Flowchart

Ministro

October 4, 2019

Contents

New trigger
message thread

Trigger scheduler

Get quota $k > 1$

Open queue

Dispatch message → Dispatch message

(When message + resources available)

(Queue was empty)

Reset congestion ▶

Set MQ wait flag

Dispatch message

Got msg? — n — Got msg? — n

y — y

$k\ {-}{=}\ 1$

Dispatch message

Capacity? — n

y

Got msg? — n — $k\ {-}{=}\ 1$ — $k \leq 0$
$k > 0$

y

Capacity? — n — *(Queue was not empty)* — Set congestion

y

$k\ {-}{=}\ 1$ — $k \leq 0$ — Close queue

$k > 0$

Exit trigger
message thread

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```
┌──────────────────────┐
│ Randomly select $i$  │
└──────────────────────┘
            │
            ▼
         ╱─────────╲                    ┌──────────────┐
        ╱  Is $i$   ╲      YES          │   Randomly   │
       ╱   corrupt?  ╲ ──────────────▶  │ select $j \in J$ │
        ╲           ╱                   └──────────────┘
         ╲─────────╱                            │
                                                ▼
                                    ┌──────────────────────┐
                                    │ $i$ proposes illegal │
                                    │  transaction to $j$  │
                                    └──────────────────────┘
                                                │
                                                ▼
                                         ╱─────────╲              ┌──────────────────┐
                                        ╱  Is $j$   ╲    YES      │ Illegal Trans-   │
                                       ╱   corrupt?  ╲ ─────────▶ │ action. $j$'s    │
                                        ╲           ╱             │ money increases  │
                                         ╲─────────╱              └──────────────────┘
                                              │                            ▲
                                              │ NO                         │
                                              ▼                            │
                                         ╱─────────╲                       │
                                        ╱  $i$ still ╲     YES    ┌──────────────────┐
                                       ╱   accept     ╲ ────────▶ │  $j$ becomes     │
                                        ╲  with prob. ╱           │   corrupt        │
                                         ╲───────────╱            └──────────────────┘
```

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