

**git\_comments:**

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3. Internal Queue to save Long Header Packet
4. Atomic Queue to save incoming packets
5. **comment:** \*\*\*\*\*  
P\_QUICNetProcessor.h The QUIC version of the UnixNetProcessor class. The majority of the logic is in UnixNetProcessor. The QUICNetProcessor provides the following: \* QUIC library initialization through the start() method. \* Allocation of a QUICNetVConnection through the allocate\_vc virtual method. Possibly another pass through could simplify the allocate\_vc logic too, but I think I will stop here for now. \*\*\*\*\*  
**label:** code-design
6. \* @file A brief file description @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and
7. ////////////////////////////////// class QUICNetProcessor  
////////////////////////////////
8. **comment:** TODO: refactoring NetProcessor::connect\_re and UnixNetProcessor::connect\_re\_internal  
Action \*connect\_re(Continuation \*cont, sockaddr const \*addr, NetVOptions \*opts) override;  
**label:** code-design
9. ////////////////////////////////// class NetVConnection A VConnection for a network socket.  
////////////////////////////////
10. accept new conn\_id
11. dst cid in local dst previous cid in local dst cid of initial packet from client dst cid of initial packet from client that doesn't have retry token src cid in local
12. **comment:** TODO: use custom allocator and make them std::unique\_ptr or std::shared\_ptr or make them just member variables.  
**label:** code-design
13. \*\*\*\*\*  
QUICNetVConnection.h This file implements an I/O Processor for network I/O.  
\*\*\*\*\*
14. QUICNetVConnection
15. \* \* @class QUICNetVConnection \* @brief A NetVConnection for a QUIC network socket \* @detail \* \* state\_pre\_handshake() \* | READ: \* | Do nothing \* | WRITE: \* | \_state\_common\_send\_packet() \* v \* state\_handshake() \* | READ: \* | \_state\_handshake\_process\_packet() \* |

- `_state_handshake_process_initial_packet() * | _state_handshake_process_retry_packet() * |`
- `_state_handshake_process_handshake_packet() * |`
- `_state_handshake_process_zero_rtt_protected_packet() * | WRITE: * | _state_common_send_packet() * |`
- `or * | _state_handshake_send_retry_packet() * v * state_connection_established() * | READ: * |`
- `_state_connection_established_receive_packet() * |`
- `_state_connection_established_process_protected_packet() * | WRITE: * | _state_common_send_packet()`
- `* v * state_connection_closing() (If closing actively) * | READ: * | _state_closing_receive_packet() * |`
- `WRITE: * | _state_closing_send_packet() * v * state_connection_draining() (If closing passively) * |`
- `READ: * | _state_draining_receive_packet() * | WRITE: * | Do nothing * v * state_connection_close() *`
- `READ: * Do nothing * WRITE: * Do nothing *`
- 16. /< Parent type.
- 17. QUICConnection
- 18. QUICConnection (QUICConnectionInfoProvider)
- 19. \* @file A brief file description @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
- 20. QUICFrameGenerator
- 21. UnixNetVConnection
- 22. Size of connection ids for debug log : e.g. aaaaaaaa-bbbbbbbb\0
- 23. QUICConnection (QUICFrameHandler)
- 24. **comment:** TODO: Source addresses verification through an address validation token  
**label:** requirement
- 25. \* @file QUICNextProtocolAccept @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
- 26. noncopyable disabled disabled
- 27. Unregister the handler. Returns false if this protocol is not registered or if it is not registered for the specified handler.
- 28. Register handler as an endpoint for the specified protocol. Neither handler nor protocol are copied, so the caller must guarantee their lifetime is at least as long as that of the acceptor.
- 29. NetAccept
- 30. QUICPacketHandler
- 31. **comment:** FIXME Remove this QUICPacketHandler could be a continuation, but NetAccept is a continuation too.  
**label:** code-design
- 32. \* @class QUICPacketHandlerIn \* @brief QUIC Packet Handler for incoming connections
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- 34. \* @class QUICPacketHandlerOut \* @brief QUIC Packet Handler for outgoing connections

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36. **comment:** XXX: add SNICongfig support ? XXX: add TRANSPORT\_BLIND\_TUNNEL support ?  
**label:** code-design
37. QUICMultiCertConfigLoader
38. QUICCertConfig
39. Insert additional mappings. Note that this maps multiple keys to the same value, so when this code is updated to reconfigure the SSL certificates, it will need some sort of refcounting or alternate way of avoiding double frees.
40. ad
41. Index this certificate by the specified IP(v6) address. If the address is "", make it the default context.
42. SSL\_CTX\_load\_verify\_locations() builds the cert chain from the serverCACertFilename if that is not nullptr. Otherwise, it uses the hashed symlinks in serverCACertPath. if ssl\_ca\_name is NOT configured for this cert in ssl\_multicert.config AND if proxy.config.ssl.CA.cert.filename and proxy.config.ssl.CA.cert.path are configured pass that file as the chain (include all certs in that file) else if proxy.config.ssl.CA.cert.path is configured (and proxy.config.ssl.CA.cert.filename is nullptr) use the hashed symlinks in that directory to build the chain
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44. TS\_USE\_TLS\_OCSP
45. **comment:** At this point, we know cert is bad, and we've already printed a descriptive reason as to why cert is bad to the log file  
**label:** code-design
46. **comment:** TODO: client cert support  
**label:** code-design
47. arg
48. The incoming SSL\_CTX is either the one mapped from the inbound IP address or the default one. If we don't find a name-based match at this point, we \*do not\* want to mess with the context because we've already made a best effort to find the best match.
49. SSL\_CTX\_set\_info\_callback(ctx, ssl\_callback\_info);
50. If there's no match on the server name, try to match on the peer address.
51. Set client hello callback if needed SSL\_CTX\_set\_client\_hello\_cb(ctx, QUIC::ssl\_client\_hello\_cb, nullptr);
52. **comment:** TODO: dialog support  
**label:** requirement
53. #include "QUICGlobals.h"
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- 55. Process the ASLL
- 56. Push QUICNetVC into nethandler's enabled list
- 57. Long Header Packet with Connection ID, has a valid type value.
- 58. **comment:** FIXME: VC is nullptr ?  
**label:** code-design
- 59. QUICPollCont continuation which traverse the inQueue(ASLL) and create new QUICNetVC for Initial Packet, and push the triggered QUICNetVC into enable list.
- 60. Note: We should free QUICPollEvent here since vc could be freed from other thread.
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- 62. Short Header Packet with Connection ID, has a valid type value.
- 63. Setup UDPConnection
- 64. **comment:** TODO: clear all values before destroy the table.  
**label:** code-design
- 65. **comment:** FIXME: remove this when TLS1\_3\_VERSION\_DRAFT\_TXT is removed  
**label:** code-design
- 66. Try to stay on the current thread if it is the right type
- 67. Connection ID will be changed
- 68. might be changed. local binding address. char thr\_name[MAX\_THREAD\_NAME\_LENGTH];
- 69. schedule event
- 70. Global Data
- 71. **comment:** UnixNetProcessor \*this\_unp = static\_cast<UnixNetProcessor \*>(this);  
**label:** code-design
- 72. Setup QUICNetVConnection
- 73. first we allocate a QUICPollCont.
- 74. vc->init set handler of vc `QUICNetVConnection::startEvent`
- 75. Otherwise, pass along to another thread of the right type
- 76. \* @file @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
- 77. This initialization order matters ... QUICInitializeLibrary();
- 78. **comment:** Reset CID if a server sent back a new CID FIXME This should happen only once  
**label:** code-design
- 79. **comment:** XXX This might be called on ET\_UDP thread  
**label:** code-design
- 80. 7.9.1. Closing and Draining Connection States An endpoint MAY transition from the closing period to the draining period if it can confirm that its peer is also closing or draining. Receiving a closing frame is sufficient confirmation, as is receiving a stateless reset.
- 81. Pad with PADDING frames
- 82. On client side (NET\_VCONNECTION\_OUT), nothing to do any more
- 83. **comment:** FIXME This is a kind of workaround for connection migration. This PING make peer to send an ACK frame so that ATS can detect packet loss. It would be better if QUICLossDetector could detect the loss in another way.  
**label:** code-design
- 84. Illegal state change
- 85. \* This doesn't call this->recv\_and\_ack(), because RETRY packet doesn't have any frames.
- 86. Initialize QUICNetVC for in coming connection (NET\_VCONNECTION\_IN)

87. Do not send any packets in this state. This should be the only difference between this and closing\_state.
88. Reschedule WRITE\_READY
89. start QUIC handshake
90. Ignore VN packets on closing state
91. Send this NetVC to NetHandler and start to polling read & write event.
92. Packet is retransmittable if it's not ack only packet
93. Sent too much ack\_only packet. At this moment we need to packetize a ping frame to force peer send ack frame.
94. Send this netvc to InactivityCop.
95. Common block
96. called by ET\_UDP
97. should not be here
98. **comment:** FIXME: Should be accept\_no\_activity\_timeout?  
**label:** code-design
99. Not sure how long we should wait. The spec says just "enough time". Use the same time amount as the closing timeout.
100. /< Max number of sending packets which contain a closing frame.
101. on client side, \_handshake\_handler is already started. Just process packet like \_state\_handshake\_process\_handshake\_packet()
102. **comment:** TODO: do not write two QUIC Short Header Packets  
**label:** code-design
103. /< Interrupt sending STREAM frames to send ACK frame /< Minimum payload length for sampling for header protection
104. Once we are in closing or draining state, the ack\_manager is not needed anymore. Because we don't send any frame other than close\_frame.
105. **comment:** FIXME: complete do\_io\_xxxx instead  
**label:** code-design
106. Start Immediate Close because of Idle Timeout
107. Migrate connection if required FIXME Connection migration will be initiated when a peer sent non-probing frames. We need to two or more paths because we need to respond to probing packets on a new path and also need to send other frames on the old path until they initiate migration. if (packet.destination\_cid() == this->\_quic\_connection\_id && has\_non\_probing\_frame) {
108. Pad with PADDING frames to make sure payload length satisfy the minimum length for sampling for header protection
109. **comment:** FIXME Only the first packet need to be 1200 bytes at least  
**label:** code-design
110. **comment:** FIXME will\_generate\_frame should receive more parameters so we don't need extra checks  
**label:** code-design
111. Do NOT schedule WRITE\_READY event from this point. An endpoint in the draining state MUST NOT send any packets.
112. Initialize Key Materials with peer CID. Because peer CID is DCID of (second) INITIAL packet from client which reply to RETRY packet from server
113. QUICFrameGenerator
114. \* \* Connection Migration Exercise from client
115. **comment:** TODO: move packet->payload to \_av\_token  
**label:** code-design
116. /< Max long header len without length of token field of Initial packet
117. **comment:** TODO: should credit of congestion controller be checked?  
**label:** requirement
118. **comment:** TODO: signal VC\_EVENT\_ACTIVE\_TIMEOUT/VC\_EVENT\_INACTIVITY\_TIMEOUT to application  
**label:** requirement
119. Start handshake
120. Register frame handlers
121. **comment:** XXX Setup QUICNetVConnection on regular EThread. QUICNetVConnection::init() might be called on ET\_UDP EThread.  
**label:** code-design
122. DCID of received packet is local cid
123. do nothing

- 124. Connection Error
- 125. Don't make this error, and discard the packet. Because: - Attacker can terminate connections - It could be just an error on lower layer
- 126. Move to next generator
- 127. XXX This might be called on ET\_UDP thread Initialize QUICNetVC for out going connection (NET\_VCONNECTION\_OUT)
- 128. **comment:** FIXME This size should be configurable and should have some randomness This is just for providing protection against packet analysis for protected packets 32 to 96  
**label:** code-design
- 129. **comment:** QUIC packet could be smaller than MINIMUM\_INITIAL\_PACKET\_SIZE when coalescing packets if (packet->size() < MINIMUM\_INITIAL\_PACKET\_SIZE) { QUICConDebug("Packet size is smaller than the minimum initial packet size"); // Ignore the packet return QUICErrorUPtr(new QUICNoError()); }  
**label:** code-design
- 130. If version negotiation was failed and VERSION NEGOTIATION packet was sent, nothing to do.
- 131. **comment:** FIXME src connection id could be zero ? if so, check packet header type.  
**label:** code-design
- 132. For Connection Migration exercise
- 133. FIXME Pass parent\_block to create\_x\_packet No need to make a unique buf here
- 134. PN space doesn't matter but seems like this is the way to pick the LossDetector for 0-RTT and Short packet
- 135. **comment:** TODO: adjust MAX\_PACKET\_OVERHEAD for each encryption level  
**label:** code-design
- 136. This is for a frame instance but not serialized frame data
- 137. **comment:** FIXME: startIO only return 0 now! what should we do if it failed ?  
**label:** code-design
- 138. Process the packet
- 139. **comment:** we have ack to send FIXME: should sent depend on socket event.  
**label:** code-design
- 140. **comment:** TODO: Should endpoint send connection error when remote endpoint doesn't send NEW\_CONNECTION\_ID frames before initiating connection migration ?  
**label:** code-design
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- 142. **comment:** TODO Make expiration period configurable  
**label:** requirement
- 143. this->thread should be assigned on any direction
- 144. **comment:** TODO: Timeout by active\_timeout  
**label:** requirement
- 145. During the closing period, an endpoint that sends a closing frame SHOULD respond to any packet that it receives with another packet containing a closing frame. To minimize the state that an endpoint maintains for a closing connection, endpoints MAY send the exact same packet.
- 146. **comment:** TODO: Drop record from Connection-ID - QUICNetVConnection table in QUICPacketHandler Shutdown loss detector  
**label:** requirement
- 147. CONNECTION\_CLOSE
- 148. **comment:** TODO: Uncomment these blocks after refactoring read / write process if (from\_accept\_thread) { quicNetVCAlocator.free(this); } else { THREAD\_FREE(this, quicNetVCAlocator, t); }  
**label:** code-design
- 149. Debug prints
- 150. Source address is verified by receiving any message from the client encrypted using the Handshake keys.

151. Register frame generators CRYPTO PATH\_CHALLENGE, PATH\_RESPONSE MAX\_DATA DATA\_BLOCKED NEW\_TOKEN STREAM, MAX\_STREAM\_DATA, STREAM\_DATA\_BLOCKED ACK PING
152. Pass packet to `_recv_and_ack` to send ack to the packet. Stream data will be discarded by offset mismatch.
153. if we complete handshake, switch to establish state
154. discard all transport state except packet number
155. **comment:** TODO: Add a case of using token which is advertised by NEW\_TOKEN frame  
**label:** code-design
156. Return combination of dst connection id and src connection id for debug log e.g. "aaaaaaaa-bbbbbbbb" - "aaaaaaaa" : high 32 bit of dst connection id - "bbbbbbbb" : high 32 bit of src connection id
157. \* 1. Check congestion window \* 2. Allocate buffer for UDP Payload \* 3. Generate QUIC Packet \* 4. Store data to the payload \* 5. Send UDP Packet
158. This states SHOULD persist for three times the current Retransmission Timeout (RTO) interval as defined in [QUIC-RECOVERY].
159. DATA\_BLOCKED frame is for debugging. Nothing to do here.
160. this->thread is already assigned by QUICPacketHandlerIn::\_recv\_packet
161. Create frame handlers
162. Receive a QUIC packet
163. start handshake over
164. Handshake callback handler.
165. frame should be stored because it's created with `max_frame_size`
166. **comment:** FIXME I'm not sure whether we can block here, but it's needed to not crash.  
**label:** code-design
167. **comment:** FIXME ACK frame should have priority  
**label:** code-design
168. Added to include the `quic_hook` definitions
169. Cancel generating frame
170. Schedule a packet
171. **comment:** TODO: Uncomment these blocks after refactoring read / write process this->udp\_con = nullptr; this->\_packet\_handler = nullptr; \_unschedule\_packet\_write\_ready(); delete this->\_handshake\_handler; delete this->\_application\_map; delete this->\_hs\_protocol; delete this->\_loss\_detector; delete this->\_frame\_dispatcher; delete this->\_stream\_manager; delete this->\_congestion\_controller; if (this->\_alt\_con\_manager) { delete this->\_alt\_con\_manager; } super::clear();  
**label:** code-design
172. discard all transport state
173. **comment:** FIXME QUICNetVConnection should not know the actual type value of PADDING frame  
**label:** code-design
174. **comment:** TODO: support RETRY packet  
**label:** code-design
175. Initialize handshake protocol specific stuff For QUICv1 TLS is the only option
176. Version 0x00000001 uses stream 0 for cryptographic handshake with TLS 1.3, but newer version may not
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178. **comment:** [draft-18] 7.2. When an Initial packet is sent by a client which has not previously received a Retry packet from the server, it populates the Destination Connection ID field with an unpredictable value. This MUST be at least 8 bytes in length.  
**label:** code-design
179. Server Stateless Retry
180. **comment:** TODO: lookup DCID by 5-tuple when ATS omits SCID  
**label:** requirement
181. **comment:** TODO Handle ResumptionToken

**label:** requirement

182. QUICPacketHandlerOut

183. NetVConnection \*netvc;

184. ////////// EVENT\_ERROR //////////////

185. Push the packet into QUICPollCont

186. **comment:** TODO: Should be called via eventProcessor?  
**label:** code-design

187. Nothing to do.

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189. **comment:** TODO: refine packet parsers in here, QUICPacketLongHeader, and QUICPacketReceiveQueue  
**label:** code-design

190. ["local dcid" - "local scid"]

191. QUICPacketHandler

192. Create a new NetVConnection

193. create Connection Table

194. Assumption: udp\_packet has only one IOBufferBlock

195. [draft-12] 6.1.2. Server Packet Handling Servers MUST drop incoming packets under all other circumstances. They SHOULD send a Stateless Reset (Section 6.10.4) if a connection ID is present in the header.

196. QUICPacketHandlerIn

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198. for Test

199. Override

200. unordered packet should send ack immediately to accelerate the recovery

201. we have something to send

202. when ack frame lost. Force to refresh the frame.

203. connection\_credit

204. No limit of encryption level. `` std::array<QUICEncryptionLevel, 4> \_encryption\_level\_filter = { QUICEncryptionLevel::INITIAL, QUICEncryptionLevel::ZERO\_RTT, QUICEncryptionLevel::HANDSHAKE, QUICEncryptionLevel::ONE\_RTT, }; ``

205. every 2 full-packet should send a ack frame like tcp

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207. QUICAckFrameManager::QUICAckFrameCreator

208. Ack delay is in microseconds and scaled

209. This function should be called only once



- 210. can not delay handshake packet
- 211. skip ack\_only packets
- 212. **comment:** TODO Find more smart way  
**label:** code-design
- 213. **comment:** FIXME: this size should be fixed with PMTU  
**label:** code-design
- 214. when we has new data and the data is available to send (not ack only). and we delay for too much time.  
Send it out
- 215. \* \* @param connection\_credit This is not used. Because ACK frame is not flow-controlled
- 216. No ACK frame on ZERO\_RTT level
- 217. \* Returns QUICAckFrame only if ACK frame is able to be sent. \* Caller must send the ACK frame to the peer if it was returned.
- 218. Checks maximum\_frame\_size and return \_ack\_frame
- 219. \* All packet numbers ATS received need to be passed to this method. \* Returns 0 if updated successfully.
- 220. packet\_number has data to sent ack frame should be sent immediately new data after last sent
- 221. \* Calls create directly.
- 222. Initial, 0/1-RTT, and Handshake
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- 224. \* Returns true only if should send ack.
- 225. refresh state when frame lost
- 226. \* @file A brief file description @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
- 227. overflow
- 228. \* @file A brief file description @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
- 229. This alt cid will be advertised via Transport Parameter
- 230. Migrate connection
- 231. **comment:** FIXME Check nullptr dereference  
**label:** code-design
- 232. \* \* @param connection\_credit This is not used. Because NEW\_CONNECTION\_ID frame is not flow-controlled
- 233. connection\_credit
- 234. Sequence number of the preferred address is 1 if available
- 235. Seq 0 is special so it's not in the array
- 236. \* @file A brief file description @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the

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- 237. Sequence number of the initial CID is 0
- 238. Cancel generating frame
- 239. \* \* Check if AltConnectionManager has at least one CID advertised by the peer.
- 240. \* \* Invalidate all CIDs prepared
- 241. \* \* Returns server preferred address if available
- 242. \* \* Prepare for new CID for the peer, and return one of CIDs advertised by the peer. \* New CID for the peer will be sent on next call for generate\_frame()
- 243. QUICFrameHandler
- 244. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
- 245. \* \* Migrate to new CID \* \* cid need to match with one of alt CID that AltConnnectionManager prepared.
- 246. QUICFrameGenerator
- 247. \* \* Constructor for servers
- 248. \* \* Constructor for clients
- 249. For local info For remote info
- 250. @brief Bind stream and application
- 251. All readers will be deallocated
- 252. QUICApplication
- 253. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
- 254. **comment:** TODO: Similar to other "write" apis, but do not copy.  
**label:** code-design
- 255. QUICStreamIO
- 256. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
- 257. \* \* @brief Abstract QUIC Application Class \* @detail Every quic application must inherits this class
- 258. \* @brief QUICStream I/O Interface for QUICApplication
- 259. Track how much data is written to \_write\_vio. When total size of data become clear, set it to \_write\_vio.nbytes.
- 260. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to

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261. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
262. BLOCKED - BLOCKED frame will be sent by connection level remote flow controller
263. Flow Control - Even if it's allowed to receive on the state, it may exceed the limit
264. MAX\_STREAM\_DATA
265. We received and processed STOP\_SENDING frame, so return NO\_ERROR here
266. QUICBidirectionalStream
267. Calling update always success, because len is always less than stream\_credit
268. STREAM\_DATA\_BLOCKED
269. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
270. this->\_read\_vio.nbytes should be INT64\_MAX until receive FIN flag
271. Pure FIN stream should be sent regardless status of remote flow controller, because the length is zero.
272. data\_len, maximum\_data\_size, stream\_credit and connection\_credit are already checked they're larger than 0
273. STOP\_SENDING
274. ignore
275. RESET\_STREAM
276. [draft-16] 13.2. Retransmission of Information Cancellation of stream transmission, as carried in a RESET\_STREAM frame, is sent until acknowledged or until all stream data is acknowledged by the peer (that is, either the "Reset Recvd" or "Data Recvd" state is reached on the send stream). The content of a RESET\_STREAM frame MUST NOT change when it is sent again.
277. **comment:** STREAM - Pure FIN or data length is larger than 0 FIXME has\_length\_flag and has\_offset\_flag should be configurable  
**label:** code-design
278. Stream Error
279. Forward limit of local flow controller with the largest reordered stream frame
280. **comment:** Connection Error TODO Close connection (Does this really happen?)  
**label:** code-design
281. **comment:** TODO  
**label:** requirement
282. Make a copy and insert it into the receive buffer because the frame passed is temporal
283. Check Connection/Stream level credit only if the generating STREAM frame is not pure fin
284. **comment:** unimplemented yet  
**label:** requirement
285. \* \* @brief Receive STREAM frame \* @detail When receive STREAM frame, reorder frames and write to buffer of read\_vio. \* If the reordering or writting operation is heavy, split out them to read function, \* which is called by application via do\_io\_read() or reenale().
286. Check stream state - Do this first before accept the frame

287. We cannot cancel sending the frame after updating the flow controller
288. **comment:** FIXME error is always nullptr  
**label:** code-design
289. STREAM\_DATA\_BLOCKED frames are for debugging. Nothing to do here.
290. **comment:** Fragments of received STREAM frame (offset is unmatched) TODO: Consider to replace with ts/RbTree.h or other data structure  
**label:** code-design
291. Implement VConnection Interface.
292. QUICTransferProgressProvider
293. \* QUICApplication need to call one of these functions when it process VC\_EVENT\_\*
294. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
295. QUICFrameGenerator
296. **comment:** FIXME Unidirectional streams should use either ReceiveStreamState or SendStreamState  
**label:** code-design
297. \* ALPN and SNI should be set to SSL object with NETVC\_OPTIONS \*
298. kInitialWindow: Default limit on the initial amount of data in flight, in bytes. Taken from [RFC6928]. The RECOMMENDED value is the minimum of 10 \* kMaxDatagramSize and max(2\* kMaxDatagramSize, 14600)).
299. QUICConfig
300. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
301. tatsuhiko-t's custom OpenSSL for QUIC draft-13 <https://github.com/tatsuhiko-t/openssl/tree/quic-draft-13>
302. QUICConfigParams
303. Loss Detection
304. Congestion Control
305. re-read configuration
306. Transport Parameters
307. QUIC Transport Parameters are accesible with SSL\_set\_quic\_transport\_params and SSL\_get\_peer\_quic\_transport\_params
308. **comment:** FIXME: OpenSSL (1.1.1-alpha) enable this option by default. But this shoule be removed when OpenSSL disable this by default.  
**label:** code-design
309. Actual initial window size is this value multiplied by the \_cc\_default\_mss Actual minimum window size is this value multiplied by the \_cc\_default\_mss
310. **comment:** TODO: make configurable < Length of Source Connection ID  
**label:** requirement
311. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT

- WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
312. [draft-17 recovery] 6.4.1. Constants of interest
313. Loss Detection
314. [draft-11 recovery] 4.7.1. Constants of interest
315. Congestion Control
316. Transport Parameters
317. additional code the original one is: CongestionEvent(sent\_time):
318. [draft-17 recovery] 7.9.3. Initialization
319. check whether packets are continuous. return true if all continuous packets are in period
320. Remove from bytes\_in\_flight.
321. Do not increase congestion\_window if application limited.
322. **comment:** Remove lost packets from bytes\_in\_flight.  
**label:** code-design
323. Congestion avoidance.
324. Slow start.
325. additional code the original one is: ProcessECN(ack):
326. If the ECN-CE counter reported by the peer has increased, this could be a new congestion event.
327. additional code the original one is: OnPacketsLost(lost\_packets):
328. Start a new congestion event if the sent time is larger than the start time of the previous recovery epoch.
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330. Start a new congestion event if the last acknowledged packet was sent after the start of the previous recovery epoch.
331. Do not increase congestion window in recovery period.
332. Collapse congestion window if persistent congestion
333. **comment:** FIXME : don't know how does app worked here  
**label:** requirement
334. Determine if all packets in the window before the newest lost packet, including the edges, are marked lost
335. Start a new recovery epoch if the lost packet is larger than the end of the previous recovery epoch.
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337. **comment:** TODO: clear all values.  
**label:** code-design
338. \* @file QUICConnectionTable @section license License Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0> Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.
339. **comment:** To check whether the return value is nullptr by caller in case memory leak. The return value isn't nullptr, the new value will take up the slot and return old value.

**label:** code-design

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341. \* Lookup QUICConnection by cid
342. \* Remove an entry \* \* Fails if CID is not associated to a specified connection
343. \* Insert an entry \* \* Return zero if it is the only connection or the first connection from the endpoint. \* Caller is responsible for memory management.
344. Make a copy and insert it into the receive buffer because the frame passed is temporal
345. All readers will be deallocated
346. \* \* @param connection\_credit This is not used. Because CRYPTO frame is not flow-controlled
347. connection\_credit
348. QUICCryptoStream
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350. \* \* Reset send/recv offset of stream
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352. QUICFrameGenerator
353. **comment:** Fragments of received STREAM frame (offset is unmatched) TODO: Consider to replace with ts/RbTree.h or other data structure
- label:** code-design
354. \* \* @brief QUIC Crypto stream \* Differences from QUICStream are below \* - this doesn't have VConnection interface \* - no stream id \* - no flow control \* - no state (never closed)
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358. do nothing
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360. \* \* @brief Echo over QUIC \* @detail An example application over QUIC. \* Receive DATA of STREAM Frame and echo it.
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362. QUICFlowController
363. QUICRemoteFlowController
364. Create MAX\_(STREAM\_)DATA frame. The frame will be sent on next WRITE\_READY event on QUICNetVC
365. For RemoteFlowController, caller of this function should also check QUICStreamManager::will\_generate\_frame()
366. connection\_credit
367. Create BLOCKED(\_STREAM) frame The frame will be sent if stream has something to send.
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369. QUICLocalFlowController
370. MAX\_(STREAM\_)DATA might be unordered due to delay Just ignore if the size was smaller than the last one
371. QUICRateAnalyzer
372. \* \* @param connection\_credit This is not used. Because MAX\_(STREAM\_)DATA frame are not flow-controlled
373. QUIC[Remote|Local][Connection|Stream]FlowController
374. \* Returns 0 if succeed

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376. QUICFrameGenerator

377. < Largest sent/received offset < Maximum amount of data to send/receive

378. \* \* Unlike QUICRemoteFlowController::forward\_limit(), this function forwards limit if needed.

379. \* \* This is only for flow controllers initialized without a limit (== UINT64\_MAX). \* Once a limit is set, it should be updated with forward\_limit().

380. ACK frame

381. MAX\_STREAMS

382. QUICAckFrame::PacketNumberRange

383. PATH\_CHALLENGE frame

384. \* \* "F" of "0b00010OLF"

385. "O" of "0b00010OLF" "L" of "0b00010OLF" "F" of "0b00010OLF"

386. Build Frame Type: "0b0010OLF"

387. CONNECTION\_CLOSE frame

388. QUICNewTokenFrame

389. STREAM Frame

390. \* Frame Type Field Accessor PADDING frame in Frame Type field means frame type that triggered the error is unknown. Return QUICFrameType::UNKNOWN when Frame Type field is PADDING (0x0).

