MQTT wiki

MQTT is a communication protocol for machine-to-machine communication. The MQTT protocol follows the rules of a publish-subscribe communication. There are two different participants: a broker and one or more clients, whereby the clients do not communicate directly with each other, but instead "publish" (publish) and "subscribe" (subscribe) messages. The job of the broker here is message management and distribution.

MQTT clients

The client is the "end user" of the communication and the one who actively sends messages. In a customer use case, for example, this could be a PLC. A client can receive messages from a topic (subscriber) and publish messages in the same topic (publisher) at the same time. Each client is identified by a client ID.

MQTT topics

MQTT communication is based on a so-called "topic" principle:
- Each message is assigned to a topic. This means that every valid MQTT message contains a payload with an associated topic
  Here you can find documentation on our topic & Payload structure:
  https://www.notion.so/blackbirdhq/IoT-topics-formats-ebf891c640534e22860bc7f5364af7e2
- In terms of function and writing syntax, topics are very similar to folders in a file system. A valid topic would be called e.g. "5OG/Room5/Temperature Sensor/Temperature"
  (For us, this is based on input / event, and the client ID)
- Clients must subscribe to topics to receive messages. If a new client now joins the network and sends the broker a subscription to the topic "5OG/Room5/Temperature Sensor/Temperature", the broker will forward all messages with this exact topic to the subscriber. There is also the option of "unsubscribing" selected topics and no longer receiving the corresponding messages.

MQTT brokers

The "backend" for MQTT, called the broker, manages and administrates all data traffic. His tasks include storing, managing and distributing all information about topics, their subscribers, clients and their IDs, retained messages, etc.

If a customer would like to send data from one of their PLCs to our cloud via MQTT, we would create a corresponding client ID for the PLC, inform them about our broker address and give them a more detailed example of the MQTT topic they have to publish / subscribe to.