

EMQX共享订阅bug记录

程序运行到docker中，测试环境如下

操作系统： Windows 10

Docker版本： Docker Desktop 4.5.1

EMQX版本： 4.4.16

配置文件修改部分如下：

```
broker.shared_subscription_strategy = hash_clientid
broker.shared_dispatch_ack_enabled = true
```

注意：该bug不是必现bug，在经过不到100次共享订阅中，大约出现过4次，但是出现问题后，每次重复之前的操作步骤，bug不会出现。

操作步骤

执行以下命令：

```
mosquitto_sub.exe -i client1 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure
mosquitto_sub.exe -i client2 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure

mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 1a -i a
mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 2a -i aa
```

观察client1和client2，均收到了1a和2a数据。

```
C:\documents\SMS2.0\Monitor Center\EMQX certificate\EMQX P\client certificate
λ mosquitto_sub.exe -i client1 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure
Client client1 sending CONNECT
Client client1 received CONNACK (0)
Client client1 sending SUBSCRIBE (Mid: 1, Topic: $queue/test, QoS: 2, Options: 0x00)
Client client1 received SUBACK
Subscribed (mid: 1): 2
Client client1 received PUBLISH (d0, q2, r0, m1, 'test', ... (2 bytes))
Client client1 sending PUBREC (m1, rc0)
Client client1 received PUBREL (Mid: 1)
Client client1 sending PUBCOMP (m1)
1a
Client client1 sending PINGREQ

C:\documents\SMS2.0\Monitor Center\EMQX certificate\EMQX P\client certificate
λ mosquitto_sub.exe -i client2 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure
Client client2 sending CONNECT
Client client2 received CONNACK (0)
Client client2 sending SUBSCRIBE (Mid: 1, Topic: $queue/test, QoS: 2, Options: 0x00)
Client client2 received SUBACK
Subscribed (mid: 1): 2
Client client2 received PUBLISH (d0, q2, r0, m84, 'test', ... (2 bytes))
Client client2 sending PUBREC (m84, rc0)
Client client2 received PUBREL (Mid: 84)
Client client2 sending PUBCOMP (m84)
1a
Client client2 sending PINGREQ
```

```
C:\documents\SMS2.0\Monitor Center\EMQX certificate\EMQX P\client certificate
λ mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 1a -i
a
Client a sending CONNECT
Client a received CONNACK (0)
Client a sending PUBLISH (d0, q2, r0, m1, 'test', ... (2 bytes))
Client a received PUBREC (Mid: 1)
Client a sending PUBREL (m1)
Client a received PUBCOMP (Mid: 1, RC:0)
Client a sending DISCONNECT

C:\documents\SMS2.0\Monitor Center\EMQX certificate\EMQX P\client certificate
λ mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 2a -i
aa
Client aa sending CONNECT
Client aa received CONNACK (0)
Client aa sending PUBLISH (d0, q2, r0, m1, 'test', ... (2 bytes))
Client aa received PUBREC (Mid: 1)
Client aa sending PUBREL (m1)
Client aa received PUBCOMP (Mid: 1, RC:0)
Client aa sending DISCONNECT
```

查看subscriptions:

```
bash-5.1$ emqx_ctl subscriptions list
client2 -> test
client1 -> test
bash-5.1$ |
```

Subscriptions

Client ID: Topic: filter: Search Reset Expand

| Client ID | Topic | QoS |
|-----------|----------------------|-----|
| client1 | \$share/\$queue/test | 2 |
| client2 | \$share/\$queue/test | 2 |