391. [Length (i)] "L of "0b0010OLF"

392. PATH\_RESPONSE frame

393. Token (\*)

394. Application-specific error. It doesn't have a frame type and we don't know string representations of error codes.

395. STOP\_SENDING frame

396. \* \* "L" of "0b00010OLF"

397. the pos will auto move forward . return true if the data vaild

398. Type (i)

399. RESET\_STREAM frame

400. Error Code (16)

401. Token Length (i)

402. Unknown frame

403. QUICFrame \* QUICCryptoFrame::clone(uint8\_t \*buf) const { Ptr<IOBufferBlock> block = make\_ptr<IOBufferBlock>(this->\_block->clone()); return QUICFrameFactory::create\_crypto\_frame(buf, block, this->offset(), this->\_id, this->\_owner); }

404. Offset (i)

405. Reason Phrase Length (i)

406. Reason Phrase (\*)

407. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

408. **comment:** FIXME: something wrong with clang-format?  
**label:** code-design

409. RETIRE\_CONNECTION\_ID frame

410. This depends on `include\_length\_field` arg of QUICStreamFrame::store. Returning true for just in case.

411. QUICFrameFactory



412. Length (i)  
413. DATA\_BLOCKED frame  
414. Create header block  
415. Frame Type (i)  
416. UNKNOWN  
417. \* Store CONNECTION\_CLOSE frame in buffer. PADDING frame in Frame Type field means frame type that triggered the error is unknown. When `\_frame\_type` is QUICFrameType::UNKNOWN, it's converted to QUICFrameType::PADDING (0x0).  
418. QUICAckFrame::AckBlock  
419. STREAMS\_BLOCKED frame  
420. **comment:** FIXME size should be readable  
**label:** code-design  
421. \* \* "O" of "0b00010OLF"  
422. Stream ID (i)  
423. NEW\_CONNECTION\_ID frame  
424. Frame Type  
425. PADDING frame  
426. MAX\_DATA frame  
427. MAX\_STREAM\_DATA  
428. Return the chain  
429. Append payload block to a chain  
430. [Offset (i)] "O" of "0b0010OLF"  
431. CRYPTO frame  
432. **comment:** TODO ECN  
**label:** requirement  
433. "F" of "0b0010OLF"  
434. QUICAckFrame::AckBlockSection  
435. STREAM\_DATA\_BLOCKED frame  
436. PING frame  
437. **comment:** FIXME Each classes should override this and drop store(). This just wraps store() for now.  
**label:** code-design  
438. Crypto Data (\*)  
439. MAX\_STREAMS  
440. CONNECTION\_CLOSE  
441. \* This is used for creating a QUICFrame object based on received data.  
442. Constructor for application protocol error codes  
443. STREAM Frame  
444. \* Creates a PATH\_CHALLENGE frame  
445. \* Creates a STOP\_SENDING frame.  
446. \* Creates a STREAM\_DATA\_BLOCKED frame.  
447. \* Creates a BLOCKED frame.  
448. \* Creates a NEW\_CONNECTION\_ID frame.  
449. \* Creates a ACK frame. \* You shouldn't call this directly but through QUICAckFrameCreator because QUICAckFrameCreator manages packet numbers that we \* need to ack.  
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451. RESET\_STREAM  
452. \* Creates a STREAM frame. \* You have to make sure that the data size won't exceed the maximum size of QUIC packet.  
453. \* Creates a RESET\_STREAM frame.  
454. QUICFrameFactory

455. There's no reason to restrict copy, but we need to write the copy constructor. Otherwise it will crash on destruct.

456. \* Creates a CONNECTION\_CLOSE frame.

457. CRYPTO Frame

458. UNKNOWN

459. STOP\_SENDING

460. \* Creates a PATH\_RESPONSE frame

461. PATH\_RESPONSE

462. \* Creates a PING frame

463. BLOCKED

464. MAX\_DATA

465. NEW\_TOKEN

466. PATH\_CHALLENGE

467. / \* Creates a MAX\_STREAM\_DATA frame.

468. STREAMS\_BLOCKED

469. \* Creates a MAX\_STREAMS frame.

470. MAX\_STREAM\_DATA

471. NEW\_CONNECTION\_ID

472. RETIRE\_CONNECTION\_ID

473. **comment:** FIXME Actual number of frame types is several but some of the values are not sequential.  
**label:** code-design

474. Constructor for transport error codes

475. \* Creates a NEW\_TOKEN frame

476. \* Creates a RETIRE\_CONNECTION\_ID frame

477. PADDING

478. \* Creates a STREAMS\_BLOCKED frame.

479. PING

480. **comment:** \* This works almost the same as create() but it reuses created objects for performance. \* If you create a frame object which has the same frame type that you created before, the object will be reset by new data.  
**label:** code-design

481. \* Creates a MAX\_DATA frame.

482. STREAM\_DATA\_BLOCKED

483. \* Creates a CRYPTO frame. \* You have to make sure that the data size won't exceed the maximum size of QUIC packet.

484. ACK Frame

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486. Frame Dispatcher

487. **comment:** TODO: is there any case to continue this loop even if error?  
**label:** requirement

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491. \* This function constructs an instance of QUICFrame on buf. \* It returns a pointer for the frame if it succeeded, and returns nullptr if it failed.

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494. skip unmapped info.

495. **comment:** FIXME MAX\_STREAM\_FRAME\_OVERHEAD is here and there These size calculation should not exist multiple places  
**label:** code-design

496. header length is larger than maximum\_frame\_size.

497. **comment:** FIXME: has\_offset and has\_length should be configurable.  
**label:** code-design

498. no payload

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- writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
501. RecRegisterRawStat(quic\_rsb, RECT\_PROCESS, "proxy.process.quic.total\_packets\_retransmitted", RECD\_INT, RECP\_PERSISTENT, static\_cast<int>(quic\_total\_packets\_retransmitted\_stat), RecRawStatSyncSum); RecRegisterRawStat(quic\_rsb, RECT\_PROCESS, "proxy.process.quic.total\_packets\_received", RECD\_INT, RECP\_PERSISTENT, static\_cast<int>(quic\_total\_packets\_received\_stat), RecRawStatSyncSum);
502. Transferred packet counts
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504. SSL callbacks
505. length field
506. label (prefix + Label) field
507. Create HkdfLabel 2 + 255 + 255
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509. context field XXX: Assuming Context is zero-length character (indicated by "") HkdfLabel requires "0" (length) in context field, because `context<0..255>` is variable-integer.
510. \* \* HKDF-Expand-Label function of QUIC \* The HKDF-Expand-Label function and HkdfLabel structure is defined in TLS 1.3 Section 7.1.
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512. MUSTs
513. Negotiate version
514. Similar to SSLNetVConnection::getSSLCipherSuite()
515. If already negotiated, just ignore it
516. Client side only
517. **comment:** TODO: fix size  
**label:** code-design
518. nothing to check
519. MAYs (server)
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WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

521. No limit of encryption level. `` std::array<QUICEncryptionLevel, 4> \_encryption\_level\_filter = { QUICEncryptionLevel::INITIAL, QUICEncryptionLevel::ZERO\_RTT, QUICEncryptionLevel::HANDSHAKE, QUICEncryptionLevel::ONE\_RTT, }; ``

522. \* \* reset states for starting over

523. MAYs

524. **comment:** TODO: check size  
**label:** requirement

525. An endpoint MUST treat receipt of duplicate transport parameters as a connection error of type TRANSPORT\_PARAMETER\_ERROR.

526. Getters

527. for server side

528. Constructor for client side

529. \* \* @class QUICHandshake \* @brief Send/Receive CRYPTO frame and do Cryptographic Handshake

530. QUICFrameHandler

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532. Constructor for server side

533. QUICFrameGenerator

534. for client side

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536. < pointer to the buffer < size of buffer < offset to the each encryption level - {initial, zero\_rtt, handshake, one\_rtt, total length} < CRYPTO\_ERROR - TLS Alert Description + 0x100

537. {11.3. Stream Final Offset} A receiver SHOULD treat receipt of data at or beyond the final offset as a FINAL\_OFFSET\_ERROR error, even after a stream is closed.

538. Ignore empty stream frame except pure fin stream frame

539. QUICIncomingStreamFrameBuffer

540. QUICIncomingCryptoFrameBuffer

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542. QUICIncomingFrameBuffer

543. Ignore empty stream frame

544. dup fin frame

545. stream with fin flag {11.3. Stream Final Offset} Once a final offset for a stream is known, it cannot change. If a RESET\_STREAM or STREAM frame causes the final offset to change for a stream, an endpoint SHOULD respond with a FINAL\_OFFSET\_ERROR error (see Section 12). A receiver

SHOULD treat receipt of data at or beyond the final offset as a FINAL\_OFFSET\_ERROR error, even after a stream is closed.

546. dup frame;

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548. /< Parent type.

549. QUICTransferProgressProvider

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551. max usable bits is 62

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553. **comment:** TODO: do not extract initial secret twice

**label:** code-design

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555. Generate key, iv, and hp\_key key = HKDF-Expand-Label(S, "quic key", "", key\_length) iv = HKDF-Expand-Label(S, "quic iv", "", iv\_length) hp\_key = HKDF-Expand-Label(S, "quic hp", "", hp\_key\_length)

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557. OPENSsl\_IS\_BORINGSSL

558. \* \* Generate keys for Initial encryption level \* The keys for the remaining encryption level are derived by TLS stack with "quic " prefix

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560. const EVP\_MD \* QUICKeyGenerator::get\_handshake\_digest(const SSL \*ssl) { switch (SSL\_CIPHER\_get\_id(SSL\_get\_current\_cipher(ssl))) { case TLS1\_CK\_AES\_128\_GCM\_SHA256: case TLS1\_CK\_CHACHA20\_POLY1305\_SHA256: return EVP\_sha256(); case TLS1\_CK\_AES\_256\_GCM\_SHA384: return EVP\_sha384(); default: ink\_assert(false); return nullptr; } }

561. SSL\_HANDSHAKE\_MAC\_SHA256, SSL\_HANDSHAKE\_MAC\_SHA384 are defined in `ssl/internal.h` of BoringSSL

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563. no increment here

564. the newest spec has removed the max\_ack\_delay assignment. but we need to assign it in somewhere this code is from draft-19

565. **comment:** ===== Functions below are used on the spec but there're no pseudo code =====  
**label:** documentation

566. Limit ack\_delay by max\_ack\_delay

567. Inform the congestion controller of lost packets and lets it decide whether to retransmit immediately.

568. Packets with packet numbers before this are deemed lost.

569. Time threshold loss detection.

570. PTO Duration

571. **comment:** TODO sent ping  
**label:** requirement

572. If the largest acknowledged is newly acked and ack-eliciting, update the RTT.

573. additional code

574. PTO timeout

575. if (ACK frame contains ECN information): ProcessECN(ack)

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577. ===== Functions below are helper functions =====

578. the spec uses continue but we can break here because the \_sent\_packets is sorted by packet\_number.

579. QUICRTTMeasure

580. Based on {{RFC6298}}.

581. Adjust for ack delay if it's plausible.

582. -- END OF ADDITIONAL CODE -- -- ADDITIONAL CODE --

583. Increment counters

584. QUICLDDbg("Packet number %" PRIu64 " has been acked", acked\_packet\_number);

585. Don't arm the alarm if there are no packets with retransmittable data in flight. -- MODIFIED CODE -- In psuedocode, `bytes\_in\_flight` is used, but we're tracking "retransmittable data in flight" by

```

`_ack_eliciting_outstanding`
586. -- ADDITIONAL CODE -- Not sure how we can get feedback from congestion control and when we
    should retransmit the lost packets but we need to send them somewhere. I couldn't find the place so just
    send them here for now.
587. -- END OF ADDITIONAL CODE --
588. Find all newly acked packets.
589. -- END OF MODIFIED CODE --
590. -- ADDITIONAL CODE -- In psudocode returning here, but we don't do for scheduling
    _loss_detection_alarm event. -- END OF ADDITIONAL CODE --
591. [draft-17 recovery] 6.4.3. Initialization
592. Packets sent before this time are deemed lost.
593. Handshake retransmission alarm.
594. min_rtt ignores ack delay.
595. _latest_rtt is nanosecond but ack_frame.ack_delay is microsecond and scaled
596. Add to the list
597. Mark packet as lost, or set time when it should be marked.
598. Time threshold loss Detection
599. Decrement counters
600. [draft-17 recovery] 7.9.2. Variables of interest
601. addition
602. [draft-11 recovery] 3.5.2. Variables of interest Keep the order as the same as the spec so that we can see
    the difference easily.
603. * Because this alarm will be reset on every packet transmission, to reduce number of events, * Loss
    Detector uses schedule_every() and checks if it has to be triggered.
604. These are not defined on the spec but expected to be count These counter have to be updated when
    inserting / erasing packets from _sent_packets with following functions.
605. comment: TODO Using STL Map because ts/Map lacks remove method
    label: requirement
606. [draft-17 recovery] 7.9.1. Constants of interest Values will be loaded from records.config via
    QUICConfig at constructor
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    specific language governing permissions and * limitations under the License.
608. end
609. get members
610. config
611. 6.3.1. Sent Packet Fields
612. [draft-17 recovery] 6.4.1. Constants of interest Values will be loaded from records.config via
    QUICConfig at constructor
613. period
614. use `friend` so ld can acesss RTTMeasure. friend QUICLossDetector;
615. related to rtt calculate
616. Debug
617. rtt vars
618. Length Field
619. QUICPacket
620. PN Len field
621. ODCIL
622. * * When packet is "Short Header Packet", QUICPacket::type() will return 1-RTT Protected (key phase
    0) * or 1-RTT Protected (key phase 1)
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- 624. QUICPacketLongHeader
- 625. QUICPacketShortHeader
- 626. Token Field
- 627. Length (i)
- 628. Token Length Field
- 629. **comment:** TODO Reuse serialized data if nothing has changed  
**label:** code-design
- 630. Original Destination Connection ID
- 631. \* \* Header Length (doesn't include payload length)
- 632. PN Field
- 633. Token Length (i) + Token (\*) (for INITIAL packet)
- 634. This includes not only header size and payload size but also AEAD tag length
- 635. this->\_buf\_len will be set
- 636. Payload will be stored
- 637. QUICPacketHeader
- 638. \* Build a QUICPacketHeader \* \* This creates a QUICPacketLongHeader for INITIAL packet
- 639. \* Returns its payload size based on header length and buffer size that is specified to the constructo.
- 640. These are used only if the instance was created without a buffer
- 641. \* Build a QUICPacketHeader \* \* This creates a QUICPacketLongHeader for RETRY packet
- 642. \*\*\*\*\* STATIC members \*\*\*\*\*
- 643. \* Creates a QUICPacket with a QUICPacketHeader and a buffer that contains payload \* \* This will be used for receiving packets. Therefore, it is expected that payload is already decrypted. \* However, QUICPacket class itself doesn't care about whether the payload is protected (encrypted) or not.
- 644. \* Size of whole QUIC packet (header + payload + integrity check)
- 645. \* Size of header
- 646. \* Returns its header size
- 647. \* Returns a connection id
- 648. \* Returns a key phase
- 649. \* Build a QUICPacketHeader \* \* This creates a QUICPacketShortHeader that doesn't contain a ConnectionID (Stateless Reset Packet).
- 650. \*\*\*\*\* STATIC MEMBERS \*\*\*\*\*
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- 652. \* Build a QUICPacketHeader \* \* This creates a QUICPacketLongHeader.
- 653. < RETRY packet only < INITIAL packet only < INITIAL packet only < INITIAL packet only
- 654. \* Returns its packet size
- 655. \* Creates a QUICPacket with a QUICPacketHeader, a buffer that contains payload and a flag that indicates whether the packet is \* ack\_eliciting \* \* This will be used for sending packets. Therefore, it is expected that payload is already encrypted. \* However, QUICPacket class itself doesn't care about whether the payload is protected (encrypted) or not.
- 656. \* Returns a pointer for the payload
- 657. \* \* Unlike QUICInvariants::dcil(), this returns actual connection id length
- 658. **comment:** Token field in Initial packet could be very long.  
**label:** code-design
- 659. **comment:** TODO Probably these methods should call destructor  
**label:** code-design

660. \* Length of payload

661. These two are used only if the instance was created with a buffer

662. \* Build a QUICPacketHeader \* \* This creates a QUICPacketShortHeader that contains a ConnectionID.

663. \* \* Unlike QUICInvariants::scil(), this returns actual connection id length

664. \* Stores serialized header \* \* The serialized data doesn't contain a payload part even if it was created with a buffer that contains payload data.

665. \* Load data from a buffer and create a QUICPacketHeader \* \* This creates either a QUICPacketShortHeader or a QUICPacketLongHeader.

666. VN packet doesn't have packet number field and version field is always 0x00000000

667. **comment:** Minimum length has to be 16  
**label:** code-design

668. **comment:** TODO Increment the number at least one but not only always one  
**label:** requirement

669. [draft-18] 6.3. Using Reserved Versions To help ensure this, a server SHOULD include a reserved version (see Section 15) while generating a Version Negotiation packet.

670. We can't decrypt packets that have unknown versions What we can use is invariant field of Long Header - version, dcid, and scid

671. Generate random octets

672. KeyPhase won't be used

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674. QUICPacketNumberGenerator

675. These packets are unprotected. Just copy the payload

676. **comment:** TODO Key phase should be picked up from QUICHandshakeProtocol, probably  
**label:** code-design

677. Copy stateless reset token into payload

678. version of VN packet is 0x00000000 This packet is unprotected. Just copy the payload

679. QUICPacketFactory

680. Initial, 0/1-RTT, and Handshake

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682. Protect packet number

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684. **comment:** This is a kind of hack. For short header we need to use the same key for header protection regardless of the key phase.  
**label:** code-design

685. Do nothing if the packet is VN



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698. **comment:** FIXME This should be passed to the constructor but NetVC cannot pass it because it has set\_context too.  
**label:** code-design
699. Payload Protection (encryption)
700. Header Protection
701. **comment:** FIXME EVP\_MAX\_KEY\_LENGTH and EVP\_MAX\_IV\_LENGTH are not enough somehow  
**label:** code-design
702. Payload Protection
703. Payload Protection (common)
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705. Payload Protection (decryption)
706. Create a QUIC packet
707. ZERO\_RTT might be rejected
708. token\_length and token\_length\_field\_len should be 0 except INITIAL packet
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710. **comment:** FIXME: workaround for coalescing packets  
**label:** code-design
711. **comment:** FIXME: unordered packet should be buffered and retried  
**label:** code-design
712. do nothing - if the packet is unsupported version, we don't know packet number
713. **comment:** FIXME: avoid this copy Copy payload of UDP packet to this->\_payload once  
**label:** code-design

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715. **comment:** FIXME: workaround code for coalescing packets  
**label:** code-design
716. Do nothing
717. connection\_credit
718. QUICFrameHandler
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720. \* \* @param connection\_credit This is not used. Because PATH\_CHALLENGE and PATH\_RESPONSE frame are not flow-controlled
721. QUICFrameGenerator
722. Cancel generating frame
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724. QUICFrameHandler
725. QUICFrameGeneratro
726. don't care ping frame lost or acked
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728. connection\_credit
729. \* \* @param connection\_credit This is not used. Because PING frame is not flow-controlled
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731. QUICFrameGenerator

732. Initial, 0/1-RTT, and Handshake

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734. Until receive FIN flag, keep nbytes INT64\_MAX

735. QUICStreamVConnection

736. \* \* Replace existing event only if the new event is different than the inprogress event

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738. \* \* @brief Signal event to this->\_write\_vio.cont

739. \* \* @brief Send STREAM DATA from \_response\_buffer \* @detail Call \_signal\_write\_event() to indicate event upper layer

740. **comment:** TODO Return final offset  
**label:** requirement

741. \* \* @brief Signal event to this->\_read\_vio.cont

742. Pass through. Read operation is done by QUICStream::recv(const std::shared\_ptr<const QUICStreamFrame> frame) TODO: 1. pop frame from \_received\_stream\_frame\_buffer 2. write data to \_read\_vio

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744. This is VConnection class for VIO operation.

745. \* QUICApplication need to call one of these functions when it process VC\_EVENT\_\*

746. **comment:** \* \* @brief QUIC Stream \* TODO: This is similar to Http2Stream. Need to think some integration.  
**label:** requirement

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748. **comment:** TODO Free the stream somewhere  
**label:** requirement

749. **comment:** server side TODO Free the stream somewhere  
**label:** requirement

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751. delete stream by stream type
752. **comment:** PS: this class function should not static because of THREAD\_ALLOC and THREAD\_FREE  
**label:** code-design
753. create a bidistream, send only stream or receive only stream
754. server
755. **comment:** workaround fix until support 0-RTT on client  
**label:** code-design
756. client
757. **comment:** TODO: check stream\_id  
**label:** requirement
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759. **comment:** FIXME Iterating all (open + closed) streams is expensive  
**label:** code-design
760. **comment:** FIXME We should pick a stream based on priority  
**label:** code-design
761. STREAM\_DATA\_BLOCKED frame is for debugging. Just propagate to streams
762. **comment:** FIXME: use atomic increment  
**label:** requirement
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764. QUICFrameGenerator
765. QUICFrameHandler
766. A receiver can send STOP\_SENDING in any state where it has not received a RESET\_STREAM frame; that is states other than "Reset Recvd" or "Reset Read" .
767. A sender MUST NOT send STREAM or STREAM\_DATA\_BLOCKED after sending a RESET\_STREAM; that is, in the terminal states and in the "Reset Sent" state.
768. always allow receive these frames.
769. The receiving part of a stream enters the "Recv" state when the sending part of a bidirectional stream initiated by the endpoint (type 0 for a client, type 1 for a server) enters the "Ready" state.
770. A sender could receive either of these two frames(MAX\_STREAM\_DATA and STOP\_SENDING) in any state as a result of delayed delivery of packets. PS: Because we need to reply a RESET\_STREAM frame. STOP\_SENDING frame is accepted in all states. But we don't need to do anything for MAX\_STREAM\_DATA frame when we are in terminal state.

771. PS: It should not happen because we initialize the send side and read side together. And the SendState has the default state "Ready". But to obey the specs, we do this as follow.
772. A sender MUST NOT send any of these frames from a terminal state (â€œData Recvdâ€ or â€œReset Recvdâ€ ).
773. -----QUICBidirectionalStreamState -----
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775. ----- QUICSendStreamState -----
776. The receiver only sends MAX\_STREAM\_DATA in the â€œRecvâ€ state.
777. The receiving part of a stream initiated by a peer (types 1 and 3 for a client, or 0 and 2 for a server) is created when the first STREAM, STREAM\_DATA\_BLOCKED, or RESET\_STREAM is received for that stream.
778. -----QUICReceiveStreamState -----
779. The sending part of a bidirectional stream initiated by a peer (type 0 for a server, type 1 for a client) enters the â€œReadyâ€ state then immediately transitions to the â€œSendâ€ state if the receiving part enters the â€œRecvâ€ state (Section 3.2).
780. "MAX\_STREAM\_DATA frames might be received until the peer receives the final stream offset. The endpoint can safely ignore any MAX\_STREAM\_DATA frames it receives from its peer for a stream in this state."
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782. Generate keys
783. \* @file \* \* QUIC Handshake Protocol (TLS to Secure QUIC) \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
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785. **comment:** FIXME Should not exist  
**label:** code-design
786. **comment:** TODO: integrate with \_early\_data\_processed



**label:** requirement

787. QUICHandshakeProtocol

788. **comment:** const EVP\_AEAD \* QUICTLS:: \_get\_evpcipher(const QUICKeyPhase phase) const { if (phase == QUICKeyPhase::INITIAL) { return EVP\_aead\_aes\_128\_gcm(); } else { const SSL\_CIPHER \*cipher = SSL\_get\_current\_cipher(this->\_ssl); if (cipher) { switch (SSL\_CIPHER\_get\_id(cipher)) { case TLS1\_CK\_AES\_128\_GCM\_SHA256: return EVP\_aead\_aes\_128\_gcm(); case TLS1\_CK\_AES\_256\_GCM\_SHA384: return EVP\_aead\_aes\_256\_gcm(); case TLS1\_CK\_CHACHA20\_POLY1305\_SHA256: return EVP\_aead\_chacha20\_poly1305(); default: ink\_assert(false); return nullptr; } } else { ink\_assert(false); return nullptr; } } } size\_t QUICTLS:: \_get\_aead\_tag\_len(const QUICKeyPhase phase) const { if (phase == QUICKeyPhase::INITIAL) { return EVP\_GCM\_TLS\_TAG\_LEN; } else { const SSL\_CIPHER \*cipher = SSL\_get\_current\_cipher(this->\_ssl); if (cipher) { switch (SSL\_CIPHER\_get\_id(cipher)) { case TLS1\_CK\_AES\_128\_GCM\_SHA256: case TLS1\_CK\_AES\_256\_GCM\_SHA384: return EVP\_GCM\_TLS\_TAG\_LEN; case TLS1\_CK\_CHACHA20\_POLY1305\_SHA256: return 16; default: ink\_assert(false); return -1; } } else { ink\_assert(false); return -1; } } } const EVP\_MD \* QUICKeyGenerator:: \_get\_handshake\_digest() { // TODO not implemented return nullptr; } bool QUICTLS:: \_encrypt(uint8\_t \*cipher, size\_t &cipher\_len, size\_t max\_cipher\_len, const uint8\_t \*plain, size\_t plain\_len, uint64\_t pkt\_num, const uint8\_t \*ad, size\_t ad\_len, const KeyMaterial &km, const EVP\_AEAD \*aead, size\_t tag\_len) const { uint8\_t nonce[EVP\_MAX\_IV\_LENGTH] = {0}; size\_t nonce\_len = 0; \_gen\_nonce(nonce, nonce\_len, pkt\_num, km.iv, km.iv\_len); EVP\_AEAD\_CTX \*aead\_ctx = EVP\_AEAD\_CTX\_new(aead, km.key, km.key\_len, tag\_len); if (!aead\_ctx) { Debug(tag, "Failed to create EVP\_AEAD\_CTX"); return false; } if (!EVP\_AEAD\_CTX\_seal(aead\_ctx, cipher, &cipher\_len, max\_cipher\_len, nonce, nonce\_len, plain, plain\_len, ad, ad\_len)) { Debug(tag, "Failed to encrypt"); return false; } EVP\_AEAD\_CTX\_free(aead\_ctx); return true; } bool QUICTLS:: \_decrypt(uint8\_t \*plain, size\_t &plain\_len, size\_t max\_plain\_len, const uint8\_t \*cipher, size\_t cipher\_len, uint64\_t pkt\_num, const uint8\_t \*ad, size\_t ad\_len, const KeyMaterial &km, const EVP\_AEAD \*aead, size\_t tag\_len) const { uint8\_t nonce[EVP\_MAX\_IV\_LENGTH] = {0}; size\_t nonce\_len = 0; \_gen\_nonce(nonce, nonce\_len, pkt\_num, km.iv, km.iv\_len); EVP\_AEAD\_CTX \*aead\_ctx = EVP\_AEAD\_CTX\_new(aead, km.key, km.key\_len, tag\_len); if (!aead\_ctx) { Debug(tag, "Failed to create EVP\_AEAD\_CTX"); return false; } if (!EVP\_AEAD\_CTX\_open(aead\_ctx, plain, &plain\_len, max\_plain\_len, nonce, nonce\_len, cipher, cipher\_len, ad, ad\_len)) { Debug(tag, "Failed to decrypt"); return false; } EVP\_AEAD\_CTX\_free(aead\_ctx); return true; }

**label:** code-design

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790. static constexpr char tag[] = "quic\_tls";

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792. error or reading empty data return 1, otherwise return 0.

793. **comment:** TODO: set BIO\_METHOD which read from QUICHandshakeMsgs directly

**label:** code-design

794. The buf contains the record header bytes only

795. Used when an encrypted TLSv1.3 record is sent or received. In encrypted TLSv1.3 records the content type in the record header is always SSL3\_RT\_APPLICATION\_DATA. The real content type for the record is contained in an "inner" content type. buf contains the encoded "inner" content type byte.

796. **comment:** TODO: set dummy BIO\_METHOD which do nothing  
**label:** code-design

797. Debug for reading

798. always return 1

799. **comment:** TODO: support key update  
**label:** requirement

800. this->\_update\_encryption\_level(QUICEncryptionLevel::ZERO\_RTT);

801. Early data within the TLS connection MUST NOT be used. As it is for other TLS application data, a server MUST treat receiving early data on the TLS connection as a connection error of type PROTOCOL\_VIOLATION.

802. \* This is very inspired from writting keylog format of ngtcp2's examples  
<https://github.com/ngtcp2/ngtcp2/blob/894ed23c970d61eede74f69d9178090af63fdf70/examples/keylog.cc>

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804. QUICTransportParametersHandler

805. Use std::map::contains when C++20 is supported

806. Check duplication An endpoint MUST treat receipt of duplicate transport parameters as a connection error of type TRANSPORT\_PARAMETER\_ERROR

807. Store parameter

808. Read length of value

809. Read parameters

810. **comment:** TODO Need a way that checks if we received a Retry from the server return - (TP\_ERROR\_MUST\_EXIST | QUICTransportParameterId::ORIGINAL\_CONNECTION\_ID);  
**label:** code-design

811. sizeof(QUICVersion)

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813. static constexpr uint32\_t TP\_ERROR\_MUST\_EXIST = 0x030000;

814. Read ID

815. Read size of parameters field

816. Do nothing

817. Write QUIC versions

818. MUST NOTs

819. **comment:** Write parameters XXX parameters\_size will be written later  
**label:** code-design

820. Validate parameters

821. **comment:** TODO Skip non-MUST parameters that have their default values  
**label:** code-design

822. MUSTs if the server sent a Retry packet

823. We cannot check the length because it's not a fixed length.

824. MAYs (initial values for the flow control on each type of stream)

825. QUICTransportParametersInEncryptedExtensions

826. MUSTs

827. MAYs

828. QUICTransportParametersInClientHello

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830. **comment:** TODO: read cookie secret from file like SSLTicketKeyConfig  
**label:** code-design

831. ipv4Address

832. **comment:** TODO: move to somewhere in lib/ts/  
**label:** code-design

833. **comment:** TODO: clarify QUICKeyPhase and QUICEncryptionlevel mapping  
**label:** requirement

834. **comment:** FIXME Generate a hash code  
**label:** code-design

835. Token

836. CID

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838. ipv4Port

839. **comment:** XXX assuming Long Header Packet  
**label:** code-design

840. QUICInvariants

841. remote dcil is local scil

842. QUICConnectionId

843. ipv6Address

844. Type uses 1 byte and output of EVP\_sha1() should be 160 bits

845. QUICFiveTuple

846. QUICPreferredAddress

847. ipv6Port

848. 0-RTT and 1-RTT use same Packet Number Space

849. \* \* Note that this returns a kind of hash code so we can use a ConnectionId as a key for a hashtable.

850. \* \* This function returns the raw value. You'll need to add 3 to the returned value to get the actual connection id length.

851. \* This is just for debugging.

852. 0x16 - 0x17

853. **comment:** TODO: move version independent functions to QUICInvariants  
**label:** code-design

854. 0x12 - 0x13

855. introduce by draft-19 kPacketNumberSpace

856. Haven't negotiated yet Negotiated Validated with a one in transport parameters Negotiation failed

857. 0x100 - 0x1FF

858. **comment:** Application Protocol Error Codes defined in application  
**label:** code-design

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860. **comment:** For range-based for loop. This starts from INITIAL to ONE\_RTT. It doesn't include NONE. Defining begin, end, operator\*, operator++ doesn't work for duplicate symbol issue with libmngmt\_p.a :( TODO: support ZERO\_RTT  
**label:** requirement
861. draft-17 version-specific type draft-17 version-specific type draft-17 version-specific type draft-17 version-specific type Not on the spec. but just for convenience Not on the spec. but just for convenience Not on the spec. but just for convenience Not on the spec. but just for convenience
862. Devide to QUICPacketType and QUICPacketLongHeaderType ?
863. TODO: Update version number Note: Prefix for drafts (0xff000000) + draft number Note: Fix "Supported Version" field in test case of QUICPacketFactory\_Create\_VersionNegotiationPacket Note: Fix QUIC\_ALPN\_PROTO\_LIST in QUICConfig.cc Note: Change ExtensionType (QUICTransportParametersHandler::TRANSPORT\_PARAMETER\_ID) if it's changed
864. XXX If you add or remove QUICFrameType, you might also need to change QUICFrame::type(const uint8\_t \*)
865. 0x08 - 0x0f
866. 0x1c - 0x1d
867. BLOCKED - BLOCKED frame will be sent by connection level remote flow controller
868. Flow Control - Even if it's allowed to receive on the state, it may exceed the limit
869. should not schedule write event
870. MAX\_STREAM\_DATA
871. should not schedule read event.
872. We received and processed STOP\_SENDING frame, so return NO\_ERROR here
873. Calling update always success, because len is always less than stream\_credit
874. STREAM\_DATA\_BLOCKED
875. **comment:** FIXME error is always nullptr  
**label:** code-design
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877. QUICSendStream
878. Pure FIN stream should be sent regardless status of remote flow controller, because the length is zero.
879. data\_len, maximum\_data\_size, stream\_credit and connection\_credit are already checked they're larger than 0
880. STOP\_SENDING
881. ignore
882. RESET\_STREAM
883. [draft-16] 13.2. Retransmission of Information Cancellation of stream transmission, as carried in a RESET\_STREAM frame, is sent until acknowledged or until all stream data is acknowledged by the peer (that is, either the "Reset Recvd" or "Data Recvd" state is reached on the send stream). The content of a RESET\_STREAM frame MUST NOT change when it is sent again.
884. **comment:** STREAM - Pure FIN or data length is lager than 0 FIXME has\_length\_flag and has\_offset\_flag should be configurable  
**label:** code-design
885. Stream Error
886. Forward limit of local flow controller with the largest reordered stream frame
887. **comment:** Connection Error TODO Close connection (Does this really happen?)  
**label:** code-design
888. **comment:** TODO  
**label:** requirement

889. Make a copy and insert it into the receive buffer because the frame passed is temporal

890. \* \* @brief Receive STREAM frame \* @detail When receive STREAM frame, reorder frames and write to buffer of read\_vio. \* If the reordering or writting operation is heavy, split out them to read function, \* which is called by application via do\_io\_read() or reenale().

891. **comment:** FIXME: should not assert here  
**label:** test

892. We cannot cancel sending the frame after updating the flow controller

893. Check stream state - Do this first before accept the frame

894. QUICReceiveStream

895. Check Connection/Stream level credit only if the generating STREAM frame is not pure fin

896. STREAM\_DATA\_BLOCKED frames are for debugging. Nothing to do here.

897. **comment:** Fragments of received STREAM frame (offset is unmatched) TODO: Consider to replace with ts/RbTree.h or other data structure  
**label:** code-design

898. Implement VConnection Interface.

899. QUICTransferProgressProvider

900. \* QUICApplication need to call one of these functions when it process VC\_EVENT\_\*

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905. \* \* @brief Abstrcut QUIC Application Class \* @detail Every quic application must inherits this class

906. tags

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908. inherit constructor

909. actions

910. To make compile faster <https://github.com/philsquared/Catch/blob/master/docs/slow-compiles.md>

911. tags

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913. inherit constructor

914. actions

915. To make compile faster <https://github.com/philsquared/Catch/blob/master/docs/slow-compiles.md>

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917. Delay due to some reason, the frame is not valued any more, but still valued

918. Not sequential

919. Initial state

920. on frame acked

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922. ack-only

923. One packet

924. unordered frame should sent immediately

925. Loss

926. retry

927. without consuming

928. consume

929. fill

930. fill overflow

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933. IPv4 address IPv4 port IPv6 address IPv6 port ConnectionId length ConnectionId Stateless Reset Token

934. Zero credit

935. Send new one if it was updated

936. MAX\_STREAM\_DATA

937. if there're anything to send

938. Don't send if it was not blocked

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940. Exceed limit

941. Check initial state

942. Don't retransmit unless the frame is lost

943. Retransmit

944. Delay

945. This should not be retransmission

946. Type Stream ID Error Code Final Offset

947. Type Data

948. 0b00001OLF (OLF=110) Stream ID Data Length Data Length Stream Data

949. 0b00001OLF (OLF=111) Stream ID Data Length Data Length Stream Data

950. Type Offset Length Crypto Data

951. Type

952. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section (First ACK Block Length) Ack Block Section (Gap 1) Ack Block Section (ACK Block 1 Length) Ack Block Section (Gap 2) Ack Block Section (ACK Block 2 Length)

953. Type Token Length (i) Token (\*)

954. Type Stream ID Error Code

955. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section (First ACK Block Length) Ack Block Section (Gap 1) Ack Block Section (ACK Block 1 Length) Ack Block Section (Gap 2)

956. Type Offset

957. Type Largest Acknowledged

958. 0b00001OLF (OLF=110) Stream ID Offset Data Length Stream Data

959. 0b00001OLF (OLF=111) Stream ID Offset Data Length Stream Data

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961. Type Stream ID Offset

962. 0b00001OLF (OLF=000) Stream ID Stream Data

963. Undefined ragne

964. 0b00001OLF (OLF=110) Stream ID Data Length Data Length BAD Stream Data

965. Type Error Code Frame Type Reason Phrase Length

966. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section

967. Range of ACK

968. Type Stream ID Maximum Stream Data

969. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section ECN ECT0 ECT1 ECN-CE
970. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section (First ACK Block Length)
971. Type Maximum Data
972. Range of STREAM
973. Type Sequence Number (i)
974. 0b00001OLF (OLF=010) Stream ID Data Length Stream Data
975. Type Stream ID
976. Type Sequence Length Connection ID Stateless Reset Token
977. Typr Offset Length Crypto Data
978. Type Largest Acknowledged Ack Delay Ack Block Count Ack Block Section ECN ECT0 ECT1
979. Type Error Code Frame Type Reason Phrase Length Reason Phrase ("ABCDE");
980. Type Stream Data
981. 0b00001OLF (OLF=110) Stream ID
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983. Initial state
984. CONNECTION\_CLOSE frame
985. STREAM frame
986. **comment:** TEST\_CASE("QUICFrameRetransmitter ignore frame which can not be split", "[quic]") {  
QUICFrameRetransmitter retransmitter; QUICFrameInformationUPtr info =  
QUICFrameInformationUPtr(quicFrameInformationAllocator.alloc()); info->type =  
QUICFrameType::STOP\_SENDING; info->level = QUICEncryptionLevel::NONE;  
retransmitter.save\_frame\_info(info);  
CHECK(retransmitter.create\_retransmitted\_frame(QUICEncryptionLevel::INITIAL, 0) == nullptr); }  
**label:** code-design
987. one for var block, one for the left data which saved in retransmitter
988. one for var block, one for the left data which saved in retransmitter, one for var frame
989. one for var block, one for var info
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991. block's refcount doesn't change
992. one for var block
993. Becasue the info has been released, the refcount should be 1 (var block).
994. Malformed CH (finished)
995. SH, EE, CERT, CV, FIN
996. EE - FIN
997. FIN
998. **comment:** -- Hacks for OpenSSL with SSL\_MODE\_QUIC\_HACK -- SH  
**label:** code-design
999. depends on size of cert
1000. HRR
1001. # Start Handshake
1002. CH
1003. Client



1004. # End Handshake  
1005. Server  
1006. < 0x100 + unexpected\_message(10)  
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1008. **comment:** XXX For NetVCOptions::reset  
**label:** code-design  
1009. encrypt - decrypt client (encrypt) - server (decrypt)  
1010. #include "Mock.h"  
1011. NS  
1012. Teardown  
1013. client key\_share will be X25519 (default of OpenSSL)  
1014. Teardown Make it back to the default settings  
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1016. Long header, Type: NONE  
1017. Long header, Type: NONE Version DCIL/SCIL Invalid Destination Connection ID  
1018. Long header, Type: NONE Destination Connection ID (144)  
1019. Long header, Type: NONE Version DCIL/SCIL Source Connection ID  
1020. Long header, Type: NONE Version DCIL/SCIL Destination Connection ID  
1021. Long header, Type: NONE Version DCIL/SCIL Destination Connection ID Source Connection ID  
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1023. When ATS change QUICConfigParams::\_scid\_len shorter, this test should be failed  
1024. Long header, Type: NONE Version DCIL/SCIL Destination Connection ID Invalid Source Connection ID  
1025.  
1026. Long header, Type: NONE Invalid Destination Connection ID  
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1028. <https://github.com/quicwg/base-drafts/wiki/Test-Vector-for-the-Clear-Text-AEAD-key-derivation>  
1029. Receive ACK

1030. Receive an ACK for (1) (4) (5) (7) (8) (9)
1031. Send SERVER\_CLEARTEXT (Handshake message)
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1033. Lost because of packet\_threshold.
1034. Check initial state
1035. Send packet (1) to (7)
1036. **comment:** Long header, Type: INITIAL Version DCIL/SCIL Destination Connection ID Source Connection ID Token Length (i), Token (\*) Length (Not 0x09 because it will have 16 bytes of AEAD tag) Packet number Payload (dummy)  
**label:** code-design
1037. **comment:** Short header with (K=0) Destination Connection ID (144) Packet number Payload (dummy)  
**label:** code-design
1038. Destination Connection ID (144)
1039. Long header, Type: INITIAL Version DCIL/SCIL Destination Connection ID Source Connection ID Token Length (i), Token (\*) Payload length Packet number Payload (dummy)
1040. Packet Length - Payload Length (Retry Token)
1041. Packet Length - Payload Length
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1043. **comment:** Short header with (K=0) Destination Connection ID (144) Packet number Protected Payload  
**label:** code-design
1044. Long header, Type: RETRY Version DCIL/SCIL Destination Connection ID Source Connection ID Original Destination Connection ID Retry Token
1045. Long header, Type: NONE Version DCIL/SCIL Destination Connection ID Source Connection ID Supported Version 1 Supported Version 1
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1047. Lower 7 bits of the first byte is random
1048. Long header, Type: NONE Version DCIL/SCIL Destination Connection ID Source Connection ID Supported Version Exercise Version
1049. Client
1050. Handshake CH
1051. SH, EE, CERT, CV, FIN
1052. ## Server -> Client
1053. EE - FIN
1054. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed

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1055. FIN

1056. **comment:** -- Hacks for OpenSSL with SSL\_MODE\_QUIC\_HACK -- SH

**label:** code-design

1057. depends on size of cert

1058. NS

1059. Server

1060. ## Client -> Server

1061. This should not send a frame because of flow control

1062. Lost data should be resent first

1063. Start with 1024 but not 0 so received frames won't be processed

1064. Write data2

1065. Regenerate a frame

1066. Loss the frame

1067. \* This test does not pass now

1068. Lost the frame

1069. Write data1

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1071. delay

1072. Update window

1073. Generate STREAM frame

1074. duplicate

1075. duplicated frame

1076. Test Data

1077. Don't send it again until it is considered as lost

1078. start again without the first block

1079. After the loss the frame should be regenerated

1080. this should exceed the limit

1081. all frames should be processed

1082. This should send a frame

1083. Create a stream with STREAM\_DATA\_BLOCKED (== noop)

1084. size of parameters parameter id - initial\_max\_streams\_bidi length of value value parameter id - initial\_max\_stream\_data\_bidi\_local length of value value

1085. STREAM frames create new streams

1086. STREAM\_DATA\_BLOCKED frames create new streams

1087. size of parameters parameter id - initial\_max\_streams\_bidi length of value value parameter id - initial\_max\_stream\_data\_bidi\_remote length of value value

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1089. RESET\_STREAM frames create new streams

1090. total\_offset should be a integer in unit of octets

1091. size of parameters parameter id - initial\_max\_streams\_bidi length of value value

1092. Set local maximum stream id

1093. total\_offset should be a integer in unit of 1024 octets

1094. MAX\_STREAM\_DATA frames create new streams

1095. Wait for event processing

1096. Case4. Send RESET\_STREAM

1097. // Case3. Recv ALL data

1098. Case4. STREAM is not allowed to send

1099. Case5. Read data

1100. Case6. Receive ACK for RESET\_STREAM

1101. Case4. Recv RESET\_STREAM

1102. Case3. Handle reset

1103. ss.update\_on\_transport\_rcv\_event();

1104. Case3. Recv ALL data

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1106. Case5. Receive all ACKs

1107. Case3. Recv RESET\_STREAM

1108. Case4. Receive ACK for STREAM

1109. Case2. Send STREAM\_DATA\_BLOCKED

1110. Case2. Recv FIN in a STREAM

1111. Case1. Recv STREAM

1112. Case2. Recv RESET\_STREAM

1113. Case4. Recv ALL data

1114. Case2. Send STREAM

1115. Unidirectional (sending)

1116. Case5. Receive ACK for STREAM

1117. Case3. Recv FIN in a STREAM

1118. Case4. Receive ACK for RESET\_STREAM

1119. Case3. Send RESET\_STREAM

1120. Case1. Create Stream (Sending)

1121. Case3. Send FIN in a STREAM

1122. Case5. Receive ACK for RESET\_STREAM

1123. Case2. Recv STREAM\_DATA\_BLOCKED

1124. Case2. Send RESET\_STREAM

1125. Case3. Send STREAM\_DATA\_BLOCKED

1126. Case3. Receive ACK for STREAM

1127. Unidirectional (receiving)

1128. size of parameters parameter id length of value value value parameter id length of value value parameter id length of value value

1129. size of parameters parameter id length of value value parameter id length of value value parameter id length of value value parameter id length of value

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1131. size of parameters parameter id length of value value parameter id length of value value parameter id length of value
1132. size of parameters parameter id length of value value parameter id length of value value parameter id length of value value parameter id length of value value
1133. size of parameters parameter id length of value value parameter id length of value value
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1136. Negotiate version
1137. No Version Negotiation packet from server
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1139. Server send VN packet based on Initial packet
1140. Check initial state
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1142. **comment:** FIXME Ignore unidirectional streams for now  
**label:** code-design
1143. **comment:** TODO: avoid const cast  
**label:** requirement
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1145. \*\* @brief A simple multi-streamed application. \* @detail Response to simple HTTP/0.9 GETs \* This will be removed when HTTP/0.9 over QUIC support is dropped \*
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1147. Default values of settings defined by specs (draft-17)
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1149. Statistics
1150. Terminal counter, NOT A STAT INDEX.
1151. Container for statistics.
1152. **comment:** TODO: handle eos  
**label:** requirement
1153. event
1154. Set uni stream suitable app (HTTP/3 or QPACK) by stream type
1155. **comment:** TODO: make error  
**label:** requirement
1156. **comment:** TODO: update settings for priority tree  
**label:** requirement
1157. Server side only
1158. **comment:** TODO: avoid const cast  
**label:** requirement
1159. **comment:** TODO: Open uni streams for QPACK when dynamic table is used error = this->create\_uni\_stream(stream\_id, Http3StreamType::QPACK\_ENCODER); if (error == nullptr) { this->\_handle\_uni\_stream\_on\_write\_ready(VC\_EVENT\_WRITE\_READY, this->\_find\_stream\_io(stream\_id)); }  
**label:** code-design
1160. TODO: when PUSH comes from client, send stream error with HTTP\_WRONG\_STREAM\_DIRECTION
1161. **comment:** TODO: Add length check: the maximum number of values are  $2^{62} - 1$ , but some fields have shorter maximum than it.  
**label:** code-design
1162. SETTINGS frame handler
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1164. error = this->create\_uni\_stream(stream\_id, Http3StreamType::QPACK\_DECODER); if (error == nullptr) { this->\_handle\_uni\_stream\_on\_write\_ready(VC\_EVENT\_WRITE\_READY, this-

