DIAS: Join + Leave Bug: 2019-03-20

2019-03-25

Finger/Peer Mapping

```
SELECT peer, value AS finger FROM eventlog WHERE key = 'finger' GROUP BY
peer, value ORDER BY peer ASC LIMIT 200;
```

```
1     tcp://178.63.43.201:63058
2     tcp://178.63.43.201:64617
3     tcp://178.63.43.201:53045
4     tcp://178.63.43.201:64592
5     tcp://178.63.43.201:56188
6     tcp://178.63.43.201:57468
7     tcp://178.63.43.201:62088
8     tcp://178.63.43.201:62774
9     tcp://178.63.43.201:58244
10    tcp://178.63.43.201:60708
11    tcp://178.63.43.201:51298
12    tcp://178.63.43.201:59497
13    tcp://178.63.43.201:54673
14    tcp://178.63.43.201:60710
```

When did peer 13 leave? Which carrier?

- epoch 1552809775
- carrier: 2

```
SELECT * FROM rawlog WHERE peer = 13 AND epoch BETWEEN (1552809787 - 30)
AND (1552809787) ORDER BY seq_id DESC LIMIT 5000;
```

```
61164062    2019-03-17
09:02:55.0    0    13    1552809775    14    1    NODE 13 left and his
CARRIER NODE IS: tcp://178.63.43.201:64617
```

When did peer 14 leave? Which carrier?

- epoch 1552809775
- carrier: 1

```
SELECT * FROM rawlog WHERE peer = 14 AND epoch BETWEEN (1552809787 - 30)
AND (1552809787) ORDER BY seq_id DESC LIMIT 5000;
```

```
61164262      2019-03-17
```

```
09:02:55.0    0    14    1552809775    14    1    NODE 14 left and his
CARRIER NODE IS: tcp://178.63.43.201:63058
```

When did peer 13 return?

- at epoch 1552809786, from carrier 2
- ☐ received dissemeniator 3 times

```
SELECT * FROM msgs WHERE peer = 13 AND epoch BETWEEN (1552809787 - 1) AND
(1552809787 + 1) AND mtype != 'util.SwapMessage' ORDER BY dt LIMIT 100;
```

```
89147578    2019-03-17 09:03:06.0    0    13    1552809786    2019-03-17
09:03:06.0    2019-03-17
09:03:06.0    in    tcp://178.63.43.201:64617    communication.Return
  communication.Return(src=tcp://178.63.43.201:64617)    4a644441-3e7d-
4514-b6ba-67d81a0b1355
```

Why did carrier 2 send disseminator three times?

When did peer 14 return?

- at epoch 1552809787, from carrier 1
- ☐ received disseminator twice

```
SELECT * FROM msgs WHERE peer = 14 AND epoch BETWEEN (1552809787 - 1) AND
(1552809787 + 1) AND mtype != 'util.SwapMessage' ORDER BY dt LIMIT 100;
```

```
89147758    2019-03-17 09:03:07.0    0    14    1552809787    2019-03-17
09:03:07.0    2019-03-17
09:03:07.0    in    tcp://178.63.43.201:63058    communication.Return
  communication.Return(src=tcp://178.63.43.201:63058)    a4760e9d-5942-
496f-9469-d692b421cdc2
```

When was corrective operation processed by peer 13? Who sent it?

- epoch 1552809787
- here you can see the response message from peer 13 sent to carrier 1
  (which was the carrier for peer 14)
- msg uuid: 63459f88-90bf-4675-911a-5497a8200c53

```
SELECT * FROM msgs WHERE peer = 13 AND epoch BETWEEN (1552809787 - 1) AND
(1552809787 + 1) AND mtype != 'util.SwapMessage' ORDER BY dt LIMIT 100;
```

89147790   2019-03-17 09:03:07.0   0   13   1552809787   1970-01-
01
01:00:00.0   out   tcp://178.63.43.201:63058   communication.Pull
 {AMS_REMOVAL=State ID:3709ada6-9957-4c24-a3dc-137524ab64d5_
Properties:_ VALUE_STATE:
7.901191957220433_;ACK=true;AMS_ADDITION=null;OUTCOME=REMOVAL;}   63459f88
-90bf-4675-911a-5497a8200c53

When was corrective operation sent by carrier 1 to peer 13?

- Looking for a push message from carrier 1 to peer 13
- Sent every epoch between epochs 1552809776 and 1552809787
- Correction operations form carrier 1 to peer 13 were sent as soon as peer 14 migrated to carrier 1
- Correction operation only actually processed once peer 13 returns
- **Conclusion: it's a stale message that is being continuously re-sent because peer 13 is not responding**
  - DIASLight::createPushMessageForMigrants

```
SELECT * FROM msgs WHERE peer = 1 AND finger_to =
'tcp://178.63.43.201:54673' AND epoch BETWEEN (1552809787 - 10) AND
(1552809787 + 1) AND mtype != 'util.SwapMessage' ORDER BY dt DESC LIMIT
2000;
```

