

# QUIC & HTTP/3 In ATS 9

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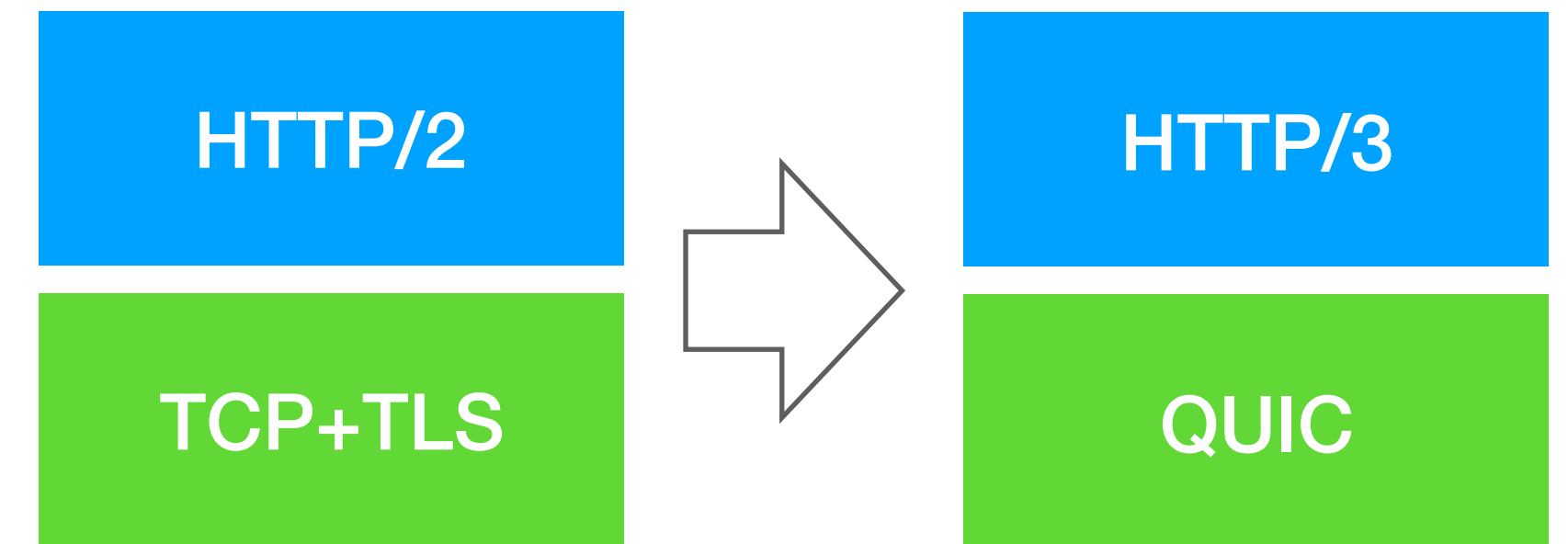
# Agenda

- QUIC & HTTP/3
- Experimental support on ATS 9.0
- How to enable QUIC & HTTP/3
- Future plans



# QUIC & HTTP/3

- QUIC (IETF QUIC)
  - Something like TCP + TLS, on UDP
  - Supports stream and connect migration
- HTTP/3 (formerly known as HTTP over QUIC)
  - Basically the same as HTTP/2
  - Uses QUIC for transport
  - Uses QPACK for header compression



# QUIC & HTTP/3 (cont.)

- Milestone
  - TBD !!
- Other implementations
  - 15 implementations joined last (in person) InterOp
  - Major Web browser providers already have own implementations
    - Chrome canary (and Edge) supports h3-23
  - curl already supports HTTP/3

# QUIC & HTTP/3 on ATS 9.0

## Status:

- Experimental
- Unstable

## Supported versions:

- QUIC - Draft-20
- HTTP/3 - Draft-20
- QPACK - Draft-03

## Features not available:

- Key Update
- Spin bit
- ECN
- HTTP/3 Server Push
- HTTP/3 Prioritization
- QPACK Dynamic Table

## Warning:

- For experimental use only
- Not for production use
- Not recommended for even hobby servers
- Plugins may not work
- CPU can spin
- Memory leaks
- Configuration names and stat names will be changed without notice

**100%  
GUARANTEE**

# Build & Run

- Requirements
  - Special OpenSSL made by tatsuhiko-t
  - No build options
- Configuration
  - `http.server_ports 4433:quic 4433:quic:ipv6`
  - `udp.threads 1`
  - `ssl_multicert`

# Build and Run (cont.)

- Run
  - traffic\_server
  - traffic\_quic
    - A standalone HTTP/3 test client
  - make check

# Branches

- quic-latest: The latest code for QUIC and HTTP/3
- master: Recent stable code
  - Will be updated after every InterOp events (if the result is good)
- 9.0.x: draft-20 (not going to be changed)
- 9.1.x: draft-23 or later (if we release it)



# TODO

- Unimplemented features
- Use the official OpenSSL
- Stats
- Logs
- TS API
- Optimization (Performance improvement)

```
-  
L0      Changes between 1.1.1 and 3.0.0 [xx XXX xxxx]  
L1  
L2 + *) Implement BoringSSL's QUIC API  
L3 +   [Todd Short]  
L4 +  
L5      *) Revised BN generate prime ex to not avoid fac
```

# Please...

- Keep in mind QUIC and HTTP/3 are coming
  - Naming: SSL, TLS, QUIC, Secure connection, HTTPS?
  - Tests: HTTP or HTTP/N?
- Don't ignore code for QUIC and HTTP/3
  - Remember BoringSSL support

# Reference

- Slack: #traffic-server-quic in ASF workspace
- Repository: <https://github.com/apache/trafficserver/tree/quic-latest>
- IETF QUIC WG: <https://quicwg.org>