```

    >_find_stream_io(stream_id)); }
1165. comment: TODO: just ignore or trigger QUIC STOP_SENDING frame with
    HTTP_UNKNOWN_STREAM_TYPE
    label: requirement
1166. make error
1167. SETTINGS frame framer
1168. Change app to QPACK from Http3
1169. * * @brief A HTTP/3 application * @detail
1170. comment: TODO: clarify Http3Session I/F for Http3SettingsHandler and Http3App
    label: requirement
1171. Http3FrameHandler
1172. * @file * * A brief file description * * @section license License * * Licensed to the Apache Software
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    WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. * See the License for the
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1173. comment: TODO: Return StreamIO. It looks bother that coller have to look up StreamIO by stream id.
    Why not create_bidi_stream ?
    label: code-design
1174. /< Becarefull when set FIN flag on CONTROL stream. Maybe never? /< Send SETTINGS frame only
    once
1175. Http3FrameGenerator
1176. Http3ConfigParams
1177. re-read configuration
1178. Http3Config
1179. * @file * * HTTP/3 Config * * @section license License * * Licensed to the Apache Software
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1186. Type
1187. Payload
1188. Unknown frame
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1190. FIXME DATA frames can be giga bytes
1191. UNKNOWN Frame
1192. Exercise the requirement that unknown identifiers be ignored. - 4.2.5.1.
1193. Payload offset
1194. Generic Frame
1195. Length
1196. HEADERS Frame
1197. Ignore any SETTINGS identifier it does not understand.
1198. If you really need this, you should keep the data passed to its constructor
1199. Static functions
1200. Return if whole frame data is not available
1201. Http3FrameFactory
1202. **comment:** TODO: This should clone IOBufferBlock chain to avoid memcpy  
**label:** code-design
1203. SETTINGS Frame
1204. DATA Frame
1205. Http3FrameFactory
1206. \* This is used for creating a Http3Frame object based on received data.
1207. HEADERS Frame
1208. \* This is for an empty Http3FrameUPtr. \* Empty frames are used for variable initialization and return value of frame creation failure
1209. \* Creates a HEADERS frame.



1210. SETTINGS Frame

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1212. **comment:** TODO: make connection error with HTTP\_MALFORMED\_FRAME  
**label:** requirement

1213. DATA Frame

1214. \* Creates a DATA frame.

1215. /< Type (i) + Length (i)

1216. **comment:** \* This works almost the same as create() but it reuses created objects for performance. \* If you create a frame object which has the same frame type that you created before, the object will be reset by new data.

**label:** code-design

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1219. Dispatch

1220. Read a length of Type field and hopefully a length of Length field too

1221. Consume buffer if frame is created

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1223. Frame Dispatcher

1224. Create a frame Type field length + Length field length + Payload length

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1229. Create frames on demand base on max\_size since we don't know how much we can write now
1230. Parse response header and generate header block
1231. this->\_header\_block will be filled if it is ready
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1233. Http3FrameGenerator
1234. When decoding is not blocked, continuation should be called directly?
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1236. Decoding is blocked.
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1238. Http3FrameHandler
1239. **comment:** TODO: rename, this is not VIOAdaptor anymore  
**label:** code-design
1240. **comment:** TODO  
**label:** requirement
1241. HqSession
1242. Http09Session
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1244. Http3Session
1245. **comment:** TODO Implement stats  
**label:** requirement
1246. ProxySession interface
1247. Implement VConnection interface
1248. QPACK for decoding QPACK for encoding
1249. Implement ProxySession interface
1250. HqSession
1251. \* Only for interop. Will be removed.
1252. this should be unordered map?
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1256. HTTP/QUIC Session Accept. HTTP/QUIC needs to be explicitly enabled on a server port. The syntax is different for SSL and raw ports. The example below configures QUIC on port 443 (with TLS). CONFIG proxy.config.http.server\_ports STRING 443:quic
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- implied. See the License for the specific language governing permissions and limitations under the License.
1258. `__HTTP_QUIC_SESSION_ACCEPT_H__`
1259. **comment:** XXX HttpSessionAccept::Options needs to be refactored and separated from HttpSessionAccept so that it can generically apply to all protocol implementations.  
**label:** code-design
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1262. Http3FrameHandler
1263. NOTE: When Chunked Transfer Coding is supported, check ChunkedState of ChunkedHandler is CHUNK\_READ\_DONE and set FIN flag
1264. Constant strings for pseudo headers
1265. Nuke this block when we drop 0.9 support
1266. **comment:** FIXME: Get hostname from SNI?  
**label:** requirement
1267. End of code for HTTP/0.9
1268. TODO: start closing transaction
1269. if no progress, don't need to signal
1270. **comment:** FIXME: response header might be delayed from first response body because of callback from QPACK Workaround fix for mixed response header and body  
**label:** code-design
1271. `this->_frame_collector.add_generator(this->_push_controller);`
1272. Check client request is complete or not
1273. **comment:** FIXME: handle error  
**label:** requirement
1274. Convert HTTP/0.9 to HTTP/1.1
1275. Nuke this branch when we drop 0.9 support
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1277. Send on to the owning thread
1278. Ignore malformed data
1279. The size of respons to client
1280. If READ\_READY event is scheduled, should it be canceled?
1281. ignore
1282. Http3Transaction
1283. Convert HTTP/1.1 to HTTP/0.9

1284. Skip HTTP/1.1 response headers

1285. \* \* @brief Replace existing event only if the new event is different than the inprogress event

1286. Send to the right thread

1287. Http09Transaction

1288. \* \* @brief Signal event to this->\_read\_vio.cont

1289. static void dump\_io\_buffer(IOBufferReader \*reader) { IOBufferReader \*debug\_reader = reader->clone();  
uint8\_t msg[1024] = {0}; int64\_t msg\_len = 1024; int64\_t read\_len = debug\_reader->read(msg,  
msg\_len); Debug("v\_http3\_trans", "len=%" PRIu64 "\n%s\n", read\_len, msg); }

1290. **comment:** TODO: should check recursive call?  
**label:** code-design

1291. **comment:** TODO  
**label:** requirement

1292. If the first two bit are 0 and 1, the 3rd byte is type field. Because there is no type value larger than 0x20,  
we can assume that the request is HTTP/0.9 if the value is larger than 0x20.

1293. This branch is for HTTP/0.9

1294. Write HTTP/1.1 response body

1295. **comment:** Dirty hack to bypass checks  
**label:** code-design

1296. **comment:** FIXME: already defined somewhere?  
**label:** code-design

1297. **comment:** TODO: Http2Stream::send\_request has same logic. It originally comes from  
HttpSM::write\_header\_into\_buffer. a). Make HttpSM::write\_header\_into\_buffer static or b). Add  
interface to HTTPHdr to dump data or c). Add interface to HttpSM to handle HTTPHdr directly  
**label:** code-design

1298. HQTransaction

1299. Check "CRLF" or "LF"

1300. **comment:** TODO: do HTTP/3 specific convert, if there  
**label:** code-design

1301. nothing to do

1302. \* \* @brief Signal event to this->\_write\_vio.cont

1303. These are for HTTP/0.9

1304. VConnection interface

1305. These are for HTTP/3

1306. Implement ProxyClientTransaction interface

1307. \* Only for interop. Will be removed.

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1309. HQTransaction

1310. /< HTTP header buffer for decoding

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1312. Update Http3Frame::type(const uint8\_t \*) too when you modify this list

1313. /< QPACK Settings /< HTTP/3 Settings /< HTTP/3 Settings /< HTTP/3 Settings /< HTTP/3 Settings /<  
HTTP/3 Settings /< QPACK Settings /< HTTP/3 Settings

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1315. /< HTTP/3 /< HTTP/3 /< QPACK : encoder -> decoder /< QPACK : decoder -> encoder

1316. Actual error code of QPACK is not decided yet on qpack-05. It will be changed.

1317. Use relative index if we refer Dynamic Table

1318. qpack-05 Appendix A.

1319. Make an IOBufferBlock for Header Data Prefix

1320. Literal Header Field Without Name Reference

1321. Never index field

1322. **comment:** TODO Use a tree for better performance  
**label:** code-design

1323. We need to dup name and value to avoid memcpy-param-overlap

1324. **comment:** TODO If never\_index is true, we need to mark this header as sensitive to not index the header when passing it to the other side  
**label:** code-design

1325. Check if we can make enough space to insert a new entry

1326. Indexed Header Field

1327. Finalize and Schedule to send

1328. Index

1329. Value

1330. Create and attach a header

1331. Static table

1332. Indexed Header Field With Post-Base Index

1333. Lookup the name

1334. Stream Cancellation

1335. Exact match

1336. Name

1337. DynamicTable is empty

1338. Number of blocked streams exceed the limit

1339. Compress headers and record the largest reference

1340. Dynamic table

1341. Find from tables, and insert / duplicate a entry prior to encode it

1342. Duplicatex

1343. **comment:** TODO: Check whether a specified entry should be duplicated Just return false for now  
**label:** code-design

1344. **comment:** TODO Implement it  
**label:** requirement

1345. Insert only the name

1346. Name in static table is always available. Do nothing.

1347. Header Acknowledgement

1348. Dynamic Table Size Update

1349. Read value

1350. DynamicTableStorage

1351. Index Header Field

1352. Read index field

1353. Duplicate an entry and use the new entry

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- 1355. Insert Without Name Reference
- 1356. Literal Header Field With Post-Base Name Reference
- 1357. Stream ID
- 1358. DynamicTable
- 1359. Name match -- Keep it for no exact matches
- 1360. References static table or not
- 1361. Insert both the name and the value
- 1362. Table State Synchronize
- 1363. Name Index
- 1364. Stream ID FIXME xpack\_decode\_integer does not support uint64\_t
- 1365. Lookup a table
- 1366. Blocked
- 1367. Indexed Header Field with Post-Base Index
- 1368. Decode Instructions
- 1369. Max Size
- 1370. Insert Count
- 1371. S flag
- 1372. Encode
- 1373. **comment:** TODO Set never\_index flag on/off according to encoding headers  
**label:** code-design
- 1374. **comment:** FIXME Estimate it  
**label:** code-design
- 1375. Read name index field
- 1376. Literal Header Field With Name Reference
- 1377. ink\_assert(index >= this->\_entries[(this->\_entries\_tail + 1) % this->\_max\_entries].index);  
ink\_assert(index <= this->\_entries[this->\_entries\_head].index);
- 1378. Evict
- 1379. Insert With Name Reference
- 1380. We can't insert a new entry because some stream(s) refer an entry that need to be evicted
- 1381. Decode Header Data Prefix
- 1382. Read name and value
- 1383. Insert
- 1384. **comment:** FIXME It may be better to split this array into small arrays to reduce memory footprint  
**label:** code-design
- 1385. Decoder Stream
- 1386. Chain of sending instructions
- 1387. \* This will emit either of two events below: \* - QPACK\_EVENT\_DECODE\_COMPLETE (Data: \*HTTPhdr) \* - QPACK\_EVENT\_DECODE\_FAILED (Data: nullptr)
- 1388. Encoder Stream
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- 1390. **comment:** Stream numbers FIXME How are these stream ids negotiated? In interop, encoder stream id have to be 0 and decoder stream id must not be used.  
**label:** code-design
- 1391. Request and Push Streams
- 1392. \* header\_block must have enough size to store all headers in header\_set. \* The maximum size can be estimated with QPACK::estimate\_header\_block\_size().
- 1393. For IntrusiveDList support
- 1394. Utilities

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1397. tags
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1399. inherit constructor
1400. actions
1401. To make compile faster <https://github.com/philsquared/Catch/blob/master/docs/slow-compiles.md>
1402. tags
1403. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
1404. inherit constructor
1405. To make compile faster <https://github.com/philsquared/Catch/blob/master/docs/slow-compiles.md>  
#define CATCH\_CONFIG\_MAIN
1406. actions
1407. Type Length Identifier Value Identifier Value Identifier Value
1408. Type Length
1409. Type
1410. Undefined ragne
1411. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.
1412. Type Length Payload
1413. Type Length Identifier Value Identifier Value
1414. Initial state
1415. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in



writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

1416. 2nd frame (DATA)

1417. 1st frame (HEADERS)

1418. 3rd frame (incomplete)

1419. Declared in main\_qpack.cc

1420. Skip 32 bits for Legnth

1421. Write Length

1422. Write StreamId (0)

1423. Back to the tail

1424. HTTPHdr \*requests[MAX\_SEQUENCE]; int n\_requests = load\_qif\_file(qif\_file, requests);

1425. Write StreamId

1426. **comment:** TODO: QUICUnidirectionalStream should be used if there  
**label:** code-design

1427. Set the head of block

1428. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

1429. Read Length

1430. Back to the posistion for Length

1431. Read Stream ID

1432. Write QPACKData

1433. read output routing values

1434. initial value set to 0 or 1 based on command line tags

1435. ////////////////////////////////// add new tag tables  
////////////////////////////////

1436. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

1437. ////////////////////////////////// clear out old tag tables // //////////////////////////////////

1438. copy from iocore/utlis/diags.i

1439. ////////////////////////////////// change the diags config values // //////////////////////////////////

1440. Similar to HttpSM::state\_http\_server\_open(int event, void \*data)

1441. Response Handler

1442. OpenSSL protocol-lists format (vector of 8-bit length-prefixed, byte strings)  
[https://www.openssl.org/docs/manmaster/man3/SSL\\_CTX\\_set\\_alpn\\_protos.html](https://www.openssl.org/docs/manmaster/man3/SSL_CTX_set_alpn_protos.html) Should be integrate with IP\_PROTO\_TAG\_HTTP\_QUIC in ts/ink\_inet.h ?

1443. **comment:** TODO: create Http3ServerTransaction  
**label:** requirement

1444. do nothing

1445. Connection Close Exercise

1446. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \*

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1447. Write HTTP Request to write\_vio

1448. **comment:** TODO: check write avail size  
**label:** requirement

1449. **comment:** TODO: move to transaction  
**label:** code-design

1450. Http3ClientApp

1451. **comment:** TODO: see what server session is doing with IpAllow::ACL  
**label:** code-design

1452. **comment:** TODO: create ProxyServerSession / ProxyServerTransaction  
**label:** requirement

1453. **comment:** TODO: fix below issue with H2 origin conn stuff Do not call  
 ProxyClientTransaction::new\_transaction(), but need to setup txn - e.g. do\_io\_write / do\_io\_read  
**label:** requirement

1454. Destroy contents if file already exists

1455. Http09ClientApp

1456. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

1457. **comment:** TODO: add quic version option TODO: add host header option (also should be used for SNI)  
**label:** code-design

1458. **comment:** data ATS\_UNUSED  
**label:** code-design

1459. ink\_assert(false);

1460. Same to init\_http\_header(); in traffic\_server.cc

1461. \* @file \* \* A brief file description \* \* @section license License \* \* Licensed to the Apache Software Foundation (ASF) under one \* or more contributor license agreements. See the NOTICE file \* distributed with this work for additional information \* regarding copyright ownership. The ASF licenses this file \* to you under the Apache License, Version 2.0 (the \* "License"); you may not use this file except in compliance \* with the License. You may obtain a copy of the License at \* \* <http://www.apache.org/licenses/LICENSE-2.0> \* \* Unless required by applicable law or agreed to in writing, software \* distributed under the License is distributed on an "AS IS" BASIS, \* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. \* See the License for the specific language governing permissions and \* limitations under the License.

