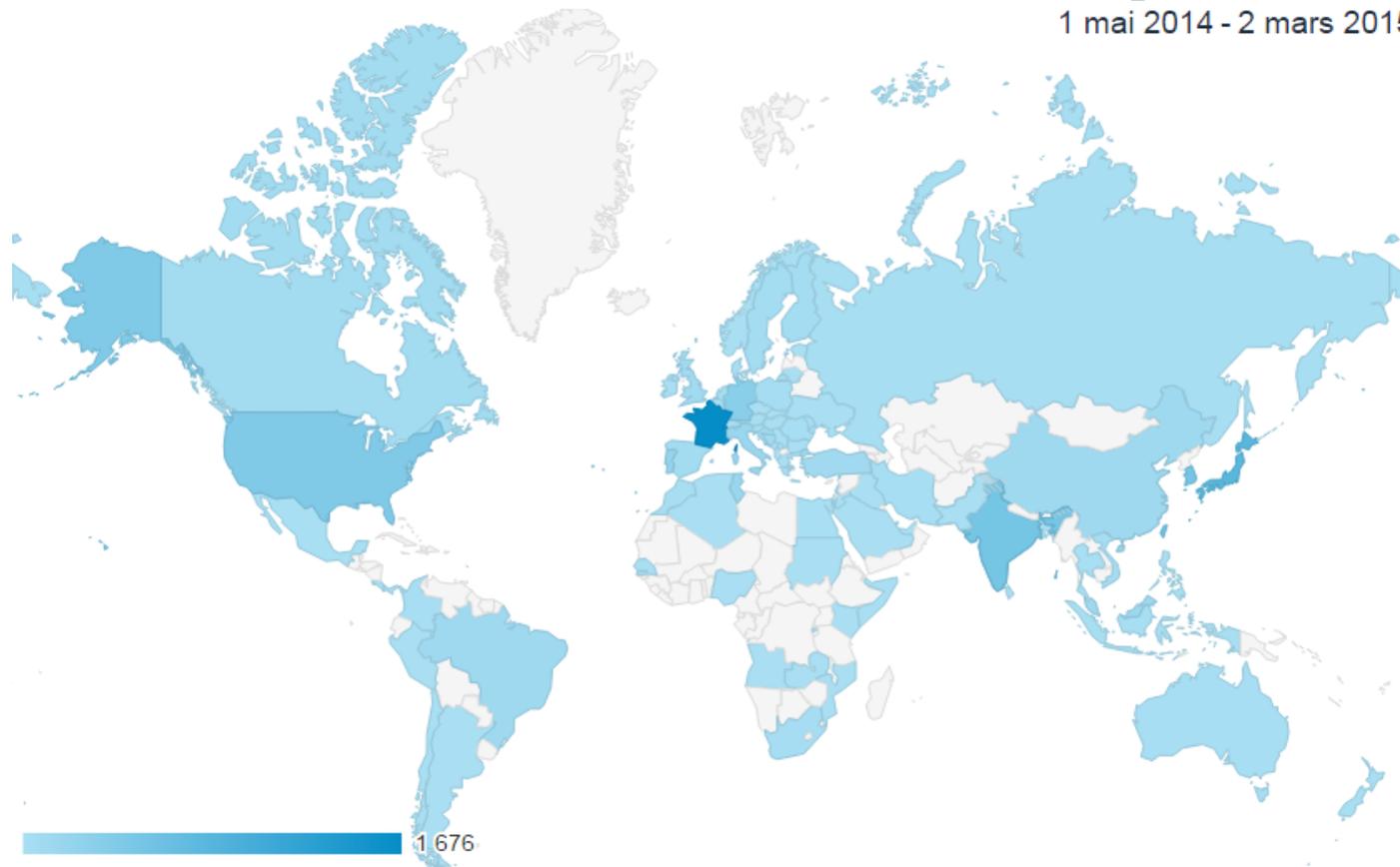


Forum stats

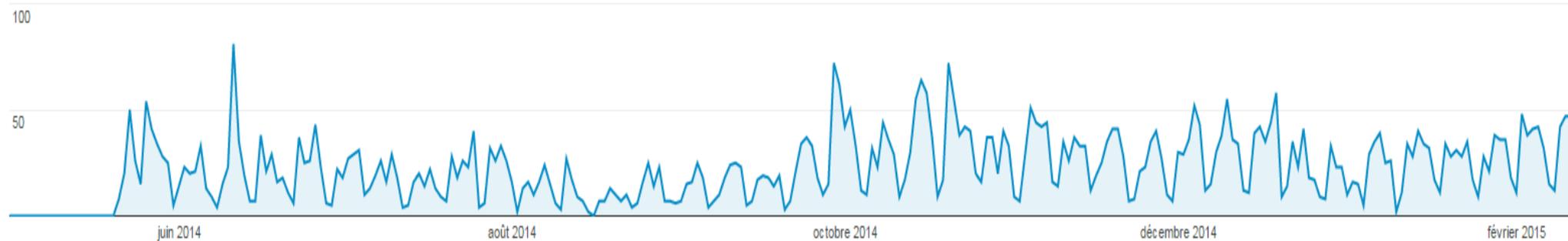


Website stats

1.	 France	1 676 (23,68 %)
2.	 Japan	824 (11,64 %)
3.	 Taiwan	567 (8,01 %)
4.	 India	540 (7,63 %)
5.	 South Korea	531 (7,50 %)
6.	 United States	424 (5,99 %)
7.	 Germany	328 (4,63 %)
8.	 Portugal	216 (3,05 %)
9.	 Tunisia	169 (2,39 %)
10.	 Italy	163 (2,30 %)



● Sessions





Roadmap



- › Release 1.0.0 (Planned for 31 mars 2015)
 - Support the SmartM2M standard.
 - Protocol-independent CORE module to handle generic REST request.
 - HTTP communication binding based on Jetty and Apache HTTP
 - CoAP communication binding based on the Californium.
 - Simple interworking driver connecting a set of simulated devices
 - Web interface for browsing and debugging the resource structure.
 - DAO persistence layer based on EclipseLink JPA
 - Embedded Apache H2 database by default.
 - Optimized resource structure and database access

- › Release 2.0.0 (Planned for September 2015)
 - Support the OneM2M standard



Key challenges

- › MQTT communications
 - Seamless integration of client and broker
- › ZigBee IP
 - Configuration problems related to some devices
- › 6lowpan IP
 - Very short data frames (~50 bytes)
 - New data format (JSON, Core Link)
- › A Dashboard !
 - OpenSCADA ? Birt ? Home made?
- › Evolution towards the OneM2M standard
 - Updating the data structures and interface



Collaboration opportunities



- › Already using:
 - **Equinox** for OSGi
 - **Tycho** for plugin build
 - **Californium** for CoAP
 - **Jetty** for HTTP
 - **EclipseLink** for database

- › Planning to use
 - **Mosquito/Moquette** for MQTT Broker
 - **Paho** for MQTT Client
 - **Birt** for data visualization
 - **OpenSCADA** for dashboard
 - **Wakaama** for LWM2M server
 - **Leshan** for LWM2M client
 - **Concierge** for small-footprint OSGi



Thank you

eclipse.org/om2m
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