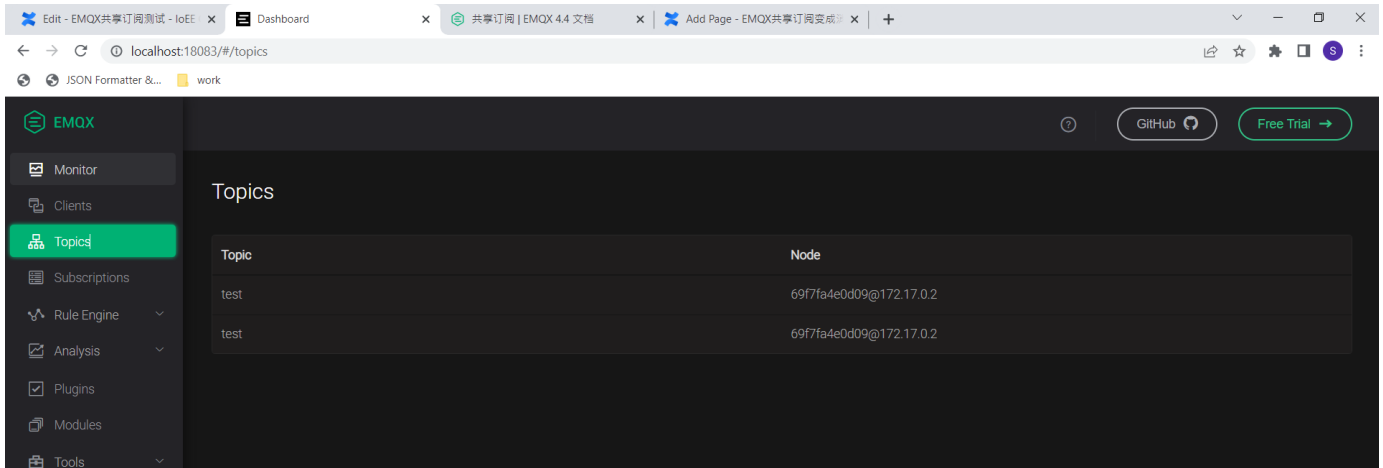
查看client

Clients

Client ID: Username: Search Reset Expand

| Client ID | Username | IP Address | Keepalive(s) | Expiry Interval(s) | Subscriptions Count | Connect Status | Connected At | Operation |
|-----------|-----------|------------------|--------------|--------------------|---------------------|----------------|---------------------|--------------------------|
| client2 | undefined | 172.17.0.1:50626 | 60 | 7200 | 1 | CONNECTED | 2023-04-17 23:12:22 | Kick Out |
| client1 | undefined | 172.17.0.1:50622 | 60 | 7200 | 1 | CONNECTED | 2023-04-17 23:12:08 | Kick Out |

查看topics



再增加一个client订阅，并使用a,aa,aaa三个客户端发送数据

```
mosquitto_sub.exe -i client3 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure
```

```
mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 1a -i a
mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 2a -i aa
mosquitto_pub.exe -d -t test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key --cert schclient.crt --insecure -m 3a -i aaa
```

client1接收2a, client2接收1a, 2a, 3a, client3接收1a, 3a.