1462. Before accessing file system initialize Layout engine

1463. Process command line arguments and dump into variables

1464. **comment:** name ATS\_UNUSED  
**label:** code-design

1465. **comment:** event ATS\_UNUSED  
**label:** code-design

1466. **comment:** TODO: Support QUIC version, cipher suite ...etc TODO: Support qdrive tests  
<https://github.com/ekr/qdrive> <https://github.com/mcmanus/mozquic/tree/master/tests/qdrive>  
**label:** test

1467. Set up the application version info

1468. **comment:** FIXME: remove stub stub  
**label:** code-design

1469. \* ALPN protocol-lists. The format is OpenSSL protocol-lists format (vector of 8-bit length-prefixed, byte strings) [https://www.openssl.org/docs/manmaster/man3/SSL\\_CTX\\_set\\_alpn\\_protos.html](https://www.openssl.org/docs/manmaster/man3/SSL_CTX_set_alpn_protos.html)

1470. / Check for QUIC ports. / @return @c true if any port in @a ports is an QUIC port. /< Ports to check.

1471. / < Protocol plugin connection /< SSL connection. / Check for QUIC port.

1472. / Check for QUIC ports. / @return @c true if any global port is an QUIC port.  
1473. /< QUIC (experimental)  
1474. Constants of Loss Detection  
1475. ##### # # HTTP/3 global configuration. # #####  
1476. Constatns of Congestion Control  
1477. Transport Parameters  
1478. ##### # # QUIC global configuration. # #####  
1479. HTTP/0.9 over QUIC (for interop only, will be removed)  
1480. HTTP/3  
1481. Initialize HTTP/QUIC  
1482. OK, pushing a spawn scheduling here  
1483. HTTP/2 over TLS HTTP/0.9 over QUIC HTTP/3 over QUIC

## git\_commits:

### 1. **summary:** Add QUIC draft-20 support

**message:** Add QUIC draft-20 support Squashed commit of the following: commit

4b8151ad413419ad94b6a7c1327eb7b95ee4d13c Merge: 5944d5593 78995bf4e Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Jul 23 15:16:59 2019 +0900 Merge branch 'master' into quic-20 \*  
master: (46 commits) Add dest addr information to UDPPacket class Update UDPNet for QUIC Add  
HKDF wrapper Use un-deprecated records for SSL server verification Removes  
proxy.config.http.cache.allow\_empty\_doc Deprecate the mysql\_remap plugin. See #5395 Removes the  
stale\_while\_revalidate plugin. See #5395 Removes the memcached\_remap plugin. See #5395 Removes  
the hipes plugin. See #5395 Removes the header\_normalize plugin. See #5395 Removes the  
buffer\_upload plugin. See #5395 Removes the balancer plugin. See #5395 Fixes spelling in lib/records  
Fixes memory leak in traffic\_crashlog Promotes certifier to stable, see #5394 Promotes remap\_purge to  
stable, see #5394 Promotes prefetch to stable, see #5394 Promotes multiplexer to stable, see #5394  
Promotes cache\_range\_requests to stable, see #5394 fix If-Match and If-Unmodified-Since priority  
problem,about rfc <https://tools.ietf.org/html/rfc7232#section-3.3> ... Conflicts: build/crypto.m4  
configure.ac include/tscore/HKDF.h iocore/net/P\_UDPNet.h iocore/net/P\_UnixNet.h  
iocore/net/UnixUDPNet.cc src/tscore/HKDF\_boringssl.cc src/tscore/HKDF\_openssl.cc commit  
5944d559380fb1cb17e4fbe99d06570a8b7ce4f0 Merge: 5f39e7f27 8510a1c24 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Jul 10 11:48:26 2019 +0900 Merge branch 'master' into quic-20 \*  
master: Log H2 errors with the codes Separate out common header compression logic to hdrs directory  
TSIOBufferReaderCopy: copy data from a reader to a fixed buffer. Remove unused header file  
ink\_inout.h Remove unused LibBulkIO Reverse internal order of HPACK Dynamic Table Entries More  
Autest cleanup commit 5f39e7f270ce211e274391357ced328560500ad4 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Jul 4 14:08:35 2019 +0900 Fix build issues on macOS (cherry picked  
from commit ec333e7e62ce61d87774b3801dc37cba6fff0354) commit  
319a46fabcb1b0dae3651548b11d3ebd752acce3a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Jul 4 12:52:45 2019 +0900 Fix a build issue on CentOS (cherry picked from commit  
96293892f9306948c45f4adbd6e99e47d72cc5e3) commit f428cc465941ba242d1d01e146e7196fb83cb5e5  
Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jul 4 12:48:28 2019 +0900 Remove  
dependency for libinknet and etc (cherry picked from commit  
91f1726b39403890158cdf1a308ef190e0f7b5c8) commit b4f20d9d7ba21024b99aebf23567a1889e1ed0ff  
Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jul 4 11:39:01 2019 +0900 Fix a build issue  
on CentOS (cherry picked from commit d88d887d8d33656f044e0076b56c4678a62c85b0) commit  
cf7b61e8d320e8fee909c4dec35359495d525172 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Jul 3 18:00:22 2019 +0900 Add dependency for libUglyLogStubs.a for now to pass the CI job  
(cherry picked from commit 065983974c9e8fd0d71240f7e3b420860a7f8d13) commit  
08b898b5945149ee26f37ebec7c1b85e6c43ec22 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Jul 3 17:28:29 2019 +0900 Remove many dependency for libinknet from QUIC module (cherry  
picked from commit 39c2c16d908887b079e5ad8dcad19a96ca5439c6) commit  
e5d74233a5486448ac7d15bd8178d46eb7997c9f Merge: 749f9090c a4d913a35 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Jul 3 11:01:11 2019 +0900 Merge branch 'master' into quic-20 \*  
master: Combohandler: Set response as private if one of the origin responses is private Added end pointer  
to ink\_atoi64 and used when parsing cache size Add ats\_unique\_buf Convert HdrHeap regression test  
into unit test using Catch This fixes issue #5642. When the number of connections to a parent proxy  
exceeds proxy.config.http.per\_server.connection.max a state machine loop will occur when using parent

selection to select a parent for redundancy and/or load balancing. Fix options processing for ja3\_fingerprint plugin Conflicts: proxy/hdrs/Makefile.am commit 749f9090c8ffae7d5a20ec0c4551c83e348faf30 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 27 11:31:57 2019 +0900 Remove libtsconfig from Makefiles (cherry picked from commit d034bd6bfd6613adb9dddd86affa9c71ebee5689) commit e6a546700dd9317efd49744723e82e43f668b6e6 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 25 16:37:40 2019 +0900 Reduce trivial diff from master commit 05bd80b8fecf29cee8a2086e653d397f3740362a Merge: 867b0f627 9d859ea47 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 25 16:25:10 2019 +0900 Merge branch 'master' into quic-20 \* master: Update MT\_Hashtable interface to use smart pointer Allows for resizing librecords via command line option Program to test if multiple URLs can be cached and generates a report on the cache headers. Doc: Improve TSHttptxnUrlEffectiveStringGet docs, cleanup other doc build errors. emergency shutdown update example directory structure and add examples for lua plugin Fix build error for pre openssl-1.1.1 Use SSL\_version() directly instead of SSL\_get\_version() which returns a string (Thanks @maskit for the pointer). Add metrics to track SSLv3 and TLS versions Auto port selection for more autests commit 867b0f627bc555c0208e1208380945650d328d95 Merge: 9d561a5a3 75e7fc340 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 21 10:51:50 2019 +0900 Merge branch 'master' into quic-20 \* master: Reenable redirect\_actions Au test as it is working now. Fix the number of net\_connections\_currently\_open\_stat error increase Fix and reenable url\_sig Au test. TS autest extension now auto selects both ssl and nonssl port cookie\_remap plugin Au test case changes for compatability with PR 4964. Replaces Emergency() with Error() when parsing these records.config values use type info to assign an affinity thread HTTP/2: ignore unknown settings HTTP/2: cancel reading buffer when ATS received GOAWAY HTTP/2: increment write\_vio.ndone by consumed size Cleanup debug log in mime\_hdr\_describe Fix default logging.yaml with new format. Update lua.en.rst commit 9d561a5a3945354e55be6edac6eecca416b1842 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 17 15:40:16 2019 +0900 Catch up changes on master commit 030cadb7a34b9f988478eefa261c2a49cdf1f8a Merge: 2805b749e 9d90a5114 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 17 10:49:09 2019 +0900 Merge branch 'master' into quic-20 \* master: (54 commits) TextView: Fix bug in rtrim\_if when entire view is cleared. Step 23: Renames Rollback object -> FileManager consistently Step 22: Renames Rollback.cc/.h -> ConfigManager.cc/.h Step 21: Removes the UNVERSIONED option flag completely Step 20: Removes incVersion/inc\_version from FileManager etc. Step 19: Removes the now unused Rollback member variables Step 18: Removes setLastModifiedTime, and simplifies code Step 17: Removes versionInfo, as well as currentVersion and highestSeen Step 16: Removes createPathStr() and cleans up statFile() Step 15: Removes getBaseName() and various unused members Step 14: Removes numberOfVersions() and getCurrentVersion() Step 13: Removes openFile() and closeFile() Step 12: Removes extractVersionInfo() Step 11: Removes statVersion() Step 10: Removes versionTimeStamp() and versionTimeStamp\_ml() Step 9: Removes getVersion() and getVersion\_ml() Step 8: Removes internalUpdate(), functionality was moved in 6 Step 7: Removes updateVersion() and updateVersion\_ml() Step 6: Simplifies checkForUserUpdate(), moving critical code here Step 5: Remove removeVersion() and removeVersion\_ml() ... Conflicts: iocore/net/UnixNet.cc iocore/net/UnixUDPNet.cc iocore/net/libinknet\_stub.cc commit 2805b749e1444e54373491584b2955a47e6cca29 Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 31 15:44:53 2019 +0900 Skip running test\_QPACK when qif dir is not found commit fe277104391e7d64938e50b2c5fac6a81cbbbe13c Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 31 15:17:40 2019 +0900 Rename Http3ClientSession to Http3Session commit 7d8d7df3b286ea3dcbfec86d0d6baa83729dd00c Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 31 15:03:23 2019 +0900 Rename Http3ClientTransaction to Http3Transaction commit d23fe12e3d327f1761f065bf97e643f4e39cb9c8 Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 31 09:25:07 2019 +0900 Follow proxy ssn/txn cleanups on master commit eabfc106b129d0de8979363930e7ef62f11a39d4 Merge: 5b0e099a0 3b865f63d Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 31 08:48:21 2019 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: Ignore Pipfile.lock file Rename class: ProxyTransaction Rename class: ProxySession Rename class: Http1ServerSession Renamed class: Http1Transaction renamed ProxyTransaction::parent to proxy\_ssn removed ProxyTransaction::get\_transaction\_count() ProxySession Cleanup Rename files: ProxyTransaction & ProxySession Rename files: Http1Transaction & Http1ServerSession Added new API TSSslClientContextsNamesGet and TSSslClientContextFindByName. Added an example plugin that records all loaded context information into a log file. Added an autest for the example plugin. Added documentation for the APIs. Fix ja3 hooks for openssl 1.0.1 Fix order a little bit, based on F30 availability commit 5b0e099a0922728fecd9ee339d32c40e71b427 Merge: 0afaec693 58e7e8675 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 29 08:14:51 2019 +0900 Merge branch

'master' into quic-latest \* master: (31 commits) Ran clang-tidy with google-readability-casting Removes the abort() from header\_rewrite, and try to deal with errors Set HTTP version on server side header conversion Fix ParentSelection regression/unit tests. Add an ignore\_self\_detect flag to parent.config so that the local cache host may be a member of a peering cache group. Clean up: Remove redundant proxy.config.http.parent\_proxy\_routing\_enable variable Removes empty config load warning for YAML-based configuration files Doc: Fix typo in TSMimeHdrFieldCreate Minor wording changes in ssl\_server\_name.yaml docs Added loop detection via code and squid logging code Doc: Add documentation for a few C API functions, clean up doc build errors. Add cstdio in TextBuffer for vsnprintf Added pipenv config script for Autest. Doc: Remove origin KA note from removed setting Check DH\_get\_2048\_256() error More fixes and cleanup of CI scripts Updates Dockerfile, and adds a comment to autest bootstrap Removed headers that don't exist in the dir to fix clang-tidy Add options to sort to reduce os differences in all\_headers test Fix test to not break on custom layouts ... Conflicts: doc/admin-guide/files/records.config.en.rst iocore/net/UnixNet.cc iocore/net/UnixUDPNet.cc commit 0afaec6934c4b2039a32b2817acded4bc1a4875d Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 17:55:05 2019 +0100 Allow number of settings per H3 session to be configurable commit 4dda42c62d1ab1390a4138f96e9713a84602fa2b Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 21 16:29:32 2019 +0100 Fix test\_quic command --q-decoded-dir option commit b3701a4691524eb3e5a43f7bf57d837f789ae786 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 15:13:42 2019 +0100 Print source port number commit 1e8a3a65dfaf1cc0ca15b6bfb3203e1478ed0cdb Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 15:01:39 2019 +0100 Use preferred address once a client initiated a migration to the address commit 396a0fced5bcb1c6d97951c91805f596032143df Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 21 14:35:02 2019 +0100 More fix calculation of end of buf Same issue to d99371e341b797d7166aa7e392847802d9e48c59. commit 2eb96736f939e4538464ebfb1eae36627993cc45 Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 20 14:25:03 2019 +0100 Fix local/remote TP for checking stream id commit 8aac785b6aaa08d9dbaa6dad0210761bf5bba52e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 12:43:21 2019 +0100 Fix a nullptr dereference commit d99371e341b797d7166aa7e392847802d9e48c59 Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 21 12:30:08 2019 +0100 Fix calculation of end of buf in QPACK::decode\_literal\_header\_field\_without\_name\_ref() commit 14a4f67d838f421e88f0d7be79b26795573aceb8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 10:30:44 2019 +0100 Share a QUIC connection table among QUIC ports commit 4a7bc099c4f0ca75d68bfa68112f2a3651ec5f34 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 21 09:35:51 2019 +0100 Fix a test for Http3Frame commit 142dd26851659214316d50bb76b29879affe609e Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 20 16:36:14 2019 +0100 Fix handling 0 length HTTP/3 frame commit a8c14edbc062409079f41cacb4887a8af812b31a Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 20 15:53:53 2019 +0100 idle\_timeout TP is milisecond since -19 commit 955d380371c3b9fa6ab7cac10331d2b84ef19e1 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 20 14:21:38 2019 +0100 Fix a bug in ConnectionId::hashcode It should use the upper 64 bits but it wasn't because of signed and unsigned commit 39ddacee594fb8f2b19d5e63369e916bb00a69a8 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 20 10:46:49 2019 +0100 Fix asan issues commit df42ccf6906b0c3d893f7a932d04a2d96a3cd7a8 Author: Masakazu Kitajo <maskit@apache.org> Date: Sun May 19 11:06:42 2019 +0900 Remove an unnecessary header include commit d0a0dc0247929eda6df9de7b2d751ccb9f1ca651 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 16 22:33:42 2019 +0900 Make QUIC code compilable with BoringSSL commit f43cb6a04cf2757e5dee75dfec45f3c82c1bf452 Merge: 37f963fa3 6c51b258f Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 17 10:35:15 2019 +0900 Merge branch 'master' into quic-latest \* master: Check for OpenSSL v1.1.1, for now, for this test Cleanup of autest prog checks, and indentation Adds a missing dependency, bump autest version Doc: Clean up JA3 plugin docs. TextView: clean up on strcasecmp, strcmp, and memcmp. Make code compilable with BoringSSL Renumbers all the alarm codes / defines Removes the email feature of the Alarms subsystem Removes alarms that no longer are supported commit 37f963fa3b98e9cf4003bdc4f2f831c1e9e7c1cf Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 16 15:51:06 2019 +0900 cppcheck: fix performance issues commit f2f49b3333844a3218454e7b461930b11181e63b Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 16 09:37:50 2019 +0900 Use QUICStreamFrame::to\_io\_buffer\_block to avoid memcpy commit c517e0e42969ccadaa9b59ff0f8bc7441d0df760 Author: scw00 <scw00@apache.org> Date: Thu May 16 10:18:51 2019 +0800 Http3: close connection when buffer release commit

4cf8850ecd8eb4883f14bd170f34c921763ebb31 Merge: 0c80e6b11 554c828ae Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 16 09:26:29 2019 +0900 Merge branch 'master' into quic-latest \* master: clang analyzer - fix false positive in Vol::handle\_recover\_from\_data. AcidPtr: Tweaks tests to be a bit more robust. This is already documented in the proper traffic\_ctl page grab lock before invoke Updates the Docker image with latest dependencies Fixed clang-analyzer issue with calling schedule\_imm with the continuation possibly being a nullptr Fixes some cache-tests build issues Corret the clear range when cache restart Added Docker support for Fedora 29 and Fedora 30 gcc9: sprintf and strncat fixes in plugins clang-analyzer: Fix uninitialized variable in make\_to\_lower\_case. clang-analyzer: fix bogus use after free with Ptr in LogFieldInt constructor. Document proxy.config.ssl.server.honor\_cipher\_order commit 0c80e6b11414152636d2253d0ab2474e7a4750b1 Author: Masaori Koshiba <masaori@apache.org> Date: Wed May 15 14:58:01 2019 +0900 Performance: Optimize QUICFrameGenerator::\_is\_level\_matched() Prior this change, std::vector was copied everytime. QUICAckFrameManager and QUICHandshake don't need this check, because these should work with all encryptio level. commit 4aa5ba259e5d70fa0d1e420513435df5bbc83039 Author: Masaori Koshiba <masaori@apache.org> Date: Wed May 15 09:52:54 2019 +0900 Performance: Initialize QUICConnectionId with ZERO to avoid calling randomize() commit 0cb563424ae49d9e11c3087d900a386d55387418 Merge: 85fbecff 5f246c33d Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 17:38:31 2019 +0900 Merge branch 'master' into quic-latest \* master: gcc9: set default value for printing debug message Fix FREELIST macros for AArch64 commit 85fbecff0c1ae7c6ab6a002fb24012e549c435e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 17:37:50 2019 +0900 clang-tidy commit 8e4517ecb7538a20df1a779d6f276bc6f42c6531 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 17:19:07 2019 +0900 Prevent event-processing-after-free on a test commit d39392d077162983c0b4aa6b23e306cc6deb6aea Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 14:51:34 2019 +0900 Satisfy gcc9 commit 9fc03ee395ebe56b8b2c2d555ef52f693b8e3f86 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 14:09:07 2019 +0900 Fix tests for QUICStreamManager add\_total\_offset\_sent was used in the tests but it only checks the function increment offset, and doesn't check check Stream Manager's expected behavior. commit 08042e622c34c3d2658ace4f16a540a6465c3d08 Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 14 11:58:11 2019 +0900 Avoid read\_avail() calls for performance commit 35caciaa26046bfb8e0e6fa0492762b43e15af645 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 14 11:54:58 2019 +0900 Fix tests for h3 commit 919183e6f235e0904a30d9828dbb889053683bae Author: scw00 <scw00@apache.org> Date: Tue May 14 02:17:58 2019 +0000 QUIC: Fix test for pervious changes commit 9e593ff209c324917ed9c2bb0f33d5df9b44ed36 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 1 17:19:45 2019 +0900 Update code for NUM\_PLACEHOLDERS commit 2d883e02b3a0e402581070030b739b468977a36c Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 1 17:09:49 2019 +0900 Update QUIC draft nubmers to 20 commit ee689f178522a488741a772c3729fcd905c916a Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 13 15:19:18 2019 +0900 Fix autological-pointer-compare warning > comparison of array 'this->\_loss\_time' equal to a null pointer is always false [-Werror,-Wautological-pointer-compare] commit b7bf6582cb0cdb502b0b256228619e2d4435dcc2 Author: scw00 <scw00@apache.org> Date: Fri May 10 07:43:11 2019 +0000 QUIC: Make congestion period in QUICRTTProvider commit 6562700146c8736b67fe5e20b490f1d08f1653a5 Author: scw00 <scw00@apache.org> Date: Fri May 10 05:44:54 2019 +0000 QUIC: Fix test due to pre commits commit 41ae20a5d00551385a81c294346ac80a1604ca0e Author: scw00 <scw00@apache.org> Date: Thu May 9 06:10:56 2019 +0000 QUIC: remove pn\_space and remove the dependency with ld commit f51845b7eb1448cb8077771fad026cbe1092e4c Author: scw00 <scw00@apache.org> Date: Mon Apr 29 01:33:19 2019 +0000 QUIC: Fixed test changed by loss\_detector commit 97c9898c90cb1153fe015fc04cfc574f4c9b6281 Author: scw00 <scw00@apache.org> Date: Mon Apr 29 01:04:44 2019 +0000 QUIC: Update CC to draft 19 commit 2432f39f1535c420b05bc4f91152dc090733104b Author: scw00 <scw00@apache.org> Date: Sun Apr 28 02:42:48 2019 +0000 Fixed coredump in Loss Detector commit 509eef06bcd204b62cd35ab43cd4b767ea483b3e Author: scw00 <scw00@apache.org> Date: Thu Apr 25 09:27:24 2019 +0000 QUIC: recovery-19 combine loss detector into one commit a9e0b8bc18263f56fa41dd0e1a0fea7ef4b83e32 Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 13 12:31:35 2019 +0900 Fix checking progress of write vio commit e59350c04de87623faf67082dbddd219796ab687 Merge: 56484a481 88b5a13ec Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 13 12:07:14 2019 +0900 Merge branch 'master' into quic-latest \* master: Removes proxy.config.http.server\_tcp\_init\_cwnd gcc9: Added default assignment operator clang-

analyzer: Fixed err value being uninitialized Convert ssl\_preaccept plugin to use command-line arguments Add be32toh and htoe32 for macOS clang-analyzer: Fix API test logic and fixed clang-analyzer issue calling strncmp with null argument commit 56484a48117fff092ceed19522aa21e4cd3f1d19 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 10 17:25:14 2019 +0900 Remove an unused variable commit 5963187459f99879914dfa05077cb57fd9eab1d5 Merge: 478b7f8c8 fa10c20b8 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 10 15:31:13 2019 +0900 Merge branch 'master' into quic-latest \* master: (27 commits) Fixes spelling in doc Fixes typos in various documentation files gcc9: fixed issue with always printing a null char\* Clang Analyzer: Fix IpMap.cc false positives. #2 Doc: Clean up some errors and formatting in traffic\_ctl documentation. MemSpan: Update to templated style, fix gcc9 compile error. Rewrite SocksProxy based on states Fixes use-after-free in PVCTestDriver::start\_tests Fixed syntax issue with clang Add API and fix logic for TS\_SSL\_VERIFY\_\*\_HOOK. Improve test resilience by waiting for TS ports to be ready. Change HostStatus to use only one stat per host. The host stat is now a string value containing all time and reason data so that it may be restored from persistent store when ATS is restarted. Fixed nullptr check in cookie remap Address intermittent failures of all\_headers Au test (see Issue # 5437). Removes unused TSConfig usage in verify\_cert example Additional places to propagate the per-client-ip debug tags. Removes unused TSConfig usage in ssl\_sni example Removes unused TSConfig usage in ssl\_sni\_whitelist example Add wait\_for\_cache to make all\_headers test more resilient gcc9 - Fix I\_Store.h ... commit 478b7f8c8005756150db26afa73299476ff3ed5a Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 10 15:20:13 2019 +0900 Fix some of compile warnings commit 8251867b18de6a0c472f4b25e5f999e7d3edd95f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 1 22:56:04 2019 +0900 Add docs for QUIC configuration commit 709a9973f4f6e601ff7a2e25b9cd4c206c92a710 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 9 10:35:53 2019 +0900 Revert wrong conflicts fix in HPACK.cc and HTTP2.cc Merging master branch (8deca1c320f89f4a9109e9f87d3d99b5e7e17157) had some conflicts and they were fixed wrongly. - HTTP2.cc status\_len and status were moved to narrow down their scope. - HPACK.cc encode\_integer() and encode\_string() were moved to XPACK.cc. commit f879f87155af0a2f1f81568cfe80f4757787252a Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 7 14:05:36 2019 +0900 Follow changes of master branch Signatures changes of ssl\_stapling\_init\_cert() Delete copy constructor of IpAllow::ACL commit 8deca1c320f89f4a9109e9f87d3d99b5e7e17157 Merge: 3cf90685a f32fc32c8 Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 7 12:28:20 2019 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: First pass of documentation for URL rewrite. gcc9 - fix CryptoHash.h gcc9 - fix class Connection. Fix ContFlags for gcc 9. Doc: Update TSConfig... functions. Load the Socks configuration after the host state persistence data is loaded. Rewrite the assert statement to avoid Socks Proxy triggering the assertions. Move setsockopt from UnixNetProcessor to Server::setup\_fd\_for\_listen Implement prefetched OCSP stapling responses Fixed clang-analyzer issues in cookie\_remap TS C++ API: add member function TSSslConnection InterceptPlugin::getSslConnection() Update README.md Removes code related to removed configuration ssl\_session\_reuse: operator for redis endpoint compare functor must be const for STL compatability. Tries to make builds on older clang happy Update jtest.cc Added user defined conversion operator in ConstBuffer for string\_view. Clang Analyzer: Fix IpMap.cc false positives. MIMEScanner: only clear m\_line buffer if at MIME\_PARSE\_BEFORE state Off by 1 error in memcpy of redirect url correctly handle return value 0 from recv() cppcheck: Fix various issues found in iocore/eventsystem Fixes spelling in mgmt Fixes spelling in code in plugins Fixes spelling in plugins Fixes spelling in miscellaneous files Remove commented out includes cppcheck: Fix issues found in I\_IOBuffer.h Fixes spelling in iocore fixes spelling in include Fixes spelling in src Fixes logging after collation removal De-tabifies REVIEWERS Doc: add prefetch to plugin index page Doc: Add links to Slicer plugin Cache:ttl-in-cache should always override never-cache cppcheck: Fix various issues in proxy/http2/ Purges log collation feature Add slice plugin config options to either pace or disable block stitch error logs. cppcheck: fix comparison issues found in plugins cppcheck: Changed from C casting to C++ casting Move the delete to please clang-analyzer Don't read frames after sending GOAWAY with an error code Adds assert, albeit not needed, makes CA happy cppcheck: Removed problematic move operators for FixedBufferWriter. cppcheck: Minimize a variable scope [iocore/net/P\_UDPPacket.h:192]: (style) The scope of the variable 'body' can be reduced. cppcheck: Declare a member variable with an initial value Password can not be nullptr here, so don't check cppcheck: fixes issues found for plugins/authproxy cppcheck: fixes issues in cppcheck Revert RS-374 to avoid deadlocks Don't assign if this and other are the same object cppcheck: Fixes various issues under proxy/http/remap cppcheck: Fixes issue found in DiagsConfig.cc cppcheck: Reduce the scope of the variable 'out\_buf' cppcheck: change to C++ style pointer casting cppcheck: Fix various issues of Http2DependencyTree cppcheck: Fix various issues of Http2ConnectionState cppcheck: fixes issues found in example/protocol cppcheck: fixes issues

found in example/remap cppcheck: fixes issue found in proxy/IPAllow.cc cppcheck: Remove an unused private function cppcheck: minimize variable scopes Fixes clang-analyzer error dereferencing nullptr in parent correct config name for proxy.config.dns.connection\_mode Removes priorities for AIOs, thanks oknet cppcheck fix for iocore/dns cppcheck: fixes issues found in example/thread\_pool cppcheck: fixes issues found for plugins/background\_fetch cppcheck: fixes issues found for tests in proxy/http Removes non-existent include dir reference cppcheck: Reduce the scope of the variable 'netvc' cppcheck: Reduces variable scope for files in mgmt/... cppcheck: Minimize variable scopes and use different names to not shadow others cppcheck: Fixes issues found in async\_http\_fetch\_streaming cppcheck: (portability) %zd in format string (no. 2) requires 'ssize\_t' but the argument type is 'size\_t {aka unsigned long}' cppcheck: (style) The scope of the variable can be reduced. cppcheck: syntax error and memory leak fix cppcheck: Function parameters should be passed by reference cppcheck C-style pointer casting cppcheck: fixes issues found in proxy/logging cppcheck: Change to C++ style pointer casting in Thread.cc cppcheck: fixes issues found for plugins/compress fix http2.max\_header\_list\_size default fix ssl.server.ticket\_key.filename default cppcheck: fixes issues in ink\_uuid.h (BROKEN) Change to C++ style pointer casting cppcheck: Fixed various issues with SSL files cppcheck: Use initialization list instead of assigning in constructor body cppcheck: fix issue found in BufferWriterFormat.cc Throttling results in tight loop if there are no new connections Fix a build error in xdebug on macos fix proxy.config.cache.ram\_cache.algorithm desc Add more information to diags.log error message for block stitching errors. traffic\_via.pl: Fixed bugs, added tests, and make the output match more like traffic\_via. Update README.md -H "xdebug: probe" injects trace of headers into response body A recipient MUST ignore If-Modified-Since if the request contains an If-None-Match header field, about rfc <https://tools.ietf.org/html/rfc7232#section-3.3> Fixes the Brotli build issues fix proxy.config.hostdb.timeout default Ran CPP check on a few files while prodding around Adds basic version feature for traffic\_layout info Cleanup: Use internal linkage for functions which are only needed in SSLUtils.cc Fix false collapsing of reverse DNS requests. Fix HostDBReverseTest unutilization sa\_family, remove LRAND48 and SRAND48 for C++11 random. docs for schedule api Strip token from upstream if configured and dynamically allocate string buffers Ignore unsupported HTTP/2 settings parameters Update plugin API type conversions to support enums automatically. Fix IntrusiveHashMap active bucket list corruption issue during expansion. Corrected usage of OpenSSL API for ec and ecpf list retrieval. Now the signature is valid without additional length bytes accounted for signature. Fix reason tag of traffic\_ctl host Conflicts: proxy/http2/HPACK.cc proxy/http2/HTTP2.cc commit 3cf90685a87494b47a6d4d56383f8735e27f6129 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 1 18:37:47 2019 +0900 Remove unused defines commit c9e367a5f3cef855f64f047d61447d04300fe13d Author: Masaori Koshiba <masaori335@gmail.com> Date: Wed May 1 16:53:56 2019 +0900 Add workaround fix for mixed response header and body commit fd33307a3b4d6bff9577641ae9b20fd8f4ef6b4a Author: Masaori Koshiba <masaori335@gmail.com> Date: Wed May 1 16:50:17 2019 +0900 Print size of HTTP/3 frame on debug log commit 42b5fdfe2fc786e4a14f13319f690b07523923bb Author: Masaori Koshiba <masaori335@gmail.com> Date: Wed May 1 16:49:21 2019 +0900 Fix BAD\_ACCESS in Http3FrameFactory::create\_data\_frame() commit d4d3fc02ef5a95f16ecef2d4107db8cacdb43bb Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Apr 25 11:55:38 2019 +0800 Check QUIC availability with SSL\_MODE\_QUIC\_HACK commit 5a77a807942e8ef5eb4f0b844bcc881e0367375d Author: Masaori Koshiba <masaori335@gmail.com> Date: Wed May 1 14:31:44 2019 +0900 Fix stack-buffer-overflow on storing data frame commit d067d3eb321fb0660384a7e9435539583a25c673 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Apr 30 22:43:08 2019 +0900 Add missing files for BoringSSL commit 2a2107c11af28726bc568512c185b26b2b782ef6 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Apr 30 21:59:52 2019 +0900 Update clang-tidy target commit 897f6922c304e15c9eea31d7b52c0b986b0f5fd7 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 17 16:03:24 2019 +0900 Print destination addresses and ports of received packets commit a41605abef9b88cdd06aded881921434bd258c80 Author: Masaori Koshiba <masaori335@gmail.com> Date: Tue Apr 16 12:44:32 2019 +0900 Add stateless reset reasons on debug log commit 22b77e9f04d2f6033661eb98a6739ca249ba45c4 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 15 16:25:39 2019 +0900 Fix a wrong path for libhttp2.a commit c0d60aa4b387410152e15f07b37453c49c96270d Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 15 16:16:25 2019 +0900 Add stubs for http3 unit tests commit 4738bef618c38015b25ac1f74a805fb6f989ed52 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 15 11:49:04 2019 +0900 Fix a strange link issue in unit tests on release build commit 4180a956490350c9fb4ab2a9f07224b989cc1a59 Author: scw00 <scw00@apache.org> Date: Wed Apr 10 06:50:29 2019 +0000 QUIC: Uses unidirectional stream to send HTTP3 SETTINGS frames commit



