

MP0: Event Logging Report

Group name: nullptr

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Cluster name: g05

Instructions for running code

Logger Server

1. Upload `logger.py` to the server node.
2. Run `python3 logger.py` command.
3. Wait for connections.
4. We use multi-threading to write log information for each node, after disconnection, we dump log info to `<node_name>.txt` file for graph evaluation.

Client Node

1. Upload `generator.py` and `client.py` to each client node.
2. Run following command.

```
python3 -u generator.py 0.5 | python3 client.py node0 172.22.156.14 5000
# 0.5 represents 0.5Hz
# node0 is the name of client node
# 172.22.156.14 is the address of the centralized server
# 5000 is the port of the centralized server
```

Graphs Evaluation

After disconnecting all the client nodes, we should have the log info at path `./s1` or `./s2` depends on the scenario.

Delay

For each node, we dump every message as the following format

```
nodeName nodeTime nodeData serverTime len(nodeData)
```

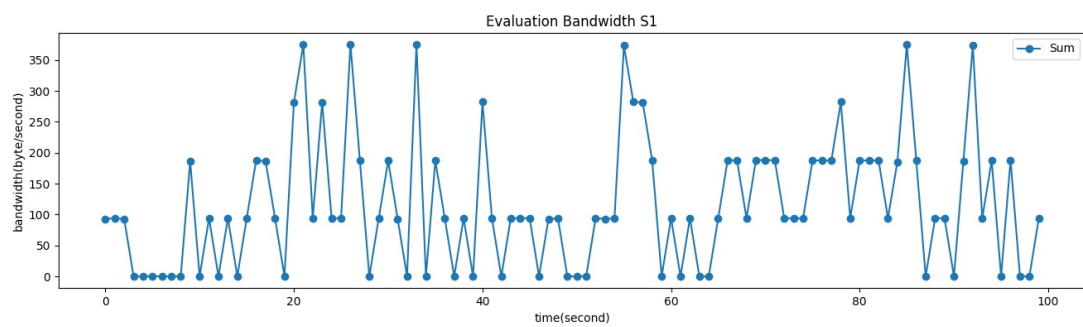
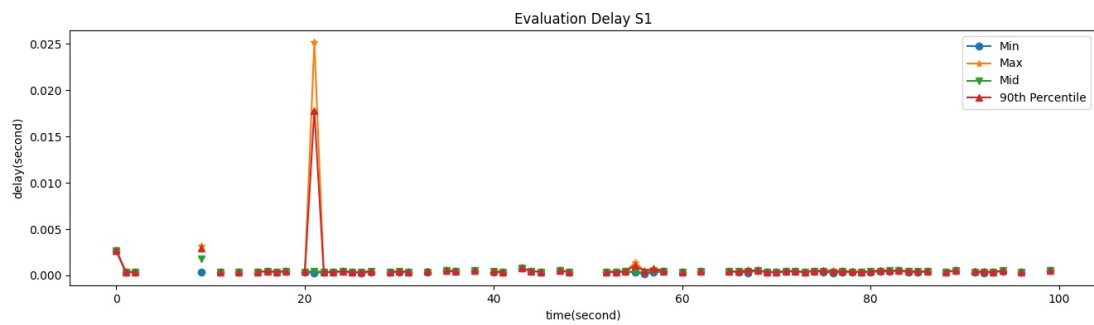
to the `<node_name>.txt`. Then we measure delay by using $ServerTime - nodeTime$ at each second.

Bandwidth

We measure the bandwidth by calculating the sum of the length of `nodeData` at each second from the `<node_name>.txt`.

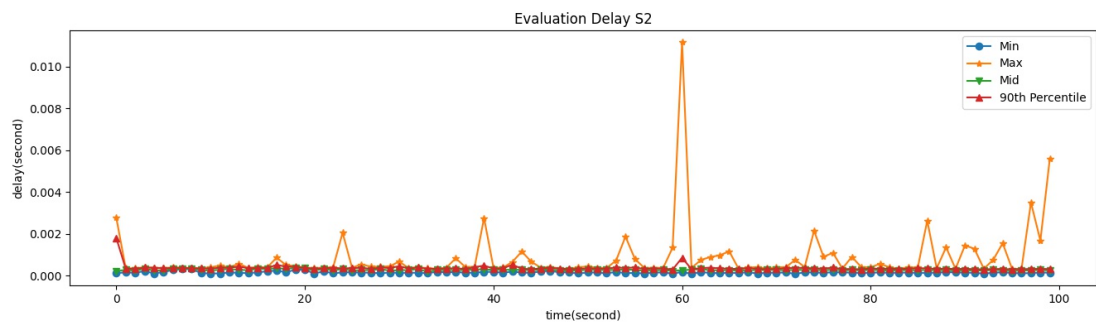
Scenario 1 (3 nodes, 0.5 Hz each, running for 100 seconds)

1. Run `python3 Evaluation1.py` command.
2. Output image `s1.jpg` in the same location as `Evaluation1.py`.



Scenario 2 (8 nodes, 5 Hz each, running for 100 seconds)

1. Run `python3 Evaluation2.py` command.
2. Output image `s2.jpg` in the same location as `Evaluation2.py`.



3.

