

# Zigbee Gate (Publisher)

*This document describe the operating mode of Nancy\_Zigbee\_GATE*

## I. Abstract

This Gate allows publishing zigbee data on PALGate. This module implemented on MPIGate to receive data from Zigbee sensor deployed in Nancy smart room and republish them through ROS.

In this gate ROS Data are published in 2 modes:

- **Dynamic topics:**

This mode allows publishing Topic by sensor ID. The gate stores a list of active sensor in local directory and creates a new Topic for each presence detection of a new sensor on zigbee network. The gate classifies recuperated data by sensor ID or location ID and store data in specific buffers to be published. (In nancy smart room sensors are identified by integer ID)

This distribution mode allows client to subscribe on specified sensor and recuperate only needed data.

- **Static topics:**

This mode publishes all recuperated data on only one Topic. On initialization the create a static Topic that called "Zigbee\_Data" and all recuperated data from existing sensors are encapsulated on that topic.

With this mode, ROS data are classified on subscriber node.

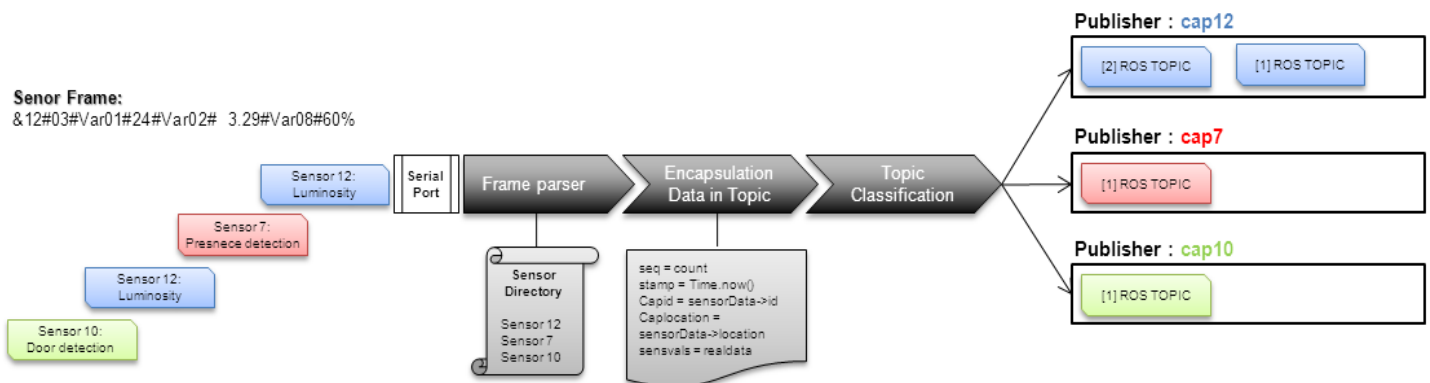


Figure 1: Dynamic publishing of Zigbee Data

## I. User manual

NB: To run this gate you must connect a zigbee Base Station to the server serial port. The gate recuperates data from “/dev/ttyUSB0”

Example to execute Zigbee GATE

```
> root@rosserver:~$ rosrund GATE_ZigBee GATEZigbee_pub nancy capID 15min
```

```
> root@rosserver:~$ rosrund GATE_ZigBee GATEZigbee_pub help
```

[ROS\_ZIGBEE\_PUBLISHER] Command Line Structure:

Structure: [Node\_name] [Publisher\_type: ALL | capID | locationID]  
[#Init\_period: optionnal]

Commands:

[Node_Name]	Name of the node publishing ZigBee Data.
[Publisher_type]	Type of publishing Topics of ZigBee Data:
- ALL :	One Topic containt all ZigBee Data.
- capID :	Dynamic Topic by capteur ID.
- locationID :	Dynamic Topic by Location ID.

active topics //Type [rostopic list -v] to print information about

[#Init\_period] Period of initialising the list of the actif publishers  
(Topics)

unuseless with Publisher\_type: ALL.

Allowed period value:  
1min | 5min | 15min | 30min | 1hour | 2hour | 1day.

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