看起来client2共享订阅出现了问题，接受了全部数据。

```
Client client1 received PINGRESP
Client client1 received PUBLISH (d0, q2, r0, m3, 'test', ... (2 bytes))
Client client1 sending PUBREC (m3, rc0)
Client client1 received PUBREL (Mid: 3)
Client client1 sending PUBCOMP (m3)
2a
Client client1 sending PINGREQ
Client client1 received PINGRESP
Client client1 sending PINGREQ
Client client1 received PINGRESP
|
```

```

Client client2 sending PUBLISH (d0, q2, r0, m87, 'test', ... (2 bytes))
1a
Client client2 received PUBLISH (d0, q2, r0, m87, 'test', ... (2 bytes))
Client client2 sending PUBREC (m87, rc0)
Client client2 received PUBREL (Mid: 87)
Client client2 sending PUBCOMP (m87)
2a
Client client2 received PUBLISH (d0, q2, r0, m88, 'test', ... (2 bytes))
Client client2 sending PUBREC (m88, rc0)
Client client2 received PUBREL (Mid: 88)
Client client2 sending PUBCOMP (m88)
3a
Client client2 received PUBLISH (d0, q2, r0, m89, 'test', ... (2 bytes))
Client client2 sending PUBREC (m89, rc0)
Client client2 received PUBREL (Mid: 89)
Client client2 sending PUBCOMP (m89)
1a
Client client2 sending PINGREQ
Client client2 received PINGRESP
Client client2 sending PINGREQ
Client client2 received PINGRESP

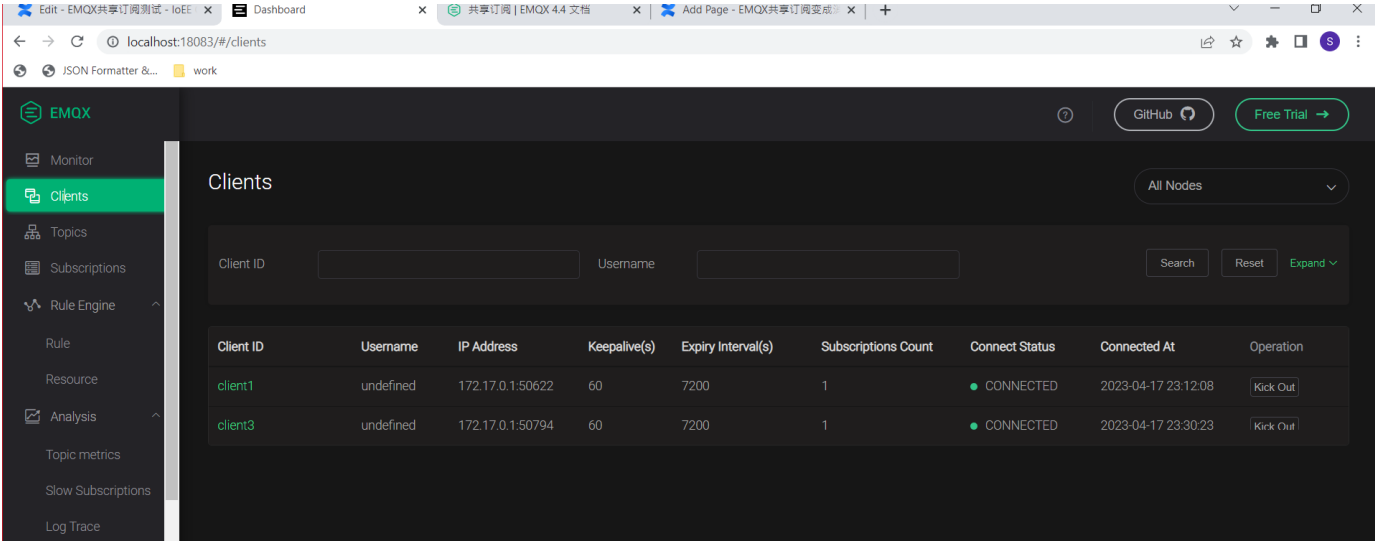
```

```

λ mosquitto_sub.exe -i client3 -c -d -t $queue/test -q 2 --cafile p-cn-deviceID.ca.chain.pem --key schclient.key -insecure
Client client3 sending CONNECT
Client client3 received CONNACK (0)
Client client3 sending SUBSCRIBE (Mid: 1, Topic: $queue/test, QoS: 2, Options: 0x00)
Client client3 received SUBACK
Subscribed (mid: 1): 2
Client client3 sending PINGREQ
Client client3 received PINGRESP
Client client3 received PUBLISH (d0, q2, r0, m1, 'test', ... (2 bytes))
Client client3 sending PUBREC (m1, rc0)
Client client3 received PUBREL (Mid: 1)
Client client3 sending PUBCOMP (m1)
1a
Client client3 sending PINGREQ
Client client3 received PINGRESP
Client client3 received PUBLISH (d0, q2, r0, m2, 'test', ... (2 bytes))
Client client3 sending PUBREC (m2, rc0)
Client client3 received PUBREL (Mid: 2)
Client client3 sending PUBCOMP (m2)
3a
Client client3 received PUBLISH (d0, q2, r0, m3, 'test', ... (2 bytes))
Client client3 sending PUBREC (m3, rc0)
Client client3 received PUBREL (Mid: 3)
Client client3 sending PUBCOMP (m3)
1a
Client client3 sending PINGREQ
Client client3 received PINGRESP
Client client3 sending PINGREQ
Client client3 received PINGRESP

```

尝试kick out client2, 并clean session



观察topics, 变成了一个topic