033ec0e42cb1ba5cef670c0f2ebe384efa3180c3 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Mon Apr 15 09:29:17 2019 +0900 Add @HWLOC\_LIBS@ to LDADD for HTTP/3 check  
programs commit d57c17c83cb5e1de59d61d73221c6a223cae385b Author: Masaori Koshiba  
<masaori@apache.org> Date: Thu Feb 14 16:18:09 2019 +0900 Add keylog support on QUIC client  
commit 2380776b74fc118487340c1cb5fdb69520cc78cf Merge: 31f60ade6 076e1f3d8 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Fri Apr 12 16:27:52 2019 +0900 Merge branch 'master' into quic-  
latest \* master: (64 commits) Fixed cache RWW test crash Adds cache alterante update tests Fixed  
pthread mutex init issue with cache test Remove unused variable in cache test Adds a  
HostStatus::loadStats() function used to load persisted HostStatus stats after a restart of trafficserver.  
DRAFT: This PR fixes #5248 - parent host status is not persistent accross restarts. Changed how current  
age is determined to age out documents. Guaranteed freshness was being used innapropriately when the  
docs age was already beyond that value Adds a missing header field for the tcpinfo log Fixed cache test,  
using updated shutdown url\_sig: fixed unit-test for remapped url. Setting the correct directory for  
test\_Cache Some tidying up of the global namespace. Fix mysql-remap compilation error url\_sig debug  
fix for when url is missing the signature query string Adds Cache test suits Doc: Add IPv6 CIDR Mask  
example Normalize on negative value for milsetone metrics Fix compilation error in wccp Add nullptr  
check on ConfigProcessor::release() Fix the hiredis autoconf for the default case ... Conflicts: .gitignore  
iocore/net/P\_UDPNet.h iocore/net/P\_UnixNetVConnection.h commit  
31f60ade6cb8293e1b943b0b4afdddc7422890fb Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Apr 12 16:05:04 2019 +0900 Update tests for H3 commit  
6395120efa06258b8009d319a66f18d307e007ce Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Apr 12 15:33:39 2019 +0900 Update H3 SETTINGS frame format to draft-19 commit  
3459e0822a67fdeabda76aacfc289fa8bde0e4ed Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Apr 12 15:07:41 2019 +0900 Update H3 Frame header format to draft-19 commit  
c3fccc6b6fb016f06aadd731734d9e37f2437ea Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Apr 9 17:35:03 2019 +0900 Remove version related fields from TP and version validation logic  
commit 7af17709e049f782f102633495f2b2255c9f7257 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Tue Apr 9 14:30:04 2019 +0900 Update TransportParameter format to draft-19 commit  
f607cac2ac67bff68af9d7babfd9b965ffe2119 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon  
Apr 8 16:55:31 2019 +0900 Update QUIC draft numbers to 19 commit  
3c27f603b86a1d8ddf851a767b5b30762b86ec12 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Wed Apr 10 13:59:18 2019 +0900 Ran clang-format commit  
2fe722da117beb99a1f22e918a3ef1c3060f1450 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Wed Apr 10 13:52:24 2019 +0900 Fix unit tests using QUIC TLS commit  
039e4a0e850f0bbcf17a98505455486cf10c4810 Author: scw00 <scw00@apache.org> Date: Tue Apr 9  
09:11:43 2019 +0000 Fixed compilation with ubuntu 18.04 commit  
41c06df698844c80d2dd146b8ce5fb7cc5853c91 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Fri Apr 5 10:12:57 2019 +0900 Add HTTP/3 support to traffic\_quic cmd commit  
2d2b4a32cbbc53c209cb29b105bd6dd02bf6feb8 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Mon Apr 8 14:58:47 2019 +0900 Fix test\_QUICPacketFactory & test\_QUICVersionNegotiator  
commit 83bc8289e3de15bc3bb036d2a103ddc21b4f7d6a Author: Masaori Koshiba  
<masaori335@gmail.com> Date: Mon Apr 8 14:36:22 2019 +0900 Fix test\_QUICLossDetector commit  
70397c521d33ffcaa52b70f11ee56907d74b22d2 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Mon Apr 8 11:58:17 2019 +0900 Cleanup frame debug msg commit  
22ef4573bfca24cf17459e5364d901b1cc91ed51 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Thu Apr 4 14:04:08 2019 +0900 Fix QUICDebugNames::key\_phase() commit  
42349cfd459dc57b236180c153abb2351c0e1a59 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Thu Apr 4 10:53:30 2019 +0900 Send NEW\_TOKEN frame from server side only commit  
51c65a85cc290db14e79034be0b83b26c7ea0407 Author: Masaori Koshiba <masaori335@gmail.com>  
Date: Wed Apr 3 15:35:52 2019 +0900 Fix setting NUM\_PLACEHOLDERS commit  
788e27e4389261bca6a2deb4af4ac1f15aedfff9 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Apr 1 15:35:45 2019 +0900 Add debug\_msg on QUICRstStreamFrame commit  
2df6d5c7dca88649ab3c999b138e145441f0c457 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Mar 26 11:15:45 2019 +0900 Fix QPACK::\_encode\_prefix() Prior this change, the allocated  
IOBufferData for Header Block Prefix was not initialized. This made random value in S and Delta Base  
(7+) fields in Header Block Prefix. commit f53f6e52f99f0032dfc972b74d3b5c530f66e3d5 Author:  
Masaori Koshiba <masaori@apache.org> Date: Mon Mar 25 10:50:19 2019 +0900 Fix adding Padding  
Frame commit c9b1db22c01da93d258b38b434246d9c40dc7fb3 Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 25 10:49:47 2019 +0900 Check fist byte to make sure key is

derived commit 150adcce36456a3f0f8feaf8708fdb55e839f0b9 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Mar 18 11:00:43 2019 +0900 Don't create packets on encryption levels  
already done commit 6f409c2ef37ae8cec5b3049387c12da610b8b7ac Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Mar 15 13:52:41 2019 +0900 Use const references instead of moving  
QUICPacketUPtr commit d64938e0c6ca46757aeb3e8ff2e67cb8c09cae6f Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Mar 15 12:11:06 2019 +0900 Add const qualifiers commit  
98e1ec33f4dcbc70553e1536296b82dd63f4be3b Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Mar 14 12:31:29 2019 +0900 Update tests to catch up interface changes commit  
3059b853f424ff813834c700f3a5d328fc68dd9a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Mar 14 10:16:15 2019 +0900 Add QUICFrame::to\_io\_buffer\_block() and use it instead of store()  
commit f04325d63d067b9d3fbd43f5b3d58ce939abee3 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Wed Mar 13 14:31:38 2019 +0900 Change interface of QUICPacketPayloadProtector to  
IOBufferBlock from uint8\_t array commit 3effcc011fa0ab7c4f3fbb17b0822009226fb905 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Thu Mar 14 12:29:53 2019 +0900 Fix test\_QUICStream  
commit eb2a9ff588f948d97da06dc2f9f59e198454d5e2 Author: scw00 <scw00@apache.org> Date: Wed  
Mar 13 10:03:48 2019 +0800 QUIC: Fixed building and test\_QUICStream commit  
fd6b9c91c4ccc769acb313ab02d2da26c3443407 Author: scw00 <scw00@apache.org> Date: Wed Mar 13  
09:52:54 2019 +0800 QUIC Rename unidirectional to unidirectional and fixed test commit  
4aaae87ca6b86e88ba48191c1bbe45cbadd0c8bd Author: scw00 <scw00@apache.org> Date: Wed Mar 13  
09:21:13 2019 +0800 QUIC: Move max\_crypto\_frame into QUICCryptoStream.cc commit  
2bf10ce6deb2b66dfb995b1f57ced985ffb21684 Author: scw00 <scw00@apache.org> Date: Tue Mar 12  
13:54:54 2019 +0800 QUIC: Adds unidirectional stream test commit  
2db36132a039e69418fbefb440fb6a0e0c6a013d Author: scw00 <scw00@apache.org> Date: Tue Mar 12  
10:32:37 2019 +0800 QUIC: Add receive only stream commit  
4adefcc846268814e375e219cadbb3bac3aa4c6d Author: scw00 <scw00@apache.org> Date: Tue Mar 12  
09:37:37 2019 +0800 QUIC: Add Send only stream commit  
cb279cfc646763f92e66070ae088cac9669a0074 Author: scw00 <scw00@apache.org> Date: Tue Mar 12  
08:44:33 2019 +0800 QUIC: Moves some functions to base QUICStream structure commit  
dc9485e2d9e11e4b422ebe206b26ee464545d91a Author: scw00 <scw00@apache.org> Date: Tue Mar 12  
08:41:22 2019 +0800 QUIC: Sink records\_XXX\_frame function to QUICStream commit  
f93d4920c4cb851237d5abdd491517dbc5b7c9ee Author: scw00 <scw00@apache.org> Date: Mon Mar 11  
15:49:43 2019 +0800 QUIC: Split out QUICCryptoStream commit  
0f10526fa786bf11c24c585e44d399c504ea669d Author: scw00 <scw00@apache.org> Date: Mon Mar 11  
15:38:23 2019 +0800 QUIC: split out QUICBidirectionalStream commit  
08bcbdc5f8656df6d36119f13ed862c8444b07c9 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Mar 11 16:11:34 2019 +0900 Add virtual destructor to HQClientSession / HQClientTransaction  
commit c18dcdb412a3f6e1efdc4efc6fd0c1769a92099 Merge: 96f0032ed cb2382dbc Author: Masaori  
Koshiba <masaori@apache.org> Date: Mon Mar 11 15:39:13 2019 +0900 Merge branch 'asf/master' into  
quic-latest \* asf/master: Fixed the compatibility with previous cache version cdniuc is not a mandatory  
claim Run clang-format against the same files on both make clang-format and git pre-hook UrlRewrite:  
separate constructor and configuration loading for testability. Fix #5108: Remove OS dependency in  
test\_BufferWriterFormat.cc. Add Perltidy configuration and build target pop messages Fix a self  
detection issue where parents are not marked down when proxy.config.http.parent\_proxy.self\_detect is set  
to 2 because of multiple calls to creatHostStat() which was marking parents back up. Also added a new  
HostStatus Reason Code SELF\_DETECT used when self detection marks a parent down. Add virtual  
destructor to SSLMultiCertConfigLoader. Doc: open\_read\_retry\_time is overridable Fixes some places  
where refactoring was not complete Do not run clang-format for @default\_stack\_size@ Change  
url\_mapping::toUrl to url\_mapping::toURL for consistency with url\_mapping::fromURL. Fix for() loop,  
correctly calculate the value of seg\_in\_use within Vol::dir\_check() commit  
96f0032edfd255033a448b9aa7175bf234a6a8ab Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 11 14:16:36 2019 +0900 Remove redundant QUICConfig::scoped\_config commit  
a311a79516e41a70a72d5bcb757b5ac9f46a5edb Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 11 14:10:35 2019 +0900 Get session filename from QUIC TLS commit  
f69fb7e42bc8815aff032b5018c84133b8c29fef Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 11 13:56:28 2019 +0900 Have a QUICConfigParams as a member of QNetVC commit  
11e1159a3470615e5db4077315a30ca4727f48fb Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Mar 7 16:31:00 2019 +0900 Reduce use of QUICConfig::scoped\_config commit  
24df75e9748f73a4cb8858f6c552909e0406da01 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Mar 11 11:20:14 2019 +0900 Decouple HTTP/0.9 and HTTP/3 Add Http09ClientSession and

Http09ClientTransaction to clarify HTTP/0.9 and HTTP/3 code. HTTP/0.9 and HTTP/3 is completely switched by ALPN (hq-\* vs h3-\*). commit 2f0858e06d40d8315daad4b556eb5727295060fa Author: Masaori Koshiba <masaori@apache.org> Date: Mon Mar 11 13:27:57 2019 +0900 Fix unit tests for HTTP/3 commit d0c9aed68f83519b8b9c9a385f031089bdbf8eed Author: scw00 <scw00@apache.org> Date: Mon Mar 11 11:16:15 2019 +0800 QUIC: Bring back retransmission test case commit 9533aede1b808ba16d3b31d4af78a0cf465adff2 Author: scw00 <scw00@apache.org> Date: Mon Mar 11 10:43:36 2019 +0800 QUIC: Fixed test\_QUICLossDetector crash commit e8eb00b0ce9987f4538542edfad111240853400d Author: scw00 <scw00@apache.org> Date: Mon Mar 11 10:23:04 2019 +0800 QUIC: Fixed compiler error in test\_QUICStream commit c5c1378ce20cd7b092dcd51ba31509e086445bb5 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Mar 8 11:28:20 2019 +0900 Fix a nullptr dereference commit 49251b9f4a40326af4974348b929c310c957a992 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Mar 8 10:45:06 2019 +0900 Pass QUICPacketInfoUPtr to on\_packet\_sent instead of QUICPacketUPtr commit 0b492facbb9dcc9b14ee3cae63d741ab5628e45f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Mar 6 17:30:31 2019 +0900 Don't keep packets sent commit f9b26d2f52aae1aa50ecac68826733afc8f4ecae Author: scw00 <scw00@apache.org> Date: Fri Mar 8 08:16:49 2019 +0800 QUIC: Moving log in appropriate position commit 7532912c61b038cb45c8feddf6a5b6cb118ee196 Author: scw00 <scw00@apache.org> Date: Thu Mar 7 16:09:24 2019 +0800 QUIC: recovery draft-18 commit 2c538479077a23a1e5c2d2cd54fee02e76c2ea16 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 15:22:30 2019 +0900 Rename QUICSimpleApp to Http09App commit 0843eba371c019f74da7baea034bb2181ceeb052 Merge: ecc8f02e3 d91ca9ee4 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 12:38:26 2019 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: fix crash in CacheVC::openReadFromWriter commit ecc8f02e3ad988de7051c73d19a70892d55c81a1 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 12:26:14 2019 +0900 Fix QUICStreamManager to use QUICStreamVConnection commit e5a65d77da2d2f3b50ca5be7930488352ae896bb Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 11:16:54 2019 +0900 Fix building unit tests for QUIC Prior this change, there're many undefined symbols comes from SSLMultiCertConfigLoader. As workaround fix, link unit tests to libinknet.a. commit 13e12de1a4e9ad1df22557e9e1bf187cd275a688 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 10:46:31 2019 +0900 Fix unit tests using QUICBidirectionalStream commit 8c157d759b5db530d15a342e7b234c33e961d5fb Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 10:38:28 2019 +0900 Remove test\_QUICHandshake commit 40882451978c2074837440135366637a6cb1fccc Author: scw00 <scw00@apache.org> Date: Mon Mar 4 15:01:10 2019 +0800 QUIC: Rename quicStreamAllocator to quicBidiStreamAllocator commit f6972d47db80a7e1a4b71f8b449abca43709d4b9 Author: scw00 <scw00@apache.org> Date: Mon Mar 4 14:49:45 2019 +0800 QUIC: Introduce QUICStreamVConnection to process VIO commit b0cd800ef0ac1a67c464b6ac88fcb8cc5718daf5 Author: scw00 <scw00@apache.org> Date: Mon Mar 4 09:54:18 2019 +0800 QUIC: Use QUICStream as base class commit aa107296e9f49d9c12b87845364df637e3f2f79f Author: scw00 <scw00@apache.org> Date: Fri Mar 1 17:27:25 2019 +0800 QUIC: Introduce base stream class commit 5e3ca198bc73f493c1df3b97aae6ecb058adf06f Author: Masaori Koshiba <masaori@apache.org> Date: Wed Feb 20 12:16:14 2019 +0900 QUIC: Load multiple certs commit c7e43ea08366c78887f3a01cc5d6a70d9db1099e Merge: e0cc477c9 814ccc5ea Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 7 08:58:29 2019 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: Move minimum OpenSSL version to 1.0.2 Fix SessionProtocolNameRegistry lookup Implement aud claim in Uri Signing Plugin Fix #5093: new/delete mismatch in test\_IntrusivePtr.cc. Fix #5094: Fix use after free in test\_IntrusiveHashMap.cc Override delete in Extendible Fixing a previous fix to fully allocate strings when heap mismatch detected. Remove duplicate calls to TSHttpTxnReenable in xdebug traffic\_layout/engine: add missing stat import tscore/ink\_hrtime: add missing cstdint import tscore/eventnotify: change fcntl include path Add support for the old lua formatted ease of use conventions and the numeric log rolling values set thread affinity to current thread if the current thread type is the same as the target thread MIME: Fix line\_is\_real false positive. Merge url\_scheme\_get into only calling class method Remove extra vars to bwprint in SSLConfigParams::getCTX Conflicts: build/crypto.m4 include/tscore/ink\_config.h.in src/traffic\_layout/info.cc commit e0cc477c91851cfc095ebf84f2ee8aff62f7693f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Mar 6 15:55:08 2019 +0900 Fix tests commit b9928bf5f6d8a7551917c2c70482dc0d861dd318 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Mar 6 15:47:32 2019 +0900 Remove an unnecessary function commit ac81d910e6d6aaf2bf00db81de44abf0c6a15d43 Author: Masaori Koshiba

<masaori@apache.org> Date: Tue Mar 5 16:07:42 2019 +0900 Walk through loss detectors to get correct RTO commit 991a990549153ea4c62c38ee46ab26f33a000c49 Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Mar 5 13:59:23 2019 +0900 Drop Initial packets with short DICI commit e9ad3d9c69020dde5e5e26d6cf9e451c7aeda101 Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Mar 5 11:12:37 2019 +0900 Include a reserved version to Version Negotiation packet commit 73454c9be6bd9735ef787ab7227c3cdb590ad122 Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 4 11:08:17 2019 +0900 Print stream id of MAX\_STREAM\_DATA and STREAM\_DATA\_BLOCKED on debug log commit 620c1fd73f0d4079c345da2555c2d90a2a66800c Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 4 10:55:45 2019 +0900 Check local flow controller to send MAX\_STREAM\_DATA frame commit 7a20a2117dc73aaf2804d7180e3784b97278fa56 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Mar 4 10:27:35 2019 +0900 Reduce dup code commit 01ed38c1ac7cfaba5acc38b6066b534d6a80e38b Author: scw00  
<scw00@apache.org> Date: Fri Mar 1 15:26:20 2019 +0800 QUIC: Fixed build error under ubuntu 16.04 commit a52ad8d59321536c380641039676fe97f0317108 Author: scw00  
<scw00@apache.org> Date: Fri Mar 1 11:35:35 2019 +0800 QUIC: Fixed warning in Mock.h commit 5da8f67a9b11b859b537daed30e9eed624dec054 Merge: 61f1631d4 69dd33dd7 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 28 14:56:12 2019 +0900 Merge branch 'master' into quic-latest commit 61f1631d42ccdf748f404b55d8c68a518b11dcef Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 16:24:08 2019 +0900 Removed unused code commit 7a3af4e1c3251dbd5467810b0d22ba75808e4024 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 16:05:54 2019 +0900 Remove QUICPacketTransmitter It's not used now. We might need it later but a fresh design would be better. commit fc88686b10f94b33a4cdc5976f81b417889d2020 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 15:21:47 2019 +0900 Reduce duplicate code commit 0636a4a6ffb51729354ea329a882b86eb4bd10e7 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 14:13:28 2019 +0900 Drop keys for INITIAL on client side after sending the first HANDSHAKE packet commit 22364902841f999e933c2439baa3491e24f507dd Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 14:02:29 2019 +0900 Drop keys for INITIAL on server side after processing the first HANDSHAKE packet commit 503320547c873db3bc79c8b00eb9028379a91b24 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 13:47:20 2019 +0900 Removed a unused variable commit ba137ce1355a88e332db6e89b37d545fd861a708 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 11:42:55 2019 +0900 Fix a use of wrong key\_len commit 10ebad1bab212ed4ecff77074c45030ad0d6e43d Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 27 10:44:58 2019 +0900 Small cleanups commit 28617fe794ade3d0e3272cb22d228ba47898f1b1 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Feb 25 11:07:20 2019 +0900 Revert unnecessary changes commit 2c6156c42220c1ceed347f719ecb87fa0034d42c Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Feb 25 10:54:54 2019 +0900 Update tests commit dac64b3b59707d983d5fd5982d27b51f70d570e0 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Feb 22 15:43:45 2019 +0900 Make tests buildable commit d741a0dcc291bc34e5e73dd194799b8a2cf0f7d4 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 21 17:02:25 2019 +0900 Remove unused code commit 5b5a16fdfb38096933239a0a4c66d80323524397 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 21 15:54:51 2019 +0900 Remove KeyingMaterial commit 3968cf7b588449ef6cc1bf16ca3042c27067203a Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 21 12:34:47 2019 +0900 Remove QUICPacketProtection commit 14871688b56d9a9043d79db5bfd617b8310173b5 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 21 12:21:30 2019 +0900 Remove set\_hs\_protocol from QUICPacketFactory commit d030ade1e6c0868414e8dacbe82c02205a9a225a Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Feb 20 12:04:50 2019 +0900 Remove set\_hs\_protocol from QUICPacketHeaderProtector commit fba23d972c9f551960de0e61ca1512c22fd9522c Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 14 18:15:29 2019 +0900 Introduce QUICPacketProtectionKeyInfo commit e6a9def4e848f9314029b7ab3ee917a42daf2d92 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Feb 26 15:07:03 2019 +0900 Don't send multiple PATH\_CHALLENGE on the same packet This closes #5064 commit 4462afc9ff7cf62006db56d0093a4bc8b5c9eeae Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Feb 25 14:54:31 2019 +0900 Fix memory leaks in QUICIncomingFrameBuffer commit f574354d0035d0094e3939a942a5e08c8bbc5d97 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Feb 25 11:11:14 2019 +0900 Fix compile warning on Fedora29 commit 6b10433908147e337f36ba2cc2cea95c9da18c55 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Feb 21 17:22:28 2019 +0900 Update for draft-18 commit

f4b4625d4cc0c3b281de2bb85d00fad0dd65b402 Author: scw00 <scw00@apache.org> Date: Tue Feb 19 11:52:06 2019 +0800 QUIC: Fixed QUICIncomingFrameBuffer test commit

914ffb3618c7c13eae4341952351777342bdb347 Author: scw00 <scw00@apache.org> Date: Tue Feb 19 11:46:59 2019 +0800 QUIC: Fixed test cases commit c9552adbb67db43e2996042ed3728093e7e266e2 Author: scw00 <scw00@apache.org> Date: Tue Feb 19 11:08:42 2019 +0800 QUIC: Bring back QUICTransferProgressProvider commit 8535ce79ad887b806d519439b56b0e9cc7d17672 Author: scw00 <scw00@apache.org> Date: Tue Feb 19 08:31:09 2019 +0800 Clang-Format and signal user event only on consuming all data commit 1ccd18dcb8c087224b4f14e634e779a161f1bdfe Author: scw00 <scw00@apache.org> Date: Sun Feb 17 15:19:30 2019 +0800 QUIC: Do not discard frame in StreamState commit 38600d49cebfe1eb53ef69561d57737b7bd9fc48 Author: scw00 <scw00@apache.org> Date: Sun Feb 17 11:34:53 2019 +0800 QUIC: Refactor QUICStream State commit 6b2773c82f4ab05b4bd2983fe9ca52321c3bb798 Author: scw00 <scw00@apache.org> Date: Fri Feb 15 13:48:07 2019 +0800 QUIC: Fixed crash when records connection id frame commit d06806f97669e402d53cb7c42299956fbfcd9cf8 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 15 14:26:02 2019 +0900 Fix compiler warnings - unused parameter commit 0b84cf33d14accb558fa9e9b695d13a0f394868a Author: scw00 <scw00@apache.org> Date: Fri Feb 15 11:29:28 2019 +0800 QUIC: AckCreator only response to non-ack-only packet commit da5385f76a6f1de6e2ecab8792889f33757cbf5b Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 15 11:00:53 2019 +0900 Make \_has\_new\_data flag true only if received packet is not ack only commit 32aaa2520fda1b44dd6b4ec9ce1d59ef4983fa27 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 15 09:56:32 2019 +0900 Cleanup: remove unused counter

QUICNetVConnection::\_handshake\_packets\_sent is deprecated in favor of 2bebf6c7338e28c6ef0f8c1cdb3fb6c4e57fcc26. commit 3e6f177a1bd8f6fd58f71664d4bee18639f4bd63 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 15 09:36:57 2019 +0900 Fix compiler warnings - wrong format for ink\_hrtime commit a2b365707c5b3350129e8eb96002bfeb04df85b5 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 15 09:35:42 2019 +0900 Fix compiler warnings - missing override keyword commit 3eac14ffd020cd40917e84506269a5f33e70d946 Author: scw00 <scw00@apache.org> Date: Thu Feb 14 16:05:09 2019 +0800 QUIC: Adds log for lost packet and add comment to the changes with spec commit 8fb23d69452471d2cc08ec8d50d5ddc292a4b9f4 Author: scw00 <scw00@apache.org> Date: Thu Feb 14 15:51:50 2019 +0800 QUIC: Fixed test cases commit 3d3cde2d96fc68ae9f15d72f93e95b4e52ea4852 Author: scw00 <scw00@apache.org> Date: Thu Feb 14 13:34:53 2019 +0800 QUIC: uncomment the congestion controller config commit 732c2b4d93d066426b892fda1c724934666f01fc Author: scw00 <scw00@apache.org> Date: Thu Feb 14 13:30:43 2019 +0800 QUIC: Fixed Initial const vars commit 93b24bbf2c67f07bd7089fd28ecfb65dc4135655 Author: scw00 <scw00@apache.org> Date: Thu Feb 14 12:58:02 2019 +0800 QUIC: process ecn section commit fe61dc5e73bbf8a55b4c0e41b090a5a806657ace Author: scw00 <scw00@apache.org> Date: Thu Feb 14 12:38:07 2019 +0800 QUIC: Adds draft-17 congestion controller commit cdf771bd0c9d526322fe35ce1c7a8b88c512bc39 Author: scw00 <scw00@apache.org> Date: Wed Feb 13 15:27:29 2019 +0800 QUIC: Remove unnecessary log with unverified path commit 9979ff48bf86207c908ccdefa8b8bb0ca2c302c3 Author: scw00 <scw00@apache.org> Date: Wed Feb 13 12:36:36 2019 +0800 QUIC: Send Ping frame correctly commit 9352e40ca6ddcaac44a6d084398600ddff0ce180 Author: scw00 <scw00@apache.org> Date: Wed Feb 13 11:16:30 2019 +0800 QUIC: LossDetector draft-17 commit 48a89c4712b0e9adb808744ba67bdd88ab3305e3 Author: scw00 <scw00@apache.org> Date: Tue Feb 12 16:23:49 2019 +0800 QUIC: Adds crypto flags commit adcfe785b5d4f514870aaef04e7f0207921a189c Author: scw00 <scw00@apache.org> Date: Tue Feb 12 15:49:19 2019 +0800 QUIC: Rename QUICPacket::retransmittable to ack\_eliciting commit 1a160b4c586b5d5c5f8c6444d9c789169ed11bb7 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 14 16:54:20 2019 +0900 Make QUICNetVC::largest\_acked\_packet\_number() private commit 9184dbf153d7df8f992306358c7f21f67ee15743 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 14 16:31:19 2019 +0900 Make maximum/minimum\_quic\_packet\_size private Since nobody use it. commit 682f1d8f7d80714d803c60618dc9147d08520c06 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 14 16:20:06 2019 +0900 Fix typo commit 8ff58c73ae440dc1505eef52fc36ef490edb9cb5 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 14 12:09:54 2019 +0900 Remove unused aliases commit 37082d54ccc9ccf9bf2026612eac2ec731068117 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 13 15:31:26 2019 +0900 Create and delete QUICStreamFrame on QUICStream side commit b4507fb3451ec11596835547ac126ebe171dcc33 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 13 11:33:28 2019 +0900 Update tests that create QUICFrame instances commit

