

M2M - 2016 - RDSMining

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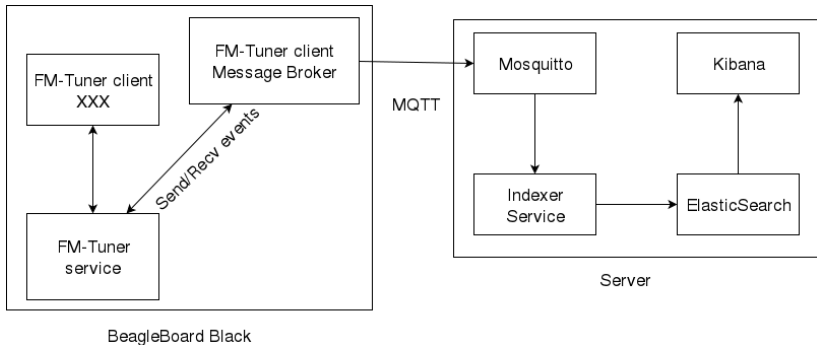
Université Joseph Fourier

April 8, 2016

1 Architecture

2 Beagleboard black

3 Server



1 Architecture

2 Beagleboard black

- Service
- Service client

3 Server

FM-Tuner Service

- ▶ A high level si4703 service (C gnu99 program).
- ▶ Working on a single thread (RDS parser + server).
- ▶ Non-blocking I/O.
- ▶ Working with systemd.
- ▶ Send changes/notifications to clients.

Messages

- ▶ A specific protocol working in TCP:

```
LENGTH TYPE_1 VALUE_1 [TYPE_N VALUE_N...]
```

FM-Tuner Message Broker

- ▶ A simple broker. (nodeJS program, ES7)
- ▶ Set the channel/volume. (Send message to service)
- ▶ Print service notifications.
- ▶ Send by MQTT the radio name.

- 1 Architecture
- 2 Beagleboard black
- 3 Server
 - ElasticSearch
 - Kibana

MAPPINGS FOR RADIOS



```
(  
  "radios": { -  
    "properties": { -  
      "name": { -  
        "type": "string"  
      },  
      "data_raw": { -  
        "index": "not_analyzed",  
        "type": "string"  
      },  
      "data": { -  
        "type": "string"  
      },  
      "date": { -  
        "format": "strict_date_optional_time||epoch_millis",  
        "type": "date"  
      }  
    }  
  }  
}
```




Time	_source
April 1st 2016, 05:29:22.000	<code>data: RIRE -> CHEVALLIER LASPALES name: radio_test date: April 1st 2016, 05:29:22.000 data_raw: RIRE -> CHEVALLIER LASPALES _id: 317 _type: radios _index: radios _score:</code>
April 1st 2016, 05:26:54.000	<code>data_raw: RIRE -> BIRDY date: April 1st 2016, 05:26:54.000 data: RIRE -> BIRDY name: radio_test _id: 316 _type: radios _index: radios _score:</code>
April 1st 2016, 05:22:06.000	<code>data: RIRE -> COLUÇHE name: radio_test data_raw: RIRE -> COLUÇHE date: April 1st 2016, 05:22:06.000 _id: 315 _type: radios _index: radios _score:</code>
April 1st 2016, 05:17:57.000	<code>name: radio_test data: RIRE -> ALDE BLACC data_raw: RIRE -> ALDE BLACC date: April 1st 2016, 05:17:57.000 _id: 314 _type: radios _index: radios _score:</code>
April 1st 2016, 05:13:03.000	<code>data: RIRE -> BUN HAY MEAN name: radio_test data_raw: RIRE -> BUN HAY MEAN date: April 1st 2016, 05:13:03.000 _id: 313 _type: radios _index: radios _score:</code>
April 1st 2016, 05:10:20.000	<code>date: April 1st 2016, 05:10:20.000 data_raw: RIRE -> JAMES BROWN name: radio_test data: RIRE -> JAMES BROWN _id: 312 _type: radios _index: radios _score:</code>
April 1st 2016, 05:05:26.000	<code>name: radio_test data: RIRE -> GAD ELMALAH data_raw: RIRE -> GAD ELMALAH date: April 1st 2016, 05:05:26.000 _id: 311 _type: radios _index: radios _score:</code>
April 1st 2016, 05:00:38.000	<code>data_raw: RIRE -> PATRICK TIMSIT date: April 1st 2016, 05:00:38.000 data: RIRE -> PATRICK TIMSIT name: radio_test _id: 310 _type: radios _index: radios _score:</code>