Automating QUIC Interoperability Testing

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Why Interoperability testing?

- test compatibility of protocol implementations

- expose irregularities in the specification
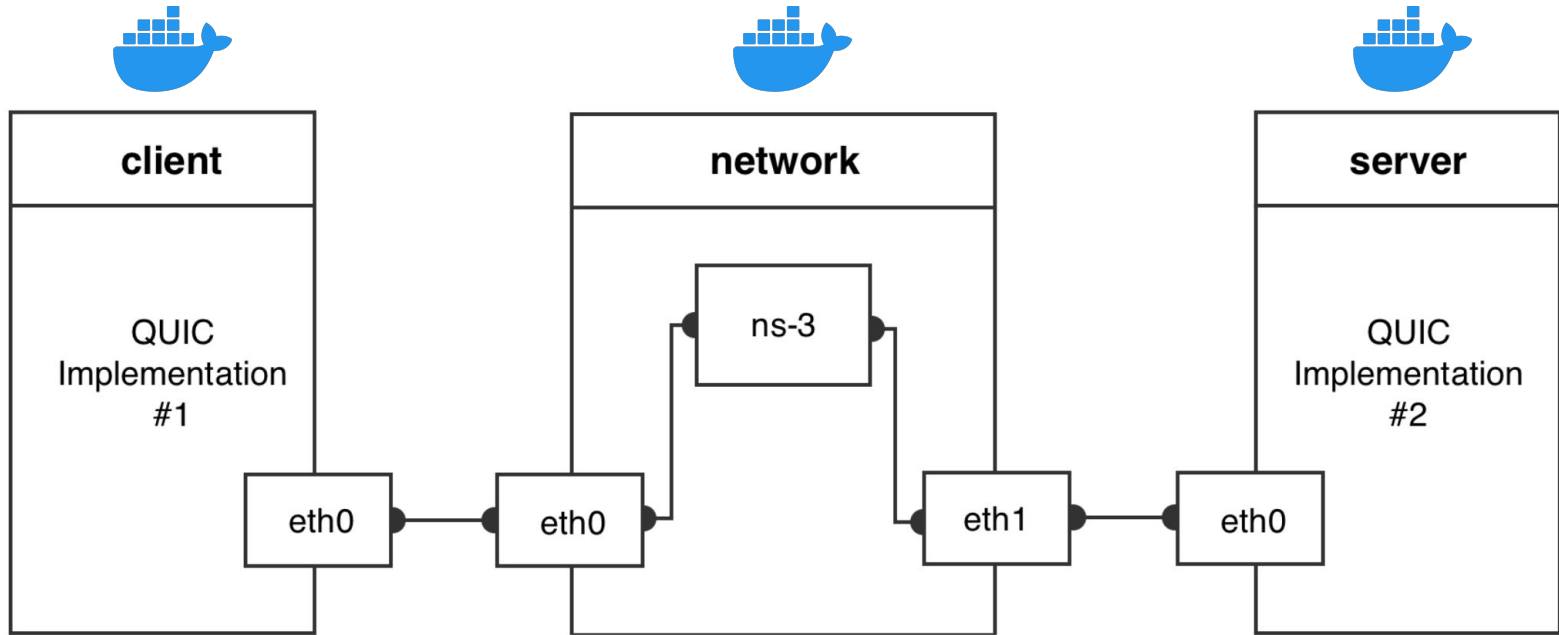
Interoperability testing - so far

- doesn't scale!

- unpredictable network conditions

- Tests are *interpreted* by different implementers

QUIC Interop Runner - Setup

QUIC Interop Runner - Tests

Feature Tests:

- Handshake
- Retry
- 0-RTT
- Heavy Stream Multiplexing
- Handshake Completion under Packet Loss / Corruption
- ...

Benchmark Tests:

- Goodput
- TCP Cross-Traffic

Running a Test

Setup

1. generate random files

2. mount files into the server image

3. start the client with a list of URLs

Validation

1. check return value

2. compare downloaded files

3. check pcaps for test-specific

   features