9afd8c997cb88c0390685c41c17cfd7d7081c7dc Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 8 16:15:18 2019 +0900 Use QUICFrame::MAX\_INSTANCE\_FRAME commit  
6e164ab1600542cd8d0b1d7890fa2543f29bf011 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 8 16:10:37 2019 +0900 Use pre-allocated buffer for QUICFrameFactory::fast\_create commit  
9a34336e4bcf77a096049b1e8db3da1110ce6cd5 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 8 11:45:36 2019 +0900 Remove QUICFrame allocators commit  
e319305aa7bbfeded37fe5ad7cf244505c266e83 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 8 11:43:03 2019 +0900 Fix eternal PING bug commit  
57ce5d89416e07174516f4775053ff8cad01114a Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 7 12:09:55 2019 +0900 Remove a mutex for frame transmitter We had frame transmitter but it was removed at some point. commit  
6a057e7d813ce0d2e17dc40abf5d3395f9faa7e7 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 6 16:38:51 2019 +0900 Use QUICFrameGenerators interface instead of using individual classes commit  
10e1056e29710562edb0f8d25b9350ceefff6766 Author: scw00 <scw00@apache.org> Date: Fri Feb 1 10:26:33 2019 +0800 QUIC: Remove useless QUICConfig and rename refresh\_frame commit  
96f46c5ac6a039089ee1f62da3f7e536a11e9291 Author: scw00 <scw00@apache.org> Date: Wed Jan 30 16:15:22 2019 +0800 QUIC: Only generate ack frame in QUICFrameGenerator::generate\_frame commit  
59eab471bd3cf75248d88a7064074e294ec8e2f6 Author: scw00 <scw00@apache.org> Date: Mon Jan 28 17:50:36 2019 +0800 QUIC: Refresh ack frame when previous ack\_frame lost commit  
08843763757513761262500030a44f5fc1c3caf1 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 6 17:36:36 2019 +0900 Remove unused code commit  
dbbd4683d6c425946a0bbfa2b52312755fc3b297 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 6 17:22:31 2019 +0900 Update .gitignore commit  
8decc8350d2a1ee01a628e38a40e5f13ddefcd06 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 6 17:20:36 2019 +0900 Separate out QUICPacketFactory commit  
b6e9a7bdc6b6ecb3237222582d24ae200d7a228f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 6 16:37:33 2019 +0900 Remove tests for features removed commit  
a62ea1c0e065815585ba2be5380eaa0c26abfcd0 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 5 16:06:15 2019 +0900 Remove QUICFrame::split which was used from RetransmissionFrame commit  
8c4f40f845d659f7f757754fef9e2cd4d0604818 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 5 15:43:51 2019 +0900 Remove QUICRetransmissionFrame commit  
666ee793da1c177bc5d4ee785422896888fb51fc Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 5 14:49:30 2019 +0900 Remove QUICPacketRetransmitter commit  
9bbdb911853d9dfda824338a91dcdbeece1ee843 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Feb 5 14:39:17 2019 +0900 Fix unit test of QPACK commit  
982c9baf4b7c9ca86735fc0b28581039bc3f154b Author: Masaori Koshiba <masaori@apache.org> Date: Tue Feb 5 14:37:35 2019 +0900 Remove references to HTTP/3 from QPACK commit  
90e1bca570574ef1d2179b8669e5fe90ce29a777 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Feb 5 14:13:47 2019 +0900 Check decoded header list size on QPACK commit  
e0f07c411965567ee476d7fbe792c98e2d6cc128 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 5 14:13:11 2019 +0900 Fix tests for QUICPacketHeaderProtector commit  
2bebf6c7338e28c6ef0f8c1cdb3fb6c4e57fcc26 Author: scw00 <scw00@apache.org> Date: Sat Feb 2 09:59:30 2019 +0800 QUIC: Limit the sending after 3 packets with unavlidated path commit  
bdf4de605bfad412ea0301132d5632bb447d3c9f Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 5 12:15:42 2019 +0900 Fix tests for QUICPacket commit  
59014a46f0f07c0d60a16fa8bb1144e40c61f882 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Feb 5 10:30:07 2019 +0900 HTTP/3: load settings from records.config Below configs are added - proxy.config.http3.header\_table\_size - proxy.config.http3.max\_header\_list\_size - proxy.config.http3.qpack\_blocked\_streams - proxy.config.http3.num\_placeholders commit  
1f17391f3364e0df1e3054ddd03c09cfec02459b Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 4 16:43:04 2019 +0900 Fix tests for QUICStreamManager commit  
f6810b0abcca5e42c321187b4b736e517ce8f07f Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 4 16:05:42 2019 +0900 Fix tests for QUICFrame This removes tests for RetransmissionFrame commit  
c1501512cb80969b8a3e466e7b86b7e0d647b5a6 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 4 14:06:50 2019 +0900 Fix tests for QUICTransportParameters commit  
7a83ea8c1a9a01ac40649c4114bc1dcbc8c79c03 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 4 11:40:12 2019 +0900 Fix test\_QUICFrameDispatcher commit  
c5f36deb48f418ffd79c26a857e5b68a8ada0074 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 4 11:12:48 2019 +0900 Add missing override keyword commit  
92707337a66e256899026ecc45605d14b64055a0 Author: scw00 <scw00@apache.org> Date: Fri Feb 1

10:41:31 2019 +0800 QUIC: Cast reference directly commit  
c8a5727e45463b686b789acc75dd4938f03b255f Author: scw00 <scw00@apache.org> Date: Thu Jan 31 09:22:35 2019 +0800 QUIC: Retransmit NEW/RETIRE\_CONNECTION\_ID frame commit  
8a9dfd51beae9d53bfd1e4668cffbae2297b644f Author: Masakazu Kitajo <maskit@apache.org> Date: Sun Feb 3 15:35:25 2019 +0900 Catch up changes on master commit  
e85c101251a1dad5490aa9de0c1879fc39fd4d26 Merge: d537cf281 7eb4b2478 Author: Masakazu Kitajo <maskit@apache.org> Date: Sun Feb 3 15:13:11 2019 +0900 Merge branch 'master' into quic-latest commit d537cf28193a564bcfa5328757be54d63dd97e99 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 17:08:36 2019 +0900 Add http3/ and quic/ to the derectory structure on README commit 4d1e6fd9ab66a40f2624d4e486fa084a844be879 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 16:28:29 2019 +0900 Revert debug log format change for interop commit  
e87727f84a95ae6b3075455e2c5a3b90f9c14d71 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 16:25:45 2019 +0900 More rename commit e0df8254057543ddbe0cb3904e9b9aa7a7cb9160 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 16:17:14 2019 +0900 Rename BLOCKED frame to DATA\_BLOCKED frame commit c83350134c8e4fd3629292e378f7bb365c1cf860 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 1 15:20:11 2019 +0900 Bump MAX\_PACKET\_HEADER\_LEN for an endpoint which sending long retry token commit  
dc684f5a75c294880672d196727c58e33681bf43 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 1 15:17:50 2019 +0900 Print length of TLS message on debug log commit  
0cac20c26ed7edf44d05c568b8b4aced9e8ff3ad Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 12:02:41 2019 +0900 Rename StreamBlocked frame to StreamDataBlocked frame commit  
33dfc098c1b13f5d34939eb83cae925854f49ff3 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 12:02:01 2019 +0900 Fix compile errors in tests commit  
c5048fb42c090b5219cd9b213aa690eafb33c848 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 10:50:02 2019 +0900 Print offset in BLOCKED and STREAM\_BLOCKED commit  
aa6224028eff21f9bcb3f148060bef0d1a74009f Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 1 09:29:16 2019 +0900 Fix compile warnings commit  
8c0574a1dae84f6923c101f89469aa93f9fb2715 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 31 21:35:57 2019 +0900 Don't respond with RETRY if received packet has short header commit  
306ec3059440b493b9ed0aeafb6d0e538e0ed2d6 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 31 20:58:24 2019 +0900 Fix frame size calculation on splitting STREAM commit  
119062ff2bcc3dc0ae3ce911b2e97d4eb0bb82c9 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 31 15:21:51 2019 +0900 Remove a wrong assert Packet number can be 3, and the following switch statement takes care the error commit 857b2451072e037a1d745859012e9553957e800c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jan 31 11:28:16 2019 +0900 Revert "Bump initial value of max\_stream\_data\_bidi\_local\_in to allow sending request" This reverts commit  
a2cb6851aeba26ea54c86b351d0b17e67e237242. commit  
a2cb6851aeba26ea54c86b351d0b17e67e237242 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jan 31 11:13:38 2019 +0900 Bump initial value of max\_stream\_data\_bidi\_local\_in to allow sending request commit 31b690ca332023bf12cc3d790cbd448b8696f7b7 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jan 31 11:08:11 2019 +0900 Print header and payload size of received packet commit 393b90b4ae8911fac6ddfa5cbb71c56bd2abb82a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 12:39:41 2019 +0900 HTTP/3: Handle error on creating uni stream commit f8e1e14101044b0e4c2c8f2d24c68bb20549a8f5 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 12:13:36 2019 +0900 Fix buffer-over-flow commit  
22176bbe62b8ff9ad3bd4934beff032e78e9244e Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 10:58:26 2019 +0900 Revert ALPN list for client commit  
b5ad80fda358266773eee6ddac28e8198aedfa6a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 10:57:36 2019 +0900 Fix build error commit d21e1a82af16f0db20b4c7742a3e8b569ab773d1 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 10:19:26 2019 +0900 Send NUM\_PLACEHOLDERS commit 4ba478f426773c897a13ca666bc7df2e3ae737d9 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 10:06:06 2019 +0900 Switch HTTP/0.9 over QUIC (hq-\*) and HTTP/3 (h3-\*) by ALPN commit 7ae64a43e9214c70dfa7b8cb059525b2ea6ad61e Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 10:05:04 2019 +0900 Add a interface to QUICConnection to get negotiated app name commit dc0198f742a0a76bdca8ab840aeb1981a7eb708a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 29 09:44:24 2019 +0900 Add IP\_PROTO\_TAG for HTTP/3 commit 524d0029fb2b4296a75a065c801d64dcdb50c3b3 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 28 16:20:44 2019 +0900 Add scheme & authority only if not exists commit 9672461941d7dee41ebaf983b160f50ee220d231 Author: Masaori Koshiba



<masaori@apache.org> Date: Mon Jan 28 16:01:13 2019 +0900 Create QPACK ENCODER/DECODER stream commit d165267ddea8f1de2a43ba93ecb12e903884bba Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Jan 23 14:06:07 2019 +0900 Add prototype of HTTP/3 support with ugly hacks Worked with lsquic-client with HEADER\_TABLE\_SIZE=0 commit 46da77d330379bab623a373dc65851d855eb06fc Author: scw00 <scw00@apache.org> Date: Mon Jan 28 18:07:18 2019 +0800 QUIC: Add retransmit fin stream frame test and fixed test\_QUICFrameRetransmitter commit 2638c4fc9ab1b4a96955170aa5f54b1b9331b966 Author: scw00 <scw00@apache.org> Date: Mon Jan 28 17:07:15 2019 +0800 QUIC: Fixed traffic\_quic compiler error commit fa9deaaf044b2d36fdb3132de6738fb1b92b9162 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 28 14:02:35 2019 +0900 Set fin flag correctly when retransmitter splits STREAM frame commit 2ad2237cd2d30bba0cb24711125700e71dd0969c Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 28 11:02:27 2019 +0900 Record stream id of STREAM frames for retransmission commit 6dc267a9f5dfe17bfc5b022ae442892d181b3620 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 17:55:41 2019 +0900 Send PING after path validation This is a workaround for connection migration. commit ba58765f6cbdd6e037f5d63cf462d9cb21830bc9 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 17:49:34 2019 +0900 Record encryption level of lost frames commit 42653598059f89bdc286d58417267331a96ea73d Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 17:18:51 2019 +0900 Send PING frame on an appropriate encryption level commit 67673b15edcf91dff08f94cb62c81059f6bf1b25 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 17:14:42 2019 +0900 Add PADDING frames if packet is too small To gather enough sample for header protection. commit eb25b14d99d50e5759d76557baa582f0850141b3 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 14:39:24 2019 +0900 Update remote addr commit 866fe9298e02ee8f644133d1cea119c4d69c6ae4 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jan 24 11:54:31 2019 +0900 Update QPACK Static Table commit 0648132e9ba3399106ede3115ff57d9397127288 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 24 11:17:58 2019 +0900 Fix stream type check commit c9b280286848f0b3965a9a3711d3028e547acc08 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 23 15:10:39 2019 +0900 Fix compile warnings on CentOS commit ed680fbdd8aae074dfd6df7f14fa1932c3e51b5f Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 23 14:39:43 2019 +0900 Fix reading StreamIO buffer to create HTTP/3 frame commit 988ff5c0d365f66c8c85088f0bdc551771d220d8 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 22 14:53:44 2019 +0900 Advertise hq-17 for now instead of h3-17 commit 6d8da83264fd3a3ce510ad0d3e7476a1661f5a82 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 22 12:10:49 2019 +0900 Support ChaCha20 commit a6ee9e258d157af8266cc83ea89a2408ec6715f4 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 22 09:23:30 2019 +0900 HTTP/3: Add debug names functions for stream type, settings id, and error code commit 3bd51f16ed893687eec4827f8f5e3757f4b8de5b Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 22 09:18:01 2019 +0900 HTTP/3: Add error codes commit d18ea13a1bab7eb9935ce9f7cba29b544f793a73 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 22 09:13:46 2019 +0900 HTTP/3: Add settings id and stream type for QPACK commit 3f8d224220516d1570ab6acc5a205bc0dcf43057 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 21 16:43:05 2019 +0900 Fix a length check in packet protection commit 17736660076f686f6870520bc9f9dae10d5714f9 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 21 14:29:27 2019 +0900 Log TPs correctly commit 0bec142021f0731fb3193f4099af9714d9b4d80a Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 21 14:14:08 2019 +0900 Don't unprotect RETRY packet's header commit ed906430e2c127ad5576377d28d47f472de66780 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 21 10:19:59 2019 +0900 Update Retry packet format commit 92bf49d1e0794c2558dc683b66058dc6640bf194 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 18 13:57:01 2019 +0900 HTTP/3: Add SETTINGS frame commit 3be7a1566a2a2633683713cfbbbe01bf89604754 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 21 10:03:18 2019 +0900 clang-format proxy/http3/ commit 38439c9064a942905fa210a8c2ddf630eb5a203a Author: Masakazu Kitajo <mkitajo@apple.com> Date: Fri Jan 18 17:32:10 2019 +0900 Support NAT rebinding scenario on connection migration commit f846f919ed5472a36735face4e41375524227695 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 18 14:16:35 2019 +0900 draft-13: Remove flags from HTTP/3 frames commit 0608ab3c642874b62d81d0dc72eaeda36f115fc4 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 18 13:19:16 2019 +0900 Fix test\_Http3Frame - checking frame type commit



c27906e5806e79e96d59ba0caebcf9889f553458 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 18 13:11:13 2019 +0900 Fix building unit tests of HTTP/3 and QPACK - Remove test for libhttp3 from test\_qpack - Disabled test\_Http3FrameDispatcher temporally due to Http3FrameDispatcher::on\_read\_ready() is changed commit

ccf5a07c2eefa8ad03b188497e2aa42eca89aacf Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Jan 17 17:24:02 2019 +0900 Revmoed useless debug print commit

ef7a22835860c0a0393790b50d1c8d55da95c32f Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Jan 17 17:22:57 2019 +0900 Print H3 frame types received commit

2afb62121d27f96b65e23f34539221170376c8a4 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Jan 17 16:57:13 2019 +0900 Ignore decryption failure This closes #4134. commit

43f8c7d3694f57b466f38b4711066ee3cb5643f4 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Jan 17 16:29:47 2019 +0900 Acquire a lock before touching NetHandler commit

a693553e129fe412f3904d9ed4a107bc35992ef3 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Jan 17 16:29:08 2019 +0900 Remove an unreasonable ink\_assert commit

8697d161d6e9ec18c9ce8b9f68ba52834968b431 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 16 17:33:06 2019 +0900 Send INITIAL\_MAX\_STREAM\_DATA\_UNI commit

4f7f8586bea2e88fa651dd59b584071eba58f32b Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 16 16:17:16 2019 +0900 Don't crash when H3 requests come commit

bfd9a0f62dcd9e4504aa60e6527e2e35e303c5c Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 16 14:30:30 2019 +0900 Rename HQ to HTTP3 commit

e1438d0d72431ce12a6566ad8dad72e63a9ea7cc Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 16 08:12:02 2019 +0900 clang-formant commit cb13e7dddce53f4224c69ef5a2359f0cc1b424fe

Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 16 08:08:17 2019 +0900 Fix sample offset boundary check commit 3a993f9a7c8799577e4fa4f712041ba9e2726734 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 15 15:58:49 2019 +0900 Change set\_max\_stream\_id to set\_max\_streams\_(bid|uni) commit 0a685ab2b04a9b811d6f9b5562a624501cd34b88 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 15 15:25:32 2019 +0900 Update names around max\_streams commit f88932a0f9847f8a8e306d47115a5e7f2b57d9f5 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 15 12:49:22 2019 +0900 Fix a packet type check in QUICPollCont commit

b8089ccd8ec623598426094882d94bd920f06e68 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Fri Jan 11 17:27:52 2019 +0900 Make unit tests compilable commit

dca4f5a84c03706e0e0b08f65d2199b4bbaa94f0 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 9 16:04:37 2019 +0900 Update CONNECTION\_CLOSE frame commit

c4dda17c6e4076a39d361d7cb29263be2a20f591 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 9 15:28:49 2019 +0900 Probably fix packet number decoding issue commit

e9c299f63d19fc5638acf197c194fb67c2e526ab Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Jan 9 15:04:40 2019 +0900 Fix a compile error on ACK frame commit

56d0e1d80ccc3e5a27dcfad257898cb52ee5c019 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 8 16:36:17 2019 +0900 Update ACK frame commit

0fbdd31904d50a90b053d4197ba6b5a284467add Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 8 16:14:45 2019 +0900 Update NEW\_CONNECTION\_ID frame commit

702e3e8f26e9eb7c147cfaae8dfa22a9e3d385f5 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Tue Jan 8 16:12:00 2019 +0900 Update short header and header protection commit

585c1e8b26f4af6fb43aeab93738c0f46a5a1a61 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 7 18:07:15 2019 +0900 Protect packet headers commit

3761592bac1de213a1d5567400742bb91595819f Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 7 12:39:38 2019 +0900 Read and write integer TPs as variable integers but not fixed size integers commit b022e04949a3abe7f9ef498d8df5ed5562eecf05 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 7 12:07:36 2019 +0900 Update TP IDs and names commit

2f3b3c213b52b5d4a890540461fec5d3bbf44149 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Mon Jan 7 11:33:59 2019 +0900 Update frame types and names commit

bc7fe3cb2c18925c8ce3e3393caf33c80c9cb7ef Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Dec 27 17:30:55 2018 +0900 Unprotect packet headers commit

cd8347a7d2202733ad1644aa384e725cd2d941b5 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Dec 26 14:35:32 2018 +0900 Update version numbers to draft-17 and h3-17 commit

d1f3ca0d324ca42e15138b0d35a70a03ce860221 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Dec 26 12:03:30 2018 +0900 Make it compilable with OpenSSL for draft-17 (probably broken) commit 447c7f6ca88df2873762b4df20eb14e15ef186bb Merge: 7c2b65a43 04bfb458c Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jan 17 13:48:16 2019 +0900 Merge branch 'master' into quic-

latest Conflicts: iocore/net/P\_UnixNetVConnection.h lib/records/I\_RecHttp.h commit 7c2b65a43c1e51366ffcbceff736b94023df63ef Author: scw00 <scw00@apache.org> Date: Sun Jan 13 17:19:16 2019 +0800 QUIC: Refactor crypto and stream frame retransmission commit 06b3b2d0d0131ff21ad27dabcd794961f58f6713 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 15 12:00:58 2019 +0900 Assign thread for QUICNetVC at QUICPacketHandlerIn::\_recv\_packet Partically, revert 2c81f2b647bc4b24ae0459388ede28f826fed93b. On incoming side, vc->thread have to be assigned before enqueue. commit 72d2a70ee2f8a00c4eed95280b11cc5482c0fe41 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 15 09:33:06 2019 +0900 More fixes test cases broken due to (ats\_unique\_buf -> IOBufferBlock) commit f2cb7b6335f281bd5816da13acfc2c058665ec0e Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 15 09:32:19 2019 +0900 Add test\_QUICFrameRetransmitter to .gitignore commit b223484721089ca00566cedfe1323e984bd5e60c Author: scw00 <scw00@apache.org> Date: Fri Jan 11 15:23:03 2019 +0800 QUIC: Fixes test cases broken due to (ats\_unique\_buf -> IOBufferBlock) commit 850f2762c3c587c4727ca0ed80cf0f5e41f45fbc Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 11 15:49:30 2019 +0900 Increment \_next\_stream\_id (unibidi) correctly commit 79ff56862137051abcb77853dfb318daa90269ae Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 11 15:33:58 2019 +0900 Abort traffic\_quic if it could not create stream commit b61748cfb9de25751a19d17599f5649e2711eb31 Author: scw00 <scw00@apache.org> Date: Fri Jan 11 13:44:12 2019 +0800 Uses IOBufferBlock::consume instead of split\_frame commit 6c2e2f17e8d649eb25c02d906637cc918f5507f7 Author: scw00 <scw00@apache.org> Date: Fri Jan 11 10:14:45 2019 +0800 QUIC: Remove useless MAX\_XX\_DATA, STOP\_SENDING, RESET retransmission commit 3e4ac8eff5531a8b212eb92f604c3a248d8127b1 Author: scw00 <scw00@apache.org> Date: Fri Jan 11 10:07:24 2019 +0800 QUIC: Uses Allocator to alloc QUICFrameInformation commit feccf53db09466acdba8fd7f4c82dd88466d0a7a Author: scw00 <scw00@apache.org> Date: Thu Jan 10 17:17:49 2019 +0800 QUIC: Introduces QUICFrameRetranmsitter to retransmit frame commit f848582a3d16c2bef08f11f8a557da0ddc47c07f Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 11 14:49:46 2019 +0900 Set vc handler startEvent on out going QUICNetVC initialization commit 2c81f2b647bc4b24ae0459388ede28f826fed93b Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 11 11:58:52 2019 +0900 Start QUICNetVConnection after thread is assigned commit 285d910a5344b1935e65bcd166542cc2888b0eb2 Author: scw00 <scw00@apache.org> Date: Tue Jan 8 16:26:31 2019 +0800 QUIC: Missed QUICNetVConnection \_on\_frame\_lost commit 0d463a6f69367231fb7b5dd0729f11232e45b905 Author: scw00 <scw00@apache.org> Date: Tue Jan 8 16:20:26 2019 +0800 QUIC: Uses reference to the callback QUICFrameInformation commit 63e24156283048d1bb837f5971eb0511a9c65d06 Author: scw00 <scw00@apache.org> Date: Fri Dec 28 15:13:04 2018 +0800 QUIC: Records STREAM frame, RST frame, STOP\_SENDING frame and MAX\_STREAM\_DATA frame commit 6e3d31a3a9e4909f5c392fcb5f243fd4fd36b842 Author: scw00 <scw00@apache.org> Date: Fri Dec 28 15:33:36 2018 +0800 QUIC: Fixes Stream test case commit f7fcbb5dbe82c82720e78eb7ce354fd7c879b3b5 Author: scw00 <scw00@apache.org> Date: Thu Dec 27 10:34:28 2018 +0800 QUIC: update crypto data buffer with IOBufferBlock commit c832698624e69e8e3d1d577b3234f70e616b3c89 Author: scw00 <scw00@apache.org> Date: Wed Dec 26 16:17:09 2018 +0800 QUIC Uses IOBufferBlock instead of ats\_unique\_malloc commit 80210bca24641f45374d4f28171bb4c6ddefd5c1 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Dec 26 14:30:24 2018 +0900 Fix tests for QUICStreamManager initial\_max\_stream\_data\_bidi\_remote and initial\_max\_stream\_data\_bidi\_local are always 32 bits values. commit 433b0abceea365dd3abcc54a3a8f4f64c75cc778 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Dec 26 09:33:36 2018 +0900 Fix compile errors because of type difference commit 589eded4360cf4c8ce970e3a34d6aa64327e238b Author: scw00 <scw00@apache.org> Date: Tue Dec 25 11:36:21 2018 +0800 QUIC: make reset internal and fix typo commit 49c7ac1c5796edbe7fb2a6e55125094cf8a0b05a Author: scw00 <scw00@apache.org> Date: Sat Dec 22 15:35:22 2018 +0800 QUIC: reset a frame when fast\_create commit d6ccabc7e1e212bba73ddaec7ce57586fe462a67 Author: scw00 <scw00@apache.org> Date: Sat Dec 22 14:25:32 2018 +0800 QUIC: add left frames commit a2f7fc15623e19fa6dc494a440d420ba1570a52b Author: scw00 <scw00@apache.org> Date: Fri Dec 21 21:46:43 2018 +0800 QUIC: Rework some frames parsing commit 9843be70033583cdb5c15c8cf9773629c2b6554f Author: scw00 <scw00@apache.org> Date: Fri Dec 21 20:07:56 2018 +0800 QUIC: Rework CryptoFrame parsing commit 7c1a1b046dac90bd241cd7d8125aece2f567329a Author: scw00 <scw00@apache.org> Date: Fri Dec 21 17:06:06 2018 +0800 QUIC: Rework QUICStreamFrame parsing commit d05b37a695525a7d912753a9963b490573c00bc5 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Dec 21 11:47:47 2018 +0900 Prohibit create streams when max stream id is zero commit

c97d8c04e0756a91d7c2fb0b530eef7a477dcc9e Author: Masaori Koshiba <masaori@apache.org> Date: Fri Dec 21 11:45:58 2018 +0900 Fix unit test of QUICStreamManager Prior this change, the test was broken by 0854da0dbb12b125c18f7e5b75fefe2977f024b4. commit 0854da0dbb12b125c18f7e5b75fefe2977f024b4 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Dec 18 11:28:34 2018 +0900 Fix error of "HTTP GET on stream 2" scenario of QUICTracker QUICStreamManager::find\_or\_create\_stream() treated stream 0 special for handshake. But it's not required any more, because stream 0 is replaced by crypto stream. commit 205345828a78638f30488829f36f93bc348e42f3 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Dec 18 12:00:37 2018 +0900 clang-format commit 1041f95901afaf1f57bdc996da8a3ba064f212b5 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 18 11:30:47 2018 +0900 Add Pinger back with its source files commit 84cb675fe8db5527ff9fee8f214891136e3957ac Author: Masaori Koshiba <masaori@apache.org> Date: Fri Dec 14 15:30:21 2018 +0900 Check TLS version only if content type is HANDSHAKE on msg\_cb For "Unsupported TLS version" scenario of QUICTracker commit 272d9513550eb1e4f10ad77456783916e21e6538 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Dec 14 15:23:39 2018 +0900 Fix debug log to print error code in hex commit 6c433f5e6336eed64024b22bf5e93d901910127e Author: Masaori Koshiba <masaori@apache.org> Date: Thu Dec 13 14:22:20 2018 +0900 Fix unit tests commit 4532046d7fe1a5e811682220dc6ab69667efa572 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Dec 13 13:30:37 2018 +0900 Revert "Provide an interface for sending PING" This reverts commit c2b548104980d619fd90c5b5b186a5ed55ed1c94. commit c2af0e5f7870a9bb91b9c8c24a2387015f08fa97 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Dec 13 13:30:34 2018 +0900 Revert "Add Pinger" This reverts commit 2197e2935c2ced586f6e7eef144903e0b3337683. commit 61a729bc97496a13560eb70d7a1b70d2f3837231 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 16:12:44 2018 +0900 Don't retransmit CONNECTION\_CLOSE and APPLICATION\_CLOSE with QUICPacketRetransmitter commit c149a0f5985bb59fded4c4874c4f06cc5852e7e9 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 16:01:00 2018 +0900 Pass connection error as a reference to keep it in QNetVC like QUICStream does commit cea7468245fd0a10fd03f0c8e1b38cac1704c66b Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 14:31:57 2018 +0900 Add QUICStream::stop\_sending() commit 98f0ca4c627852ad02d3d7213e468ae5d0e89cad Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 11:58:54 2018 +0900 Don't retransmit PING frame commit c2b548104980d619fd90c5b5b186a5ed55ed1c94 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 11:54:40 2018 +0900 Provide an interface for sending PING commit 2197e2935c2ced586f6e7eef144903e0b3337683 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 11:47:52 2018 +0900 Add Pinger commit eb122f585843f655230f513ffe2a267ecb9ceecb Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 10:15:37 2018 +0900 Add link openssl for test\_tscore commit 8f4c036a53c27743bb5aca569409199359f90874 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 11 09:55:17 2018 +0900 Fix include line in test\_HKDF commit a1467183ccfa2107ed41a4ebd33bfce36a6b6df2 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Dec 10 17:16:06 2018 +0900 Fix a file path in Makefile.am commit 7979f0c6f11052c47861a621fec6917023c0337f Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Dec 10 16:14:24 2018 +0900 Send NEW\_TOKEN frame commit 5d1082ce96dcd4cc9149e55a185763cc6436148d Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Dec 3 18:00:23 2018 +0900 Add QUICAddressValidationToken and QUICResumptionToken commit bc3e89b05ca7f178a55a50826d17b4d7ceac96e1 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Dec 10 16:38:33 2018 +0900 Fix tests for AckFrameManager commit 4eb3fbf2280ed5c0d7a5ba9acfedcdcb58a8d6944 Author: scw00 <scw00@apache.org> Date: Thu Dec 6 10:56:28 2018 +0800 QUIC: Send ping frame to force peer send ack commit d0d35fdb93fbc38716cd0784d7519b8a6b8b8d6f Author: scw00 <scw00@apache.org> Date: Tue Dec 4 11:59:59 2018 +0800 QUIC: Remove force\_to\_send api commit 1bc29d2627d010f55e9d01bf3b729038bd716077 Author: scw00 <scw00@apache.org> Date: Mon Dec 3 12:21:06 2018 +0800 QUIC: Add assertion on QUICNetVConnection::thread and fix tests commit f313cb52fc6ba1d6ea77ee0ae6091affa9a70a4c Author: scw00 <scw00@apache.org> Date: Mon Dec 3 09:51:44 2018 +0800 QUIC: Schedule PACKET\_READY\_EVENT if ack\_frame available commit afd9c89872f52a637dde4d23361c57bbb1aea134 Author: scw00 <scw00@apache.org> Date: Sat Dec 1 13:26:33 2018 +0800 QUIC: Make a periodic event to send ack\_frame commit dd49e1d69fd14652c17deec590717b2eb4812926 Author: scw00 <scw00@apache.org> Date: Thu Nov 29 11:42:12 2018 +0800 QUIC: add test for delay ack commit a732c62a1a84d27ee3a1fc644fa7aa67d0785ce0 Author: scw00 <scw00@apache.org> Date: Thu Nov 29