89147724   2019-03-17 09:03:07.0   0   1   1552809787   1970-01-01
01:00:00.0   out   tcp://178.63.43.201:54673   communication.Push
 {ALL_POSSIBLE_STATES=[State ID:d46b4781-a8cb-4fec-bad2-eddce4d06c43_
Properties:_ VALUE_STATE: 7.021100275582082__ State ID:042f65e8-b565-4240-
9f82-f6f53e70f715_ Properties:_ VALUE_STATE: 7.31541860171805__ State
ID:92010a63-de90-4d99-9c26-d98822f63cdd_ Properties:_ VALUE_STATE:
7.8579350016768235__ State ID:8ccb26b7-a0b9-4361-a952-8375e57828ab_
Properties:_ VALUE_STATE: 7.613063030974311__ State ID:f7694dec-8d44-48e7-
bdfa-709785e62bf8_ Properties:_ VALUE_STATE: 7.136882198516445__ State
ID:135da0c2-64a5-4d42-893c-21f6e984f0c2_ Properties:_ VALUE_STATE:
7.297969749517526__ State ID:1a936fad-1b61-4d8d-9fb1-dfc09c9aedae_
Properties:_ VALUE_STATE: 7.335248628079006__ State ID:5b1eae2f-4e46-40a5-
84ae-cbc94077ca1b_ Properties:_ VALUE_STATE: 7.317922544734238__ State
ID:c8af4a2a-b99f-45c0-98d0-73048d4941df_ Properties:_ VALUE_STATE:
7.2288172525098755__ State ID:caf0f50a-6259-429d-aa9d-61105038a3f1_
Properties:_ VALUE_STATE: 7.3761234414233625__ State ID:80d70a41-2929-
4b13-9946-40a85edff023_ Properties:_ VALUE_STATE: 7.398358357945951__
State ID:e906f9eb-9862-46d9-b4c3-aabf5396e199_ Properties:_ VALUE_STATE:
7.5138257952325045__ State ID:b68fbdca-3eb8-4925-9291-b368d4885a2e_
Properties:_ VALUE_STATE: 7.28335536501038__ State ID:b18d9f0e-3ace-4b5c-
9eed-e40e56d2b848_ Properties:_ VALUE_STATE: 7.617363143997598__ State

ID:f43bc4b6-0bbf-4d9d-85c2-03a1342eb52a_ Properties:_ VALUE_STATE:
7.595480430328636__ State ID:3709ada6-9957-4c24-a3dc-137524ab64d5_
Properties:_ VALUE_STATE: 7.901191957220433__ State ID:4c9283b7-ce04-4f5c-
9685-35a1a877b884_ Properties:_ VALUE_STATE: 7.757167942458303__ State
ID:0109faa1-9d91-4594-baa4-e208a518b17a_ Properties:_ VALUE_STATE:
7.938460987335895__ State ID:5dca85f8-1a7f-4e36-ad05-dbd8d57226bb_
Properties:_ VALUE_STATE: 7.0477259337068165__ State ID:98283b03-ee3e-
4f51-a88a-7e7501f51703_ Properties:_ VALUE_STATE:
7.67495697763851_];AMD_FP=0.666842428526199;POSITIVE_AMD=true;SELECTED_STAT
E=State ID:3709ada6-9957-4c24-a3dc-137524ab64d5_ Properties:_ VALUE_STATE:
7.901191957220433_;POSITIVE_AMS_FP={3709ada6-9957-4c24-a3dc-
137524ab64d5=6.550248450811294E-101};PURPOSE=REMOVAL;POSITIVE_AMS=[State
ID:3709ada6-9957-4c24-a3dc-137524ab64d5_ Properties:_ VALUE_STATE:
7.901191957220433_];TOPIC=TEMPERATURE;}   5e3210a1-4dbc-49db-984b-
03ce73e507fa

corrective operations being sent by carrier 1 to peer 13

```
SELECT * FROM msgs WHERE peer = 1 AND finger_to =
'tcp://178.63.43.201:54673' AND epoch BETWEEN (1552809787 - 50) AND
(1552809787 + 1)
AND msg LIKE '%PURPOSE=REMOVAL%' AND mtype != 'util.SwapMessage' ORDER BY
dt DESC LIMIT 2000;
```

```
1552809787      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809786      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809786      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809784      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809784      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809783      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809781      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809781      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809780      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809779      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809778      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
1552809777      1970-01-01
01:00:00.0    out       tcp://178.63.43.201:54673    communication.Push
```

```
1552809776        1970-01-01
01:00:00.0    out        tcp://178.63.43.201:54673    communication.Push
1552809776        1970-01-01
01:00:00.0    out        tcp://178.63.43.201:54673    communication.Push

> this is when peer 14 left to carrier 1

1552809763        1970-01-01
01:00:00.0    out        tcp://178.63.43.201:54673    communication.Push
1552809762        1970-01-01
01:00:00.0    out        tcp://178.63.43.201:54673    communication.Push
```

2019-03-20

2019-03-17 09:03:08 | 70819 | 1552809786 | 12 | aggregates =
10.0,10.0,10.0,10.0,10.0,10.0,10.0,10.0,10.0,10.0,12.0,12.0 | err = 1,1,1,1,1,1,1,1,1,1,0,0
2019-03-17 09:03:09 | 70831 | 1552809787 | 12 | aggregates =
12.0,12.0,12.0,12.0,12.0,12.0,12.0,12.0,12.0,12.0,11.0,12.0 | err = 0,0,0,0,0,0,0,0,0,0,1,0

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Leave

1. WMTA [anr → go] h

2. wMh cavelhe ops
   take place
   + status: record, voih/ot sequence
   complete?

q: trach the able

q: when was corr.op sent?

R_1

R_3

① R_1 → ③

③ R_2 ②

M, ②

R_2

q: confim that Iy M, 2

RETURN

PUSH

PULL

A

B. JOIN

came

M,

2.

because of... past

③ I,

③, I4.