

CANopen IoT integration via CiA 309-3 gateway

At the Embedded World fair, visitors can get information about how to implement CANopen IoT via CiA 309-3 gateway at the booth of Emtas (Germany).

Many protocols are already in use for the Internet of Things (IoT). One of the oldest and most often used is MQTT (MQ Telemetry Transport or Message Queue Telemetry Transport). The main advantage is its capability of different programming languages and platforms. Ranging from C to Python, Java-script shells programming. And the protocol specification is open, with the same degree of openness as the CANopen specification.

MQTT was officially approved as Oasis (organization for the advancement of structured information standards) standard. MQTT is a Client Server publish/subscribe messaging transport protocol. Clients, in this case the CANopen gateway can publish process values collected on the CANopen network, like PDOs, emergency, or network events. These values are delivered to the MQTT broker. It stores these values for other clients subscribed for these data. These clients, once have subscribed for data, receive it as soon as the CANopen gateway publishes it.

Received PDO data are published in a hierarchical way like:

```
canopen/net1/rpdo1/mapping1  
canopen/net1/rpdo1/mapping2  
canopen/net2/rpdo4/mapping1
```

or in case of network events:

```
canopen/net1/emergency  
canopen/net1/heartbeat
```

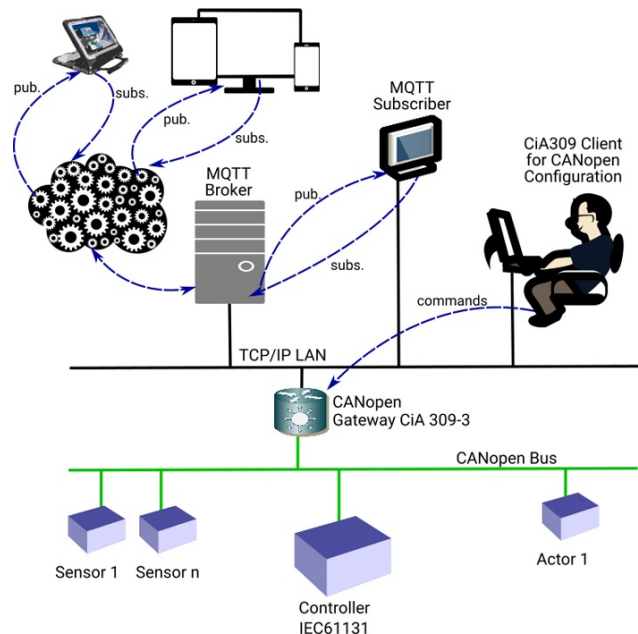
Clients, like mobile phones or tablets receive it, if they subscribe for only one data:

```
canopen/net1/rpdo1/mapping1
```

or all RPDO1 data

```
canopen/net1/rpdo1/#
```

The MQTT functionality can be implemented in the current standard of the CiA 309-3. A proposal will be submitted to CAN in Automation, soon. Information can be received at the booth of Emtas during the Embedded World 2017 in hall 4A, booth 620a.



(Photo: Emtas)