10:57:14 2018 +0800 QUIC test\_QUICAckFrameCreator commit  
61693dd6c5a442757f7214d6c09df9cda4e54d3f Author: scw00 <scw00@apache.org> Date: Thu Nov 29  
10:45:32 2018 +0800 QUIC Sink common\_send\_packet to QUICConnection commit  
26820f2789eae743f041bafd757b607e4ee9780e Author: scw00 <scw00@apache.org> Date: Thu Nov 29  
09:47:54 2018 +0800 QUIC: Delay ack support commit 70ef6ad5043693150ea205c282ded0491659101e  
Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 30 16:21:12 2018 +0900 Add unit tests  
for QUICPreferredAddress commit 1105ae453757cab50eb7930c18e42fad252d39ee Author: Masakazu  
Kitajo <maskit@apache.org> Date: Fri Nov 30 15:40:46 2018 +0900 Update tests for  
QUICFlowController commit 1e94f755fd4ea617435cb406c8ac67e9b7811f5d Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Nov 30 14:55:29 2018 +0900 Fix tests for QUICFlowController I  
accidentally pushed WIP branch. This fixes the unit tests but test cases MAX\_DATA and  
MAX\_STREAM\_DATA are not added. commit 5f59304a750104bfd8778a6d0c227556a0a84563 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 30 14:00:59 2018 +0900 Remove ../ from  
include lines commit 7a953a5767fc326ae8e5736eb7ec7c7f5b620758 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Nov 30 12:10:23 2018 +0900 Retransmit freames genererated by  
QUICFlowController by itself BLOCKED, STREAM\_BLOCKED, MAX\_DATA,  
MAX\_STREAM\_DATA commit 1a2ceb4b3aaa9f0d2e3cc4ba843c9955d4a2da94 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Thu Nov 29 10:55:14 2018 +0900 Fixup for the previous commit It  
worked only for the unit test because FrameId was not issued and frame generator was not set. commit  
9dc8b9346c61e0a4baa6fae7d11eae65654a12cb Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 29 10:16:19 2018 +0900 Regenerate RST\_STREAM with the generateor instead of  
QUICPacketRetransmitter commit 4171c2754683e703f72f5f74366c13bc649b4819 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Wed Nov 28 16:09:20 2018 +0900 Update stream state machine All  
stream states and transitions are covered, but not sure QUICStream uses it correctly. commit  
6fa045be7449d55a5c6befe2add64d4ae601b4e9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Nov 27 15:40:15 2018 +0900 PATH\_RESPONSE doesn't need to be retransmitted commit  
827548879007c8fc81dcd3aef8506fcdeada9885 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Nov 27 14:40:02 2018 +0900 Remove dependency for TCL and tscore/Map.h commit  
d640a733610d776e9daa2abc1c5391dc2d3b840c Merge: 0ef9bce32 d41bbdec5 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Nov 27 14:22:45 2018 +0900 Merge branch 'master' into quic-latest  
commit 0ef9bce3206ac4bc949003c3a7dc78aacc7780e6 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Tue Nov 27 13:59:23 2018 +0900 Send original\_connection\_id TP commit  
c625b48a78ddb86cd3b5768e37f000295dbb8a31 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Nov 26 16:13:46 2018 +0900 Refacotr retry token and stateless reset token commit  
b17f0f47e4af1d022fcc2b0a9cea3b1b3884a948 Author: scw00 <scw00@apache.org> Date: Tue Nov 27  
09:31:21 2018 +0800 QUIC: Removes unused the memcpy commit  
ab21f0cc4866035150204acdd6deb04865735b7c Author: scw00 <scw00@apache.org> Date: Tue Nov 27  
09:21:42 2018 +0800 QUIC: Add issue\_frame\_id to get latest frame id commit  
10ab66a95241ec6fd3ba56417c7d833fd0b90b75 Author: scw00 <scw00@apache.org> Date: Mon Nov 26  
20:47:01 2018 +0800 run clang-format commit 8d9822a74a77b2a5d80b4379e99e7de3f2144a20 Author:  
scw00 <scw00@apache.org> Date: Mon Nov 26 20:46:09 2018 +0800 QUIC: Implement QUIC ack  
tracing commit b8692528b0c9edeb559d16eb2be1fa2726db7008 Author: scw00 <scw00@apache.org>  
Date: Mon Nov 26 11:18:56 2018 +0800 QUIC: Use uint8\_t buffer instead of union commit  
253117f65497f52064b13ab50bec5d08fd29fcae Author: scw00 <scw00@apache.org> Date: Mon Nov 26  
10:19:25 2018 +0800 QUIC Removes frame type checks, user should only call records\_frame when you  
need to track this frame commit 99c968e20cc9dcbcbce9786008a0862ae3ee22d4 Author: scw00  
<scw00@apache.org> Date: Sun Nov 25 11:09:35 2018 +0800 QUIC: Records frame information which  
needs to be tracked commit d36bc1190631e0879961284e4c86188511caa7fb Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Nov 22 16:48:48 2018 +0900 Send Preferred Address if it is set This  
adds proxy.config.quic.preferred\_address . commit a88e26fbe8444905a44261b985ecc9bb1157959a  
Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 19 16:54:44 2018 +0900 Keep frame id  
and frame generator instead of actual frame instance commit  
7d2c1a2409a7c7800ea99725d64ffe1b87387015 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 22 10:56:49 2018 +0900 Fix CID randomization The last byte was not initialized correctly  
commit 13064f8f4e8989166e8edd3e631a93e3f5b6ac0e Author: Masakazu Kitajo <maskit@apache.org>  
Date: Wed Nov 21 18:11:06 2018 +0900 Fix build issues commit  
f3d3bbd92c01c3973cd3b2a03718464a52f6feac Author: Walter Karas <wkaras@oath.com> Date: Tue  
Nov 20 20:32:10 2018 -0600 Avoid doubling the size of ats\_unique\_buf instances. It is not necessary to  
have a pointer to the ats\_free() function in each instance. <http://coliru.stacked->

crooked.com/a/bf9a683da11820c2 commit 880e9f6732e2ed09706b0d504684924647b3287c Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 21 10:08:08 2018 +0900 Signal UDP activity commit a9c6242f7c368fae5b1d36ab0d68ff9aa74a13f4 Merge: 5d20eee5e a5f145d9a Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 21 10:02:35 2018 +0900 Merge branch 'master' into quic-latest Conflicts: iocore/net/UnixUDNet.cc commit 5d20eee5ed58c08237bece79ec546a712bfa375d Author: Bryan Call <bcall@apache.org> Date: Tue Nov 13 16:03:24 2018 +0900 Changed the random number generator for QUICPathValidator commit d64f8c6e96961915de13a3e197ae50bba90aa4f7 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 20 14:29:16 2018 +0900 Improve performance commit fe54897e3ee9fac3473af1da0c67ff0270217369 Author: scw00 <scw00@apache.org> Date: Tue Nov 20 09:30:48 2018 +0800 QUIC: Fixes receive side delay commit 0baa9ce6ccfe754f7091e33367521fe266f4a2ea Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 20 00:33:44 2018 +0900 Fix build error in unit tests commit 8b3effaf622c05b8fec96f3df32d6ad78f3fe4c3 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 20 00:33:24 2018 +0900 Reduce use of QUICConfig commit b3e8671d6a11eadf58cff4d8e16b95a6c92eefd7 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 19 22:30:26 2018 +0900 Rename server id to instance id commit 88cbdc7f4c2da45683bbf795b87eeb2f06453840 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 19 15:59:22 2018 +0800 QUIC: Fixed the signalActivity is not work on QUIC branch Co-Authored-By: scw00 <616955249@qq.com> commit e17ac35a7c7469418341901b3be6a61848e9df86 Author: scw00 <scw00@apache.org> Date: Mon Nov 19 15:13:58 2018 +0800 QUIC: Fixed the signalActivity is not work on QUIC branch commit b23d1c57c03b689a3b06b2b7719e9674bd9dfb8b Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 13 13:02:26 2018 +0900 Fix a minor build error commit 40960ab2f397ea6e9d842b9356905cf0268d6ae5 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 9 17:26:20 2018 +0900 clang-format commit d8a5b919d171c3cb373925a789f856cd59eb1347 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 9 17:13:08 2018 +0900 Fix compile error because of incomplete merge commit 3d038e48d9c15625d84d84df19581635ffcd13b Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 9 17:06:50 2018 +0900 Remove conflict marker commit 3407ed3f0db440c5e9444ebc8566e3004d397fc3 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 9 17:00:15 2018 +0900 Fix unit tests commit bba430f0336baa4b5fa91182fd56faa4aa9facb5 Author: scw00 <scw00@apache.org> Date: Tue Nov 6 11:59:31 2018 +0800 QUIC: run clang-format commit 1c718c319e7a59b9bb75093ad9663004aa22b0a1 Author: scw00 <scw00@apache.org> Date: Tue Nov 6 11:58:51 2018 +0800 QUIC: Move set\_owner to QUICFrame default constructor commit 3bb2eb9ea5707c5679cf1d63fc1555925fe870b Author: scw00 <scw00@apache.org> Date: Sat Nov 3 11:14:33 2018 +0800 QUIC: introduce QUICFrameReactor to react the frame sent event and lost event commit 64560de7ca84d6436b0c0a4ff63e6a44f7c3591 Merge: 18e992079 f6e3db952 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 9 16:58:00 2018 +0900 Merge branch 'master' into quic-latest Conflicts: .gitignore iocore/net/P\_Net.h commit 18e9920793909fc7036165766ce95456f1ce68d8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 6 16:10:30 2018 +0900 Fix a unit test for QUICFrame commit 6eb6b99821089309837f5d12af66b93dc6be15e3 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 2 17:38:09 2018 +0900 Fix a bug in connection migration commit e8a450606c19a08cc2ed5d1b0125777b2eabd48e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 2 17:37:03 2018 +0900 Improve a debug log commit fbd453272279cd59f18039d08612d4bfc5f93f4 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 2 11:00:20 2018 +0900 clang-format commit 10cce9ed3ff726c369a070c32a65312fb6668d0c Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 2 10:58:41 2018 +0900 Fix build issues caused by merging master commit 420d5afc1b9251c794e5b151f1b5b3e13c78d6e7 Merge: 11f8b0611 95b70f05d Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 2 09:28:18 2018 +0900 Merge branch 'master' into quic-latest commit 11f8b06119aef6e300e22c22db1deda7454a85e7 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 24 11:31:54 2018 +0900 Add proxy.config.quic.max\_ack\_delay\_in/out commit 992aa470edd1af361e5993ab66b9820c1b6201e5 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Fri Oct 19 14:30:51 2018 +0900 Update connection migration commit 7350bc218752f45e754ccc90b14f8e1fd38dafca Author: Masakazu Kitajo <mkitajo@apple.com> Date: Thu Oct 18 11:35:19 2018 +0900 An endpoint should provide and maintain at least 8 CIDs commit 156c6827f8093f75e977057b6437e6d539eec811 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 16:52:36 2018 +0900 Add partial support for ECN Section It can read ECN Section but cannot write ECN Section commit 1f1f22cf6e00a3508ded9d4f836005ee78b7e5df Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 12:04:11 2018 +0900 Fix a test for VN packet commit

50a0c033b99f63e242d7b5282192f52fb6b9bfe Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 11:55:38 2018 +0900 Fix frame type detection commit

236323f61d36eb77b29006b66cad004e2e1e32fa Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 11:39:35 2018 +0900 Add RETIRE\_CONNECTION\_ID commit

73576459916de7cd1662559fff96b6c7c7ecdac9 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 11:36:35 2018 +0900 Fix NEW\_CONNECTION\_ID commit

4c2b886301523949294a76e32baa0dba55bc9bc5 Author: Masakazu Kitajo <mkitajo@apple.com> Date: Wed Oct 17 11:24:46 2018 +0900 Fix tests for ACK frame commit

738f94a0c596940c8933c2db01ae2c5fd6803875 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 15 15:58:50 2018 +0900 Apply minimum changes for draf-15 - Update Version - Update validation rule for Transport Parameters - Update frame type values - Update NEW\_CONNECTION\_ID frame format commit

e89bed2d2243fd511dff7141acbe1095a4f44bee Author: Masaori Koshiba <masaori@apache.org> Date: Thu Oct 25 11:45:20 2018 +0900 Cleanup test\_QUICHandshakeProtocol commit

49c53dac3da49bc327b56237b26a8341a99331fe Author: Masaori Koshiba <masaori@apache.org> Date: Wed Oct 24 14:28:12 2018 +0900 Start server stateless retry only if QUICNetVConnection doesn't exist commit

29bba883ce44ddbfa329b957a36e8509f2af4432 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Oct 24 10:32:38 2018 +0900 Create 0-RTT packet if needed commit

1ed85fa00005bab727aa1730000fcdea9e55ee05 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 23 17:37:37 2018 +0900 Add support for ack\_delay\_exponent commit

4c31a88af57dfef66ec7dd859345ba56bcfee467 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 16:00:45 2018 +0900 Handle RETRY packet on quic client commit

359ac53182da0a1ee386aa16a5e4a7f8bd6c196d Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:58:39 2018 +0900 Rename config for server stateless retry commit

75f95ee6e834a03dd21eb142ac47dcc7f11b54f0 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:57:26 2018 +0900 Add Server Stateless Retry Support (take 2) commit

28832e086be5640d1990eef40c6b7a3373320a84 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:48:55 2018 +0900 Expand buffer size for serialized packet header commit

7e2d0ab498a109d0b3e06e4150d14e4f1284eafe Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:47:19 2018 +0900 Add reset API to QUICPacketNumberGenerator and QUICPacketFactory commit

9b76a39cc4da6adf39ca49563796cf80092ba1f9 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:46:28 2018 +0900 Cleanup QUICStatelessRetry commit

ed96c690290c2690fdc355f26510d8a9d4d4b617 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 23 15:45:48 2018 +0900 Build INITIAL packet with token commit

e1b945981bb4a18aa2ea3c724b13b41cbe357eb8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 23 13:58:58 2018 +0900 Copy ACK block section in QUICAckFrame::clone() commit

65c88702f08ff59d96f7ff47115d9f24c355581f Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 23 13:47:08 2018 +0900 clang-format commit

3517a33e590dafa5c07b802b765f79e82c89f811 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 23 13:46:17 2018 +0900 Fix compile errors in tests commit

0b56b02629ccf46b497920c0c7d51157cea3ee62 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 22 15:59:32 2018 +0900 Fix log output commit

30c2af2ff40b35bfab49f1fa03140d787f0b13b5 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 22 14:54:15 2018 +0900 Add check for probing packet commit

5ce7ab64e1201649f240d64511cc1debb3abddc7 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Oct 3 14:41:28 2018 +0900 Load/Store RETRY Packet commit

c26e6937767b2f17de66fd70df019b6d2fbc3efc Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 22 10:01:36 2018 +0900 Update debug log output commit

a78b908f5a56fc1832cb686c7300f3bde7183779 Author: scw00 <scw00@apache.org> Date: Fri Oct 19 14:39:57 2018 +0800 QUIC: Add write\_early\_data to generate 0rtt km commit

6b6a75bf6c52cfb0925620dd36c8741d1aad1fd4 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Oct 19 16:19:38 2018 +0900 clang-format commit

742632709717d042d210cf3f03335f79812b188e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Oct 19 14:28:43 2018 +0900 Cleanup path validation event handlers commit

372e9c0104a3ea1bd1c9e8ab9bb7da891da05a03 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Oct 19 11:19:54 2018 +0900 Add is\_probing\_frame() and is\_probing\_packet() commit

f2db48fb4147fa03b6ca6f4fea67c9f4db24a9af Author: scw00 <scw00@apache.org> Date: Tue Oct 16 16:58:57 2018 +0800 QUIC: Ignore empty msg when handshake success commit

b68c249ca3816192affab52db8ecfb7ed4bc1f1b Merge: bfa09998a 9ec54c7ea Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 16 14:47:23 2018 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: (52 commits) Fix gzip plugin not linked correctly with zlib ts\_file: Add 'view' method to get a view of the path. Do not follow redirects after cache hit Fix logging

log file roll issue (#2544). Remove deprecated HTTP/2 metrics TCL: remove TCL dependency from RecCore TCL: Remove TCL dependency from iocore Fix traffic\_via problem with string length New ATS Magick experimental plug-in Doc: Repair various warnings, mostly from header\_rewrite and ArgParser. Update the nitpick list. Meta: Add conditional compilation case meta structures. Removes errant mid-sentence extra space from message Allows unknown configuration variables when specified on the commandline Replace the overridable lookup with an unordered\_map Rename stats for HTTP/2 current client connections Add some feeble amount of encapsulation to the Thread class. Cleanup: Remove MgmtHashTable.h Removes reference to non-existent example Convert traffic\_cache\_tool to use ArgParser client\_bytes should be initialized as 0, it is exclusively used by get\_info\_from\_buffer to count the number of copied bytes and set the last byte to 0 ... Conflicts: lib/records/RecHttp.cc commit bfa09998a69508c120fc93e8846f7788c06aa478 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 16 14:26:31 2018 +0900 Fix unit tests commit 5d6bd76131a828a0b1993a5eba7d51c94ce8476f Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 16 14:11:24 2018 +0900 Remove unused variable commit 73bddb3bb4c093ad073d9cafff17b10e5e242a74 Author: scw00 <scw00@apache.org> Date: Sun Oct 14 09:48:34 2018 +0800 QUIC: Changes QUICErrorUPtr to QUICConnectionUPtr to terminate the connection commit 3d6b0f5212aed5c21cdbe764a3f8fc6353384374 Author: scw00 <scw00@apache.org> Date: Sat Oct 13 11:46:22 2018 +0800 QUIC Client session reused by new session ticket commit 5e1c9166359a7f2afd66549a38701152ca9d3d04 Author: scw00 <scw00@apache.org> Date: Mon Oct 15 12:11:28 2018 +0800 QUIC Read new session ticket msg and send it back commit 30ed26a920b2995f6eca5f941d2d3ed964f08368 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 15 10:13:37 2018 +0900 clang-format commit 84f168f433f33583467827945a6b8df41239cb34 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Oct 13 19:09:41 2018 +0900 Remove deprecated functions in QUICStreamIO commit a47a34a7b3117461afba38fa62468dc944f25637 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Oct 13 19:04:49 2018 +0900 Don't use deprecated functions of QUICStreamIO commit 51534c72c12d081324d34df93cbce9fc834c875b Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Oct 13 18:59:43 2018 +0900 Cleanup QPACK commit 411094535d1d241b576cb60208e2fae67520d14d Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Oct 13 18:12:44 2018 +0900 Fix a memory leak in QUICApplication commit f446a02d2c8a4e0a37f8e65d4af9c8cdffa79318 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Oct 13 18:06:16 2018 +0900 Cleanup tests for QUIC transport Fix memory leaks Remove unused variables commit 0f208a33ef0acf0038cf7887e7be185503921ad3 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 4 17:44:21 2018 -0700 Fix a build issue This should fix #4353 commit 6f4dc5f5390838c384cd7baac247247eabf524e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Sep 28 14:52:54 2018 -0600 Remove key phase changing logic completely for now It was destroyed when draft-13 was supported, and is causing a compile warning. commit 304ca803270207dbd47f238d7ddb73996e7936be Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 28 17:56:11 2018 +0900 Restore unit test for full handshake with HRR commit 43ce284fed15d455be127c008261444cb51b8382 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 28 15:09:36 2018 +0900 Do not initiate connection migration before advertising new connection ids commit db38d2f865f0c8cb54eabdb3d1bc16edc29a9091 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 27 16:22:41 2018 +0900 Stop sending STREAM frame while proving a new path commit d054c42cc8bfda86ca465cb6caed13e9374e098f Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 27 12:35:15 2018 +0900 Improve connection migration implementation - Store advertised Connection IDs - Initiate Connection Migration from client side To start connection migration exercise, set `proxy.config.quic.client.cm\_exercise\_enabled` 1. `` PROXY\_CONFIG\_QUIC\_CLIENT\_CM\_EXERCISE\_ENABLED=1 /opt/ats/bin/traffic\_quic `` commit 1a5e471d5b60946216ab132150665e5cc7f8f77c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 27 11:53:48 2018 +0900 Ran clang-format commit 1c9fa8b03b8834dd8e46ff331936d3d1d7ab6ff5 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 27 11:47:29 2018 +0900 Print cid field of NEW\_CONNECTION\_ID on debug log commit 207946c4927d0419b035a6de227cf6302cf009fb Merge: 904d2c869 2e7344428 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 27 09:22:42 2018 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: Adds Robots exclusion file Removed headers that are not used Remove Bitops - apparently not used anywhere and should be replaced by std::bitset anyway. Rewrite traffic\_layout with ArgParser Fix typo of the nofiles ulimit to a sane number Runroot: make runroot accept defective yaml file Generally random code cleanup Add a search path for Tcl Add warning of body\_factory templates are not loaded due to missing dot file. Expand the post chunked tests. Removes secret field from log statement Fix libjansson & libcjoose static or dynamic detection Fix doc building warnings for recent plugin docs



commit 904d2c8698b5d0e9df97d085eb75d7dacd7ed7db Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Sep 26 14:31:44 2018 +0900 Cleanup: rename  
\_state\_common\_receive\_packet and \_state\_connection\_established\_process\_packet -  
\_state\_common\_receive\_packet() -> \_state\_connection\_established\_receive\_packet() -  
\_state\_connection\_established\_process\_packet(QUICPacketUPtr packet) ->  
\_state\_connection\_established\_process\_protected\_packet(QUICPacketUPtr packet) commit  
4b2821ad4d40436bfa00f903a946e75ecc644264 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Sep 25 13:59:58 2018 +0900 Replace libtsutil.la with libtscore.la commit  
3cf8517c00d6bbd364671a267145a2e40c53999a Merge: 5f167189a 52f515196 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Sep 24 16:03:34 2018 -0600 Merge branch 'master' into quic-latest  
Conflicts: iocore/net/P\_UnixNetVConnection.h lib/records/RecHttp.cc proxy/http2/HTTP2.cc  
proxy/http2/Makefile.am src/Makefile.am src/traffic\_server/traffic\_server.cc src/tscore/Makefile.am  
commit 5f167189ae44847c912dcd5dcc7d55180219e3cc Author: Masakazu Kitajo <maskit@apache.org>  
Date: Thu Sep 20 10:33:22 2018 -0400 Fix several bugs in QPACK commit  
1698fbac42297356fb20fd177ff423e60f553e7b Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 19 22:17:39 2018 +0900 Omit zero-length DCID/SCID on sending packets commit  
1676ab5962c99bbee51a8c34ea5823f27226a12e Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 19 20:58:21 2018 +0900 Fix zero-length DCIL & SCIL commit  
31527a02cd52ab871319a2769fe8ca9c658dc424 Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 19 20:14:32 2018 +0900 [draft-14] Fix test\_QUICTransportParameters commit  
e6f705db3b5f0ee8c00aaff615fda0a21b394c1b Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 19 00:23:45 2018 +0900 Print stream id in decimal in debug logs commit  
e81a8c350690e5c1854f421d5f14acf14ba75fa7 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Sep 18 15:20:29 2018 +0900 Add debug logs on sending/receiving QUIC packet commit  
9f1a5456a0e5e1c3f19e239b17ccc183b4425537 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Sep 18 00:38:27 2018 +0900 Add QUICApplicationCloseFrame::debug\_msg() commit  
cb549c7ba5da402eb815489f103db8043e42da32 Merge: e8118051b 4405411fe Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Sep 18 00:54:06 2018 +0900 Merge branch 'asf/master' into quic-latest  
\* asf/master: (43 commits) HttpSessionManager: Fix potential infinite loop problem. IntrusiveHashMap:  
Inserts preserve order for equal keys, as with std::multimap. Update documentation, more testing.  
IntrusiveDList: Add ptr\_ref\_cast to make inheritance easier and avoid compiler aliasing complaints.  
TextView: Better support for std::string assignment. Correct interpretation of  
proxy.config.ssl.client.verify.server Disable the HttpSM half open logic if the underlying transport is TLS  
Fix inconsistent links in docs. Disables the double test for inconsistent execution GCC 8.1.1: Fix  
complaint about lack of storage definitiona for class static const. Fix a regression in the traffic\_ctl host  
status subcommand. Host statuses were not being found as the reason tag was left off. Plugins: Cleanup  
up dependencies on core headers - authproxy Runroot: Update doc Fixes a segfault that may occur when  
the debug and a lookup fails to find an entry in the hoststatus hash table. Remove the ignore\_keep\_alive  
method entirely Lock continuation before calling event handler. Revert "Fixes MacOS linker issue with  
release build" Remove ssl\_cert\_loader. Certifier is more complete version. Cleanup, and adds support for  
new luajit option Remove unneeded aio header file Update to changelog generation tool to not require  
milestone to be closed ... commit e8118051b7f93516f18a54c8c0c5aa84759b8bd3 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Fri Sep 14 21:26:30 2018 +0900 Support non-default table size of  
QPACK commit b3383588c1d207415dbdee088a63412147e82950 Author: Masaori Koshiba  
<masaori@apache.org> Date: Fri Sep 14 20:41:42 2018 +0900 Make QUICNetVC handle  
APPLICATION\_CLOSE frame commit 66798aa2a9c9c745d68161eaab58e4988c218e30 Author: Masaori  
Koshiba <masaori@apache.org> Date: Fri Sep 14 12:29:45 2018 +0900 Update peer cid on server side  
when connection migration is initiated commit 1e5bacae50d6c16d23c710c2d5590c903ecf3f74 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Fri Sep 14 11:07:22 2018 +0900 Support QPACK  
instruction Insert With Name Ref commit aede93e79ab51393c53e40ad382cf9b6e2150514 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Fri Sep 14 11:04:19 2018 +0900 Update test\_QPACK to  
decode specied encoded files commit 8df035b43b9bc7b5065fde918b7f3ef5585b66d2 Author: Masaori  
Koshiba <masaori@apache.org> Date: Fri Sep 14 10:09:47 2018 +0900 Print generated alt quic  
connection ids for debug commit 035d09aa74353f3b75762a1d7a9e8ee1822d73df Author: Masaori  
Koshiba <masaori@apache.org> Date: Fri Sep 14 08:19:25 2018 +0900 Ignore invalid packets which  
failed to migrate connection commit d6515064c024c3f71cd1e1cddb5f8fe14f916247 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Thu Sep 13 17:55:44 2018 +0900 Fix bugs around static table  
reference commit d673c783ac7c4469ed174f0a2fb5d99df02f8179 Author: Masaori Koshiba  
<masaori@apache.org> Date: Thu Sep 13 15:14:12 2018 +0900 Ignore VN packets on closing state



commit 730a57dda5a197427090c950d192d057582a9849 Author: Masaori Koshiba  
<masaori@apache.org> Date: Thu Sep 13 10:39:54 2018 +0900 Print error reason on debug log only if it  
is provided commit f1da5b0872f67a587ed81c57e9f9c9a912715c88 Author: Masaori Koshiba  
<masaori@apache.org> Date: Thu Sep 13 10:32:44 2018 +0900 Print derived secret on key\_cb for debug  
commit 00397dfa42846b68f9e4b6345e656e3e35151ce9 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Wed Sep 12 17:21:40 2018 +0900 Fix dup header name bug in QPACK test driver commit  
bfd04179ba77d1ba3e1ea0b619b84510137c6705 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Sep 12 17:20:39 2018 +0900 Increase maximum number of test sequences for QPACK test commit  
b5de7df0b6d8cac355f212b50f63aa72c653e388 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Sep 12 17:19:14 2018 +0900 Fix a sizeof/countof bug in QPACK commit  
da89f6932ec8ef2c49d67c3340685710737e73d9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Sep 12 17:16:10 2018 +0900 Convert header names to lowercase before encoding and after  
decoding commit 0af26d2dec6b60c135eafc968e2a36b66b35429 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Sep 12 17:14:01 2018 +0900 Update QPACK static table commit  
54be99c2bc1fcbdc1f586f491432654a4067d6e Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 12 16:10:28 2018 +0900 Simplify content type strings and handshake type strings commit  
0c3470265ca930b9a98c78cfb05d740d4a964f95 Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Sep 12 15:51:47 2018 +0900 Add unit tests using draft-14 test vectors for clear text AEAD key  
derivation commit 0a4524d825279ee8289ea673b46bd9e300279836 Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Sep 11 11:27:05 2018 +0900 [draft-14] Remove  
QUICTransErrorCode::UNSOLICITED\_PATH\_RESPONSE commit  
67854c45d848efcd83399600c2b1d5d26704d8c1 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Sep 10 14:49:38 2018 +0900 Add configs for Transport Parameters (initial\_max\_\*) Split  
proxy.config.quic.initial\_max\_data - proxy.config.quic.initial\_max\_data\_in : 65536 -  
proxy.config.quic.initial\_max\_data\_out : 65536 Split proxy.config.quic.initial\_max\_stream\_data -  
proxy.config.quic.initial\_max\_stream\_data\_bidi\_local\_in : 0 -  
proxy.config.quic.initial\_max\_stream\_data\_bidi\_local\_out : 4096 -  
proxy.config.quic.initial\_max\_stream\_data\_bidi\_remote\_in : 4096 -  
proxy.config.quic.initial\_max\_stream\_data\_bidi\_remote\_out : 0 -  
proxy.config.quic.initial\_max\_stream\_data\_uni\_in : 0 -  
proxy.config.quic.initial\_max\_stream\_data\_uni\_out : 0 Add configs for initial\_max\_(bidi|uni)\_streams -  
proxy.config.quic.initial\_max\_bidi\_streams\_in : 100 - proxy.config.quic.initial\_max\_bidi\_streams\_out : 0  
- proxy.config.quic.initial\_max\_uni\_streams\_in : 0 - proxy.config.quic.initial\_max\_uni\_streams\_out : 0  
commit 786ec670eb2336d3354b1276ad2c53ec34791bcd Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Sep 10 13:47:36 2018 +0900 [draft-14] Split  
INITIAL\_MAX\_STREAM\_DATA into 3 transport parameters commit  
d497bfa4bf2b50f651908dbfe966e582363dbfb7 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Sep 10 09:54:47 2018 +0900 [draft-14] Bump version commit  
00953882b5f29686bdcec69216413bdcd86e177e Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 17:36:44 2018 +0900 Add const qualifier to \_hs\_protocol commit  
0bd40e8ac1d6490469520fcec68973c438eb8a32 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 17:01:04 2018 +0900 Move encrypt\_pn/decrypt\_pn impls to QUICPacketNumberEncryptor  
commit 9867db720f5473287e240cec6f9bc7e1055e0597 Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Sep 11 15:59:59 2018 +0900 Cleanup: Remove  
local\_max\_stream\_data for stream 0 commit ad7f44d83823bf75127fbcdbda63172178ce0b0e6 Author:  
Masaori Koshiba <masaori@apache.org> Date: Tue Sep 11 15:31:46 2018 +0900 Fix setting Transport  
Parameters on client side commit 4fa51aabea268a2d39e6e6dd992e0b8fff52e4b9 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Tue Sep 11 15:36:00 2018 +0900 Remove unused function  
declarations from QUICStream commit fdd6f7e9ddd78d6a9e3ccb71330123d7124bef17 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 11 15:29:39 2018 +0900 Rename  
QUICStream::\_info to QUICStream::\_connection\_info commit  
244bf34d95ea01c0a5d303a09c2274e08ae469ee Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 15:22:46 2018 +0900 Remove unused header inclusions commit  
57207119b1cf51b3118462a42402149b1fa8ce4b Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 15:18:13 2018 +0900 Remove unused declarations commit  
18b507739d251f3319352c9c16a5cab58d91fad7 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 15:09:27 2018 +0900 Remove dependency for QUIC TLS from QUICHandshake commit  
7c089c1906827eae2b331267e48380098922456c Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Sep 11 15:08:53 2018 +0900 Update mock class for QUIC commit

b2a9a9b057ced8c7fdb5d7900dc088e6fdf04677 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 11 12:38:52 2018 +0900 Fix a compile error on test\_qpack commit

38a177115e38e83b25c03274025487a2ac47dcec Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 11 12:20:49 2018 +0900 [draft-13] Add QUICTransportParameterId::DISABLE\_MIGRATION commit 41f043e53d02d782cd24d3dbc74b21369c58f1c6 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 30 14:00:45 2018 +0900 Reduce dependency for SSL library commit

17159040c6eab84b93186e59d53b6c6cbe5fd16a Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 7 16:09:55 2018 +0900 Fix sending only one NEW\_CONNECTION\_ID frame The bug is introduced by 49f8be8763e60c2ee4c13c5d10956e2059cc712c commit

83dfc5a11be6b795b7715ce4189f849cb0893223 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 7 14:57:23 2018 +0900 Cleanup: Remove QUICFrame::\_protection commit

