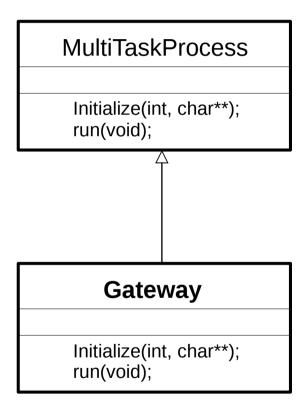
# **MQTT-SN Gateway Overview**

# The Gateway is constructed and invoked from within mainGateway.cpp

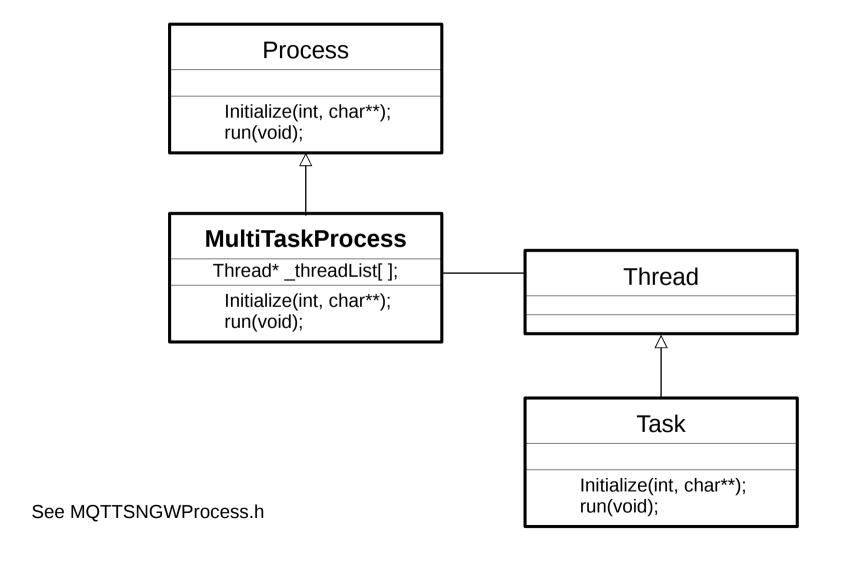
```
24
25 /*
26 * Gateway Application
27 */
28 Gateway gateway;
29 PacketHandleTask task1(&gateway);
30 ClientRecvTask task2(&gateway);
31 ClientSendTask task3(&gateway);
32 BrokerRecvTask task4(&gateway);
33 BrokerSendTask task5(&gateway);
34
35 int main(int argc, char** argv)
{
    gateway.initialize(argc, argv);
    gateway.run();
    return 0;
40
}
```