0014b3664c83d33b0fa1aabb6bfeacbc083698d0 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 7 11:41:54 2018 +0900 Return QUICConnectionError if QUICHandshakeMsgs has error\_code commit 656dffaa349db242141ba88deb3a03147d527325 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 6 16:28:22 2018 +0900 Make type of error code uint16\_t for CRYPTO\_ERROR (0x100 - 0x1FF) commit e7c493ae72eef75958409ccade0b1b8313ace494 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 4 16:20:30 2018 +0900 Handle TLS Alerts on msg\_cb commit 6c7cef9c8d1c927d6f856e8eaa514ae9d532113f Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 4 14:20:47 2018 +0900 [draft-13] Update Transport Error Codes commit dafca89d479ab5ad411b11ee4338648e34865a55 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 4 11:37:31 2018 +0900 Forward limit of local flow controller with the largest reordered stream frame To cover reordering cases. (e.g. QUICStream Unit Test Section "QUICStream\_flow\_control\_local") commit 5e65a99094e4a921466236dd0de90768b5b6d361 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 4 11:34:45 2018 +0900 Cleanup: Remove \_advertized\_limit from QUICLocalFlowController commit

abc0835abf2fc1df7dd0c9d413455067e5a7ed46 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 4 11:32:13 2018 +0900 Cleanup: Remove QUICStream::init\_flow\_control\_params() commit 75a00c564f11e59a5145e1f9a0c1332770fd11bf Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 3 15:52:32 2018 +0900 Fix QUICLocalFlowContoroller commit

d74d6369a13f3154523cb722adc6a5bfe9bbe2f7 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 3 11:42:16 2018 +0900 Rename create\_server\_protected\_packet to create\_protected\_packet commit 01030555a4cfe8e421886673e8dfdc592e13c53a Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 31 14:24:26 2018 +0900 Update connection level FC (local) only if received packet include STREAM frame commit 4d48f656b0e088d10c717a25478909d516b1d3bd Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 31 12:08:48 2018 +0900 Send MAX\_DATA frame commit 4094f6b7bbe2fc8242b879444aa2773fb9f6eed4 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 31 11:44:07 2018 +0900 Acquire mutex lock before handleEvent() call in unit test of QUICStream commit 68b9428e7e99f8b6c58694a153ec8edc3a66e6e9 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 31 11:33:59 2018 +0900 Const Correctness commit

5b9a089f1261fb8d6558dcd589310e5dc6b1477c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 30 15:03:32 2018 +0900 The smallest bidi stream id is 0 commit

2621a0716f0e76f3a403383a87a154132960ac4e Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 29 14:51:04 2018 +0900 Acquire mutex lock before handleEvent() call commit

4067503ebb037bfe1deb880162b2f65e3b647054 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 29 14:49:16 2018 +0900 Remove HQClientSession::release\_netvc() commit

cfa1d0da9a00b61b3fa75c984e59f76439ce517e Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 29 14:48:46 2018 +0900 Fix HQ to replace AclRecord with IpAllow::ACL commit

3697b2335ee4bd210bc760f0d3a5469a3c5f59af Merge: f42905385 61d977844 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 29 12:26:24 2018 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: (86 commits) IPAllow: Refresh for C++11, fix potential use after free. PR #4129. Doc: Remove deprecated configs from examples of traffic\_ctl Fix crash in Http2ClientSession::release\_netvc Revert "Ensure continuation lock on read and write signal" Move handleEvent back into the header file. Corrects IPv4 multicast ip address check Cleanup: Remove #define INT\_TO\_BOOL, use local lambda instead. Clang-format: Redo clang-format error that slipped through. Cleanup: remove unused and unimplemented functions from ink\_string.h HttpConnectionCount: Replace TSHashTable with IntrusiveHashMap. Outbound server session management - Replace TSHashTable with IntrusiveHashMap. IntrusiveHashMap: Add overloads to apply method to support functor taking reference or pointer. IntrusiveHashMap: Update erase methods. Add additional iterator\_for methods for erase. IntrusiveHashMap: Change range to be std::pair based for better compatibility. IntrusiveHashMap:

remove from "ts" namespace. The predecessor class, TSHashTable, wasn't in "ts" and having worked with IntrusiveHashMap for a while, I think it's best this isn't either. IntrusiveDList: Update erase methods. IntrusiveDList: Add user conversion from iterator to pointer to value\_type. Completes documentation regarding redirects Completes & deduplicates code comment for redirect IntrusiveHashMap: Refresh TSHashTable for C++ eleventy. ... commit f429053851d5a9b340f1cc6348443ed3094a889c Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 29 08:31:23 2018 +0900 [draft-13] Bump HQ version in ALPN commit e1f2f3c79e9619d666a9b7305cfac0e071ab4b97 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 28 16:14:23 2018 +0900 Refactoring QUICStream::generate\_frame() commit 4e8f6b216a17dc24ef231d208b99b03d0cfa3457 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 28 15:34:20 2018 +0900 Add APIs to check Stream State by QUICFrameType commit fd582251820be0444cd477ecc512b8eb2c7a5cb Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 15:12:40 2018 +0900 Remove QUICTransportParametersInNewSessionTicket commit 33278e7efb767f3067938c0b8cb7a2b4981a0ce7 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 28 14:43:50 2018 +0900 Fix QUICSendStreamState::is\_allowed\_to\_send() commit 4fef001479f58a1fdeac8b5f106dcf40f98d99cf Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 28 13:14:26 2018 +0900 Fix build error commit 3d84318fbef7ef1025aa12d4c608bb74d34494cd Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 13:12:12 2018 +0900 Remove QUICHandshake::protocol() commit 40187a3a6943d807b6f18c56b990a0b73f16d706 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 12:51:02 2018 +0900 Add test\_qpack to .gitignore commit f694413937f4a380b71c677a07f76a7595d3918f Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 12:35:47 2018 +0900 Reduce dependency for SSL from QUICHandshake commit deaa9d0cd1b4b21760a53b35304c6afcb8a71a12 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 12:05:19 2018 +0900 Remove an unused member QUICTLS::\_stateless commit cb79e0257d04b2110dd310d3a1378c99c651e9c2 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 11:28:36 2018 +0900 Remove ssl\_handle() from QUICHandshake commit 171d0d0a403b2a6f9fb2c8e6e0c9edcf1194b742 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 10:56:45 2018 +0900 Cast to appropriate frame type commit 346940d7e15ccd69c20a948476c4386b6b6433b7 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 10:32:29 2018 +0900 QUICFrameHandler accepts frame as reference but not as smart pointer commit 6e20b57400f0e48f936185cbdf1833ea5939bea6 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 28 10:31:19 2018 +0900 Remove an unnecessary header inclusion commit d9e1e1a86d83ef6fa50ce1a7b76c96df9e4dbc13 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 12:57:55 2018 +0900 Remove handshake stream check commit 45dd5aecb93d3a6d809a2ed0ae3f6e7badb0bbec Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 15:34:12 2018 +0900 Fix sending generated STREAM frame commit ea29ae141cc5891b92f87835cc00f5feaf35a790 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 14:59:27 2018 +0900 Cleanup: Suppress nbytes on debug log if it is INT64\_MAX commit 4c0dc178fa412e48dc0a043d0e97df88986a0e4a Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 27 12:23:49 2018 +0900 Add tests for QPACK commit e4cbf6b1a984fdd1dfdd1ef3fcf0f90166209bd2 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jul 24 11:39:36 2018 +0900 ADD QPACK module commit e755cc8500624689612ceccc49ee7ff228b6f834 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 27 12:19:32 2018 +0900 Preserve the prefix bits when encoding integer with XPACK commit 062b8f481c5fe176f3fc73f986a275da7e3a4318 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jul 23 10:17:58 2018 +0900 Separate out some of HPACK logic into hdrs/ Primitive representations and Huffman encoding can be shared with HPACK and QPACK. commit 8b8d9a043c651d0e5bcd97658b007e6dc02ccb74 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 20 17:20:45 2018 +0900 Add QUICStreamIO::peek commit ea32638a1a0e2f8d52dc0876cace1c929ba67597 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 12:18:11 2018 +0900 Return STREAM\_BLOCKED frame when it is generated commit 125fc326423d1275b1d975cf4484ca22c89968b9 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 24 16:29:22 2018 +0900 Generate ACK frame in the end of packetizing frames To set "ack\_only" flag correctly. Because any generate\_frame() could fail. Also add a counter to interrupt sending STREAM frames to send ACK frame periodically. commit 96c19776113aed9b9017ea4ee228912243087a76 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 12:05:58 2018 +0900 Make destructor of QUICTransportParameters virtual commit 05417b553944fd5b66f87d709a4a85acb4cae28b Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 27 11:56:34 2018 +0900 Revert "Fixes memleaking in handshake" This reverts commit

0d5f86e310dcb8cb983dada02d9848b2de78a231. commit  
0d5f86e310dcb8cb983dada02d9848b2de78a231 Author: scw00 <scw00@apache.org> Date: Fri Aug 24 15:19:25 2018 +0800 Fixes memleaking in handshake commit  
9e7e83fbd9c1456e780042113aeb5f85c001d0e6 Author: scw00 <scw00@apache.org> Date: Thu Aug 23 15:16:54 2018 +0800 QUIC: fix memleaking in test\_QUICFrame commit  
7a195464eca6c51c491dfb14d6343e06f863ac46 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 16:05:16 2018 +0900 Send BLOCKED frame QUICRemoteFlowController::update() create BLOCKED(\_STREAM) frame. It will be sent when STREAMs have anything to send. commit  
253ee352ede1edd115d59fd1bdd433a94273e1c9 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 15:47:39 2018 +0900 Cleanup debug logs of Loss Detector commit  
0a2fd364d8e3826fa5530760a8eaf03e1008e478 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 14:58:09 2018 +0900 Cleanup: Remove QUICPacketTransmitter::transmit\_packet() commit  
486bdb507ac801666534e382e4a2eebea5188d3 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 12:13:45 2018 +0900 Do not change state of QUICAckFrameCreator::\_should\_send flag in QUICAckFrameCreator::\_create\_ack\_frame() It's changed outside of QUICAckFrameCreator::\_create\_ack\_frame() commit 33772c879267bab570eb89d183d24f23028b80ee Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 11:28:02 2018 +0900 Cleanup: Remove tricky QUICNetVConnection::\_store\_frame() Which is used before draft-13. commit  
f422468a9b4288c8264803f0327c096e06ca6994 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 11:02:17 2018 +0900 Fix typo commit 7dadd68544e117f80ea09ab98c15179011880528 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 23 11:01:56 2018 +0900 Make QUICFlowController derived class from QUICFrameGenerator commit  
49f8be8763e60c2ee4c13c5d10956e2059cc712c Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 22 16:02:20 2018 +0900 Check frame size when AckFrameCreator/AltConnectionManager/PathValidator generate frame commit  
cfecee8a4e42b3b7d3d8afaf31970791dd0523cc Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 22 16:00:23 2018 +0900 Fix MAX\_PACKET\_OVERHEAD (INITIAL packet has token field from draft-13) commit 45a5cdc92d4733141eeaf258df46c1c362890bb0 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 22 12:16:13 2018 +0900 Cleanup: Remove QUICAckFrameCreator::\_create\_frame() commit 516db1abea0671c6ce18437dd48e1c6016d7c7a8 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 22 10:37:24 2018 +0900 Fix unit tests commit 4b13b8c5d2f7d60b44522d43476fe4e77970f54a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 21 16:24:29 2018 +0900 Fix retransmittable flag on packetizing frames commit 90e21a372a1a1620b1e53f82be3719662a56916a Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 20 14:32:19 2018 +0900 Add safeguard on sending packet commit 969ac3dc255b463dd79bd75f3a0eade7b099418f Author: sunwei <sunwei@kuaishou.com> Date: Sat Aug 4 16:42:26 2018 +0800 process early protected data during handshake commit  
a9a689061d75b1024bba6eff25170aa1705b8a0e Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 14 14:47:09 2018 +0900 Check state of handshake before change encryption level To avoid sending CONNECTION\_CLOSE (TRANSPORT\_PARAMETER\_ERROR) on 1-RTT packet when handshake is aborted by TP validation. commit cbc81bcc4aae47bd4c37a28bb4ec74b39c0648e7 Author: scw00 <scw00@apache.org> Date: Thu Aug 9 08:45:14 2018 +0800 Release ssl in QUICTLS destructor commit fad804a84d1a45f7ac4f24baea0d5838e15476db Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 8 16:48:51 2018 +0900 Erase "ack\_only" lost packet correctly To avoid heap-use-after-free caused by erasing elements in the loop commit  
1fdeea385abbe66f2e2ed051a46a54716e08e038 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 8 11:53:36 2018 +0900 Process 0-RTT packet on state\_connection\_established Some client send STREAM frame on 0-RTT packet after handshake is completed. Need to clarify, but it looks not prohibited in draft-13. commit da7f40841303b9b36617f0f8cc2decdd0a2eefee9 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 7 15:50:43 2018 +0900 Ignore ZERO\_RTT\_PROTECTED packet on state\_connection\_established commit bc126992c7d95d7a28b34e32e9a47f8a87d33984 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 7 15:25:00 2018 +0900 Fix test\_QUICHandshakeProtocol for OpenSSL with SSL\_MODE\_QUIC\_HACK It looks like OpenSSL with SSL\_MODE\_QUIC\_HACK process only one encryption level on one SSL\_do\_handshake call. This behavior might be different for each TLS stack. commit d924cd877b731fcfd5fa283b3efa9f627ce7d35a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 7 10:50:19 2018 +0900 Fix test\_QUICHandshakeProtocol commit c0f4400280d8ac033c497ab1f598a7526f1aefec Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 3 16:23:48 2018 +0900 Remove unnecessary checks before generate\_frame() calls commit 795ba9b89e788858e470138dfc9958a4f4c37205 Author: Masaori

Koshiba <masaori@apache.org> Date: Fri Aug 3 14:00:09 2018 +0900 Print maximum\_(stream)\_data on debug log commit 17e6ab5be1704105eef4a8a721b81cec00d326e0 Author: Masaori Koshiba  
<masaori@apache.org> Date: Fri Aug 3 10:33:18 2018 +0900 Check value of Reason Phrase Length of CONNECTION\_CLOSE frame commit 34545229747c748d2b79d44353f1ced3e2a7a769 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 3 09:34:15 2018 +0900 [draft-13] Add Frame Type field in CONNECTION\_CLOSE frame commit 87526c0d9889f7660a2a416078f7b902607bd568 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 10:19:03 2018 +0900 [draft-13] Add NEW\_TOKEN frame commit 8dcf5b193c3841e75dcf567f685843f1cea1af52 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 15:59:44 2018 +0900 Fix unit tests except handshake commit 3692c63376d3997a41cb2240a330b0fac413868e Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 15:44:13 2018 +0900 Fix build errors of unit tests commit a1a942be2d650f9d4b5ada00b51dafcf9fd92be9 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 11:29:11 2018 +0900 Set SSL\_MODE\_QUIC\_HACK To use tatsuhiko-t's custom OpenSSL for QUIC draft-13. <https://github.com/tatsuhiko-t/openssl/tree/quic-draft-13> commit ad51d3c286a67c5a39986e10a5428e6de36f61 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 11:24:20 2018 +0900 Fix errors caused by rebase quic-d13 branch commit 35cfdca9cf41419aac45e8beeb0de359059222cd Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 27 16:11:08 2018 +0900 Source addresses verification by receiving messages in HANDSHAKE packet commit 48129f0443e0db9289bfe06dc57d994adb4f1d60 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 27 12:33:27 2018 +0900 Print negotiated cipher suite on complete handshake (take 2) commit 45bcd7b11391256d8ebafb3801a67ef0c9ca82fc Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 27 12:32:38 2018 +0900 [draft-13] Add Loss Detections for each Packet Number Space commit 0a1c183e649ecf7b398067c68b8fbbdd3815748e9 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jul 26 10:10:07 2018 +0900 Do padding only client INITIAL commit 800e03be68c4016c6dea25c648a6cbe2326ac0da Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 25 13:32:16 2018 +0900 Fix maximum\_frame\_size check The maximum\_frame\_size is maximum size of whole frame include header from draft-13 changes. commit 303879530e324125c6bcb27899953d4e2dac59de Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 25 11:29:11 2018 +0900 Print negotiated cipher suite on complete handshake commit 9cc24dbfe7fcf8c7b98ee3a2b79447eb3edb3572 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 16:18:28 2018 +0900 Simplify KeyMaterials in QUICPacketProtection commit f9923621031c9a8fa30082982b62f7719c5cf206 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 15:56:33 2018 +0900 Cleanup: rename "cleartext" to "initial" No logical changes - QUICKeyPhase::CLEARTEXT -> QUICKeyPhase::INITIAL - QUICKeyPhase::ZERORTT -> QUICKeyPhase::ZERO\_RTT - \_cleartext\_key -> \_initial\_key - cleartext\_secret -> initial\_secret commit 9a3606851ed1a66d1506c9ef40ca87416d82301b Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 15:28:35 2018 +0900 Cleanup: remove dead code around key generation commit 8e7a9c13470f1462ae073d317862cf4c7e1196a7 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 14:41:50 2018 +0900 Cleanup: fix debug messages commit 52024bae302d7e52f138908a86ab03e4630905cd Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 14:28:04 2018 +0900 Fix key\_callback for custom OpenSSL commit 321380994940d513252b918f74a6f5dbb72e82e5 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 14:26:55 2018 +0900 Continue handshake when server reject 0-RTT commit e252c749ae263fef6f2dfa650c08b19dae9b6e0f Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 14:25:30 2018 +0900 Divide \_retransmission\_frames for each encryption level commit 82d3d6b44d9f63fdec3315ecbe02e39fb021c83d Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 24 14:19:06 2018 +0900 Support 0-RTT with draft-13 commit 930a6393c71121ae2e923e6dad1720b8455a6e4d Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 15:50:26 2018 +0900 Add debug prints on receiving and transmitting packets commit 120216a41ab37b21f891d8cc64cece75435bf190 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 15:46:26 2018 +0900 Cleanup: remove QUICHandshakeMsgType commit 85924fdc2d21a1a9569e8995357b951c5b5262bd Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 15:46:05 2018 +0900 Cleanup: remove QUICStreamType::HANDSHAKE commit e523c076588e7632869f6493dbde37e8467d8194 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 15:25:54 2018 +0900 Fix dcid of INITIAL packet from server commit 6c17894c9db2e1882e1a9cfc9d12e024bc0d0085 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 12:19:08 2018 +0900 Check buffer length before reading QUICVariableInt commit a75c3eb59feff87f9f70d0fa43fa970484f11ec0 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 11:01:31 2018 +0900 Check remot transport parameters existence commit

3247788fe7a34f15f4f45c3842fd71c0d5bcde1a Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 10:49:41 2018 +0900 Cleanup debug logs around quic\_crypto commit  
6f52da485ef6eb995f41035d89848a8ef807d64b Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 10:38:28 2018 +0900 [draft-13] Update  
QUICTransportParametersHandler::TRANSPORT\_PARAMETER\_ID commit  
5e4e2340ceb056b6eabbb92f538c89ffca9c874f Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jul 23 08:44:19 2018 +0900 Set key phase depends on packet type commit  
553c45945e627853ff5bbfdf6137b6d82709470e Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 20 15:10:44 2018 +0900 Change Encryption Level on key callback commit  
0b9031939d973ab397560af3dc69dec37aa9508e Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 20 11:45:45 2018 +0900 Add debug prints of secrets with vv\_quic\_crypto tag commit  
5cb3191e4fb30e32c5b4445e63b4f97a032ed252 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jul 20 11:17:49 2018 +0900 [draft-13] adjust QUICHKDF::expand to use HkdfLabel structure of TLS 1.3 commit  
70fcaaed4807ed06a393e2bf4b44c404c5c19874 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jul 19 15:25:54 2018 +0900 [draft-13] Add Token Length and Token fields in INITIAL packet This change follows draft-13 + PR1498. commit  
c3d9bf142af23d1d2b28719afe397e0b0366f6f7 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Jul 19 10:52:30 2018 +0900 Derive traffic keying material from TLS stack This change requires a API to derive traffic keying material on TLS stack. commit  
9c30ce7adb2aff33ec20de846a632fdf3844a55 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 18 11:13:17 2018 +0900 [draft-13] Bump version commit  
812e0b2b392a252d8a6fc6ce5a511003440d9d35 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 18 11:10:10 2018 +0900 Add empty check in on\_packets\_lost to avoid crash commit  
451f4ed174c2f3003c99ef0bdcce007864f49fcd Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 18 11:08:48 2018 +0900 Process INITIAL packet on client side commit  
40a36c5711cdc84bff9c771a5ce98317dedd2a4b Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jul 18 11:07:50 2018 +0900 Check frame size restrictively on frame generation commit  
0ba665bf4cdb5dc36aa108e68f80425fe999d843 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 12:11:09 2018 +0900 Separate packet number space commit  
4229faf002966b631785bf085544656d26309747 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 12:05:37 2018 +0900 Fix storing frame commit  
7ad40959cc37959dd939c4d52c17715157d6ee33 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 12:04:30 2018 +0900 Add CRYPTO frame in QUICDebugNames commit  
7c7223eabdc0e915ac2d54e87180530ad05ea971 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 11:19:36 2018 +0900 Fix allocating buffer for packet commit  
ca9b7ffbe561219805861c5cdb5199e64f8cffcd Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 11:17:32 2018 +0900 Call do\_handshake() on client side commit  
0f2bf0089e67a5c9391a131f72ed71e6ba936f4b Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 11:16:19 2018 +0900 Return empty frame if no bytes to sent commit  
c243e8c00a75c44673f0e4bff27abf01b224391b Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 17 10:27:11 2018 +0900 Cleanup: remove QUICHandshakeMsgType commit  
f90658d97cfb47ca3421a8987a1bd41b222bf92f Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 16:20:54 2018 +0900 Coalescing Packets on sending commit  
cee6ef4c883af35b286b0f1a170f047dadeef4f0 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 14:37:32 2018 +0900 Add null check of application commit  
a80d8f0ae005318a35e5abeb90344aee3abe5483 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 14:37:03 2018 +0900 Cleanup: remove STREAM\_ID\_FOR\_HANDSHAKE commit  
0f6c8e235cfea8c2f7eedc3702271cc51e4b3016 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 14:28:13 2018 +0900 Make QUICHandshake QUICFrameHandler/Generator instead of QUICApplication commit  
1b99a5fbd3c6f938707ee2f4924331206ed4f7b3 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 14:19:36 2018 +0900 [draft-13] Add QUICCryptoStream commit  
2f0757d582b2dd723b74a35ad6ba5bfb1eb84fd6 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 14:17:12 2018 +0900 [draft-13] Generate ACK frame for each encryption level commit  
0712fe5f5b2e845aea7baad8e4a25b2573028374 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 12:26:58 2018 +0900 [draft-13] Add encryption level to QUICFrameDispatcher/Generator/Handler interfaces commit  
c9d2f5936b0f3df129257152953fff9f391e4fd Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 11:34:35 2018 +0900 [draft-13] Add QUICIncomingStreamFrameBuffer and QUICIncomingCryptoFrameBuffer QUICIncomingFrameBuffer is parent class of

QUICIncomingStreamFrameBuffer and QUICIncomingCryptoFrameBuffer now. commit 6710bec5e67459e17f8f3b97aa3b3662a6bf0eb1 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 10:25:20 2018 +0900 [draft-13] Add QUICEncryptionLevel commit 3c6e8bf67556d14bda7158686d7da7fca630be19 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 10 10:17:39 2018 +0900 [draft-13] Handshake with raw TLS messages This requires quick hacked custom OpenSSL. When OpenSSL add new APIs to support QUIC (draft-13+), move it. commit 50b85989c9c94cfc1292f86b00846af601f88884 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jul 3 15:49:54 2018 +0900 [draft-13] Add CRYPTO frame commit 38104e981d592bc95271f8fb3eca95cb29b16443 Merge: 636548084 2ded01373 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 09:58:19 2018 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: (44 commits) Updates the default ciphers to avoid weak ciphers(non FS) Fixed Spelling. Removes remnants of dprintf support Change the default connect\_ports docs to reflect the code Fixing copy paste error in SNI yaml parsing Removes more references to traffic\_cop and cop related functionality Fixes ticket loading from filesystems without a mtime Add support for 'fwd' value to X-Debug header, and move to later hook any deletion of X-Debug header from client request. For PostScript class, remove problematic parameter forwarding to functor (rely on lambda capturing instead). Modifies init script to add start/reload hooks fix another crash on shutdown and add unlikely Revert "Do not do DNS to origin if the object is HIT-STALE and parent exists" Dockerfile for CentOS/Fedora, i.e. yum dependencies Revert "Fix post process to propagate early server response." Revert "Fix post\_error test by initializing the address length of the accept call." Revert "Fix crashes from early post return fix." Removes old commented-out code Test: Convert test\_Ptr.cc to Catch. TextView: Unit tests for token handling on single characters, and with trim. TS-4765: Removes previously deprecated cqbl and pqbl log tags ... commit 636548084557512da0a7bff9e0f59d85ece9a9a7 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 1 09:51:57 2018 +0900 Fix unit test of QUICPaket commit 45a351251275357365c67fc4bf6c3bf390e03738 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 27 17:26:23 2018 +0900 Add be32toh and htobe32 commit 73c14aa10e29d6161de021c526d6dfd1ef76d00e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 27 12:16:36 2018 +0900 Use reference instead of shared\_ptr while passing around stream frames commit 2e68c1b21d28e0608321ed8ba6bbfdd1f8f0c191 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 27 12:00:17 2018 +0900 fix unit tests commit 97737e6b183ad1f97abdb3e7adb2766c31dbad1d Author: Masakazu Kitajo <maskit@apache.org> Date: Sun Jul 15 11:13:42 2018 +0900 Add debug prints commit 4503964ea557ffb9e9a9b7d24a070d1abcb76ff8 Author: Masakazu Kitajo <maskit@apache.org> Date: Sun Jul 15 11:12:25 2018 +0900 Check the buffer size before reading a packet number commit 9e23ea5a69bd00ab136ac31a12667c5b219b9a61 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jul 13 16:21:14 2018 +0900 Fix build issues commit 7b335ee0c8835ee170c172ba5cc0be1b9f2f853b Merge: 747c7419f 46acdc85f Author: Leif Hedstrom <zwoop@apache.org> Date: Thu Jul 12 19:38:34 2018 -0600 Merge remote-tracking branch 'origin/master' into quic-latest \* origin/master: (69 commits) Refresh upstream connection throttling. Reduce lock contention, add maximum count, rate limit alerts. Runroot: add new option to specify layout during creating ASAN: stack-use-after-scope Add flag to enable the reload feature. Disable by default Add support for reloading the lua script in global plugin mode Fix bug on loading of lua script add a reason tag to traffic\_control host subcommand. traffic\_manager: Cleanup handling of proxy args. traffic\_manager: fix --tsArgs to work. Plugin, makefile, readme. Fix RecConfigReadPluginDir and clean up RecCore Remove proxy.config.config\_dir from records.config Handle response parsing case where EOF happens before any data arrives. Enforce sphinx>=1.7.5 when building docs IntrusiveDList: Refreshed for C++ eleventy, added const\_iterator. Doc: Fix build error in Lua plugin documentation. Fix crashes from early post return fix. Avoid cert callback if no verification is requested. make sure the index stays positive Plugin, makefile, readme and schema ... commit 747c7419f1f5a8b704ef904297f5f1c7532bb18b Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jul 12 10:31:34 2018 +0900 Check buffer length before reading packet length commit 79a5e0708b3b326c5f1cf671b84eaf598c216a2f Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jul 2 13:44:48 2018 +0900 Remove redundant(and wrong) CID output on connection migration commit a1ecf66e6bd971ddf9861a654145cdd05883952f Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 28 16:56:59 2018 +0900 Make 0-RTT available again commit 75db12328189875c861eb1f4f54eca265a485f7a Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 28 16:56:29 2018 +0900 Add debug prints and assertions commit c11c12e3020e2bf4328c6a6df9a58c93ae7f6390 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 26 15:14:53 2018 +0900 Ignore empty stream frames except pure fin stream frame commit 4e2b166c4ae3e20f704d214567017798cf6e5c0d Author: Masaori Koshiba <masaori@apache.org> Date:



Tue Jun 26 11:37:34 2018 +0900 Cleanup: break down test\_libquic into small check programs commit 28970d79c990dc7c0274ff35269ce1fec412cc45 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 26 10:59:41 2018 +0900 Add a option to enable connection close exercise commit a114d463a69f664868bc0171e26994ddf9f394d9 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 26 10:39:43 2018 +0900 Fix another bug around PN calculation commit d7f1602163b748295cb33af917ab90d2bd4b1e47 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 25 15:20:50 2018 +0900 Fix bugs around PN encoding commit ef3334b73486bf7409ac73dadd2d465c2a7999c6 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 25 12:16:38 2018 +0900 Cleanup: simplify check program of QUIC Before this change, `make distclean` didn't work. Because many files in upper directories are specified in \*\_SOURCES. commit 6e85c9c8518526f158484f99e34c671a4e1afaa8 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 22 16:10:28 2018 +0900 Fix a bug in the previous commit commit c6db432e5f2a6e5fe003028d1f5325f9974a6f85 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 22 14:41:23 2018 +0900 Small refactoring commit 7034f0d6d35fb72c3eccea6a8d1d2deb560da2e6 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 22 12:06:57 2018 +0900 Fix a build issue on gcc environment commit 30b4edd4c43a2dfdd47455b5f0ea8dd8e1f4c2a0 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 22 10:43:52 2018 +0900 Remove unused variables commit b6e885823118ee95abfaf58c56247ba591ffbe1d Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 22 10:17:32 2018 +0900 [draft-11] Relax restrictions of QUICTransportParameterId::STATELESS\_RESET\_TOKEN commit 8fc244e8e30cb4f9ea27865bd571f6f75dd64175 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 22 10:05:23 2018 +0900 Make pn\_protector const reference commit 64db8f9505b55757726536bd185fa396b55040f6 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 22 09:43:28 2018 +0900 Add PNE support to QUICPacketHandlerOut commit f57ac7ce13f259f3231b75e0452ce543ec6a4258 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 22 09:32:13 2018 +0900 Fix Version Negotiation Packet handling commit ec666b4f8572af73fbc8f0a3fd9c9739bd85a8d9 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 22 09:08:31 2018 +0900 Ignore traffic\_quic commit 1d1384a03a937274172a1d11794dff099691ba4 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 15:58:01 2018 +0900 Fix QUICPacketLongHeader::size() and store() commit 75dc251e0bff94b44eb131221c35d85b171c0125 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 14:56:20 2018 +0900 clang-format commit c9d5e5404c4af7fa832c226bb9b5a1800424b5c4 Merge: 0e2934c7b 032920ffb Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 14:55:28 2018 +0900 Merge branch 'master' into quic-latest commit 0e2934c7b9f7219e4462eb4e6490130371b3a8b3 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 12:22:21 2018 +0900 Fix a bug in unprotecting PN in short header Incorrect PN offset was used due to CID length difference. commit 609e3e7a416e0f38689363afe05b42ba3e85f29f Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 11:07:36 2018 +0900 Length of keys for PNE is not a fixed length commit 6751e97d47d4bef227c35ba206ae4466292b1cdc Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 11:07:08 2018 +0900 Protect sending packet numbers commit 32d43b09212e1de4f2b4f699bf6f0f2c02bb00e6 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 11:04:09 2018 