# 1. Model

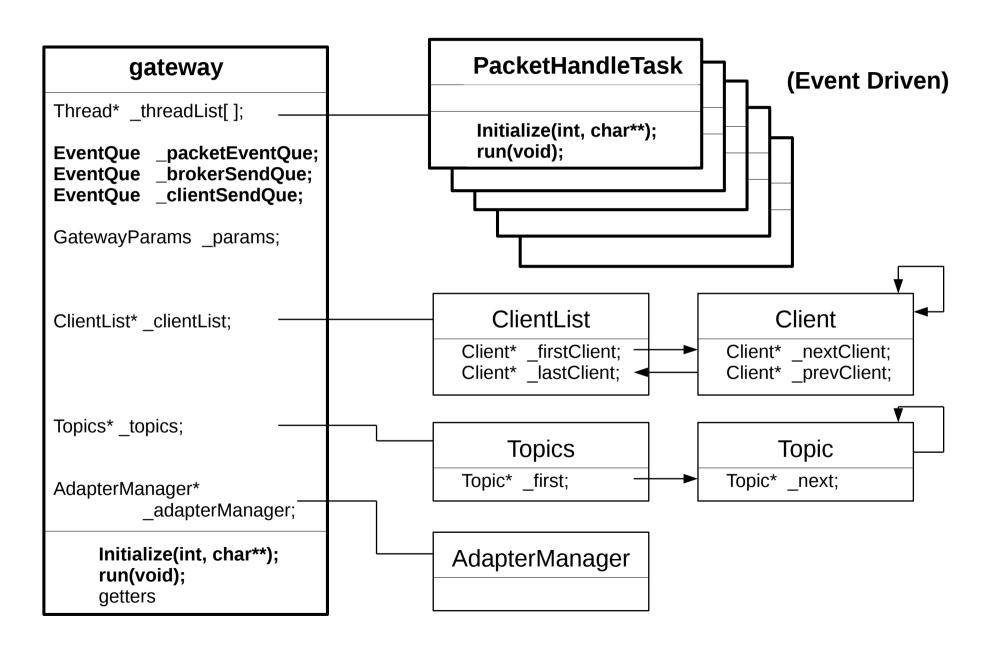
# 1-1. Gateway Class



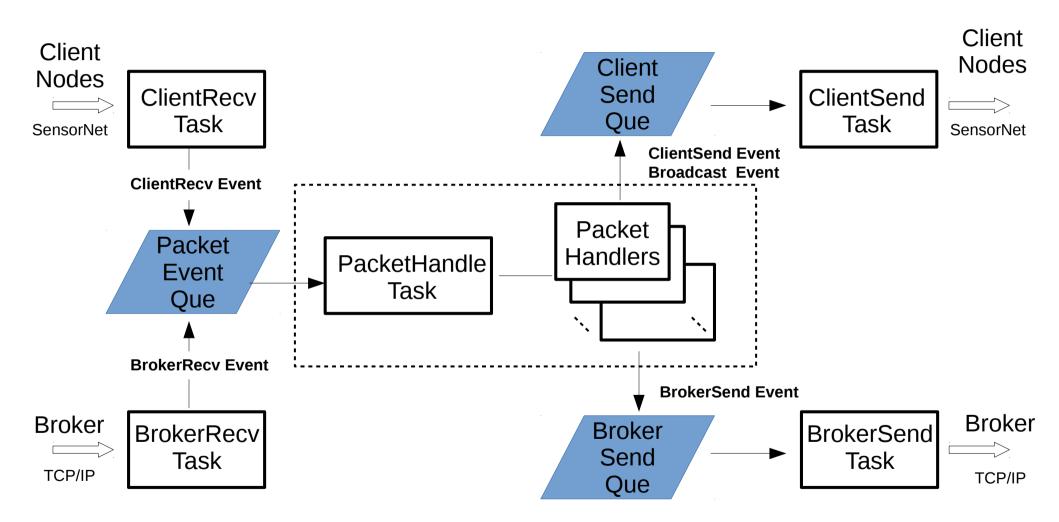
## 1-2. MultiTaskProcess Class



# 1-3. Instances created by 'mainGateway.cpp'



# 1-4. Event Flow and Task Linkage



## 1-5. Event and Event Que

#### **EventQue**

Que<Event> \_que; Mutex \_mutex; Semaphore \_sem;

Event\* wait(void); Event\* timedwait(uint16\_t msec); void post(Event\*);

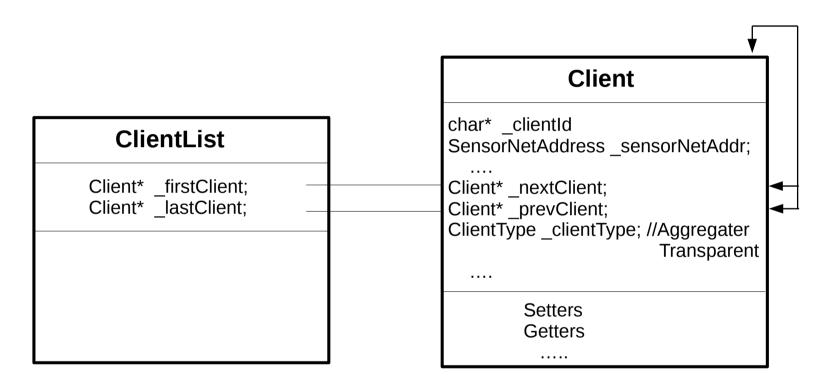
#### **Event**

EventType \_eventType;
Client\* \_client;
MQTTSNPacket\* \_mqttsnPacket;
MQTTGWPacket\* \_maqqGWPacket;

EventType getEventType(void); void setClientRecvEvent(Client\*, MQTTSNPacket\*);

Getters

## 1-6. Client and ClientList Class



Client is a most complicated Class. It should be refactered.

# 1-7. AdapterManager

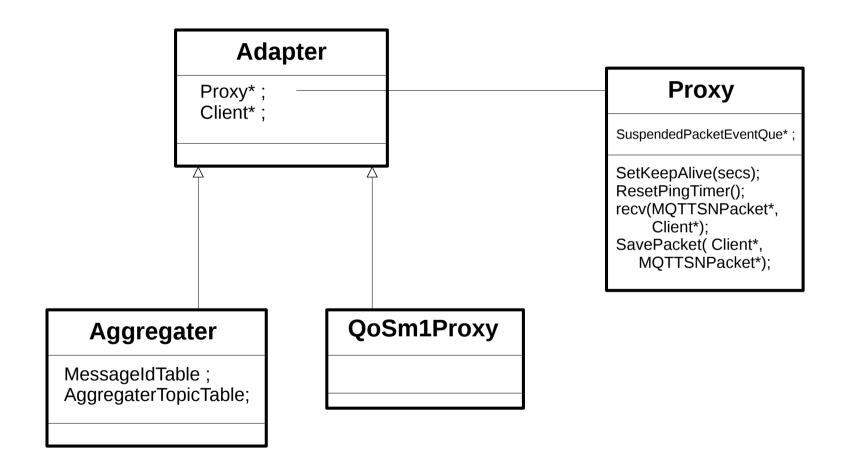
#### AdapterManager

ForwaderList QoSm1Proxy Aggregater

Gateway\*

bool isAggregatedClient(Client\*); bool isAggregaterActive(); Client\* getClient(Client\*); Client\* convertClient(uint16\_tmsgld, uint16\_t\* clientMsgld); int unicastToClient(Client\*, MQTTSNPacket\*, ClientSendTask\*);

## 1-8. Aggregater & Q0Sm1Proxy



## 1-9. Forwarder



Forwarder\* \_head;

Forwarder\* getForwarder(SensorNetAddress\*);

Forwarder\* addForwarder(SensorNetAddress\*);

#### **Forwarder**

Forwarder\* \_next; — SensorNetAddress; ForwarderElement\* \_headClient

Client\* addClient(Client\*, WirelessNodeId\*); SensorNetAddress\* getSensorNetAddr(); WirelessNodeId\* getWirelessNodeId(Client\*);

#### **ForwarderElement**

ForwarderElement\* \_next; WirelessNodeId\*; Client\*;

setClient(Client\*);
setWirelessNodeId(WirelessNodeId\*);

## 2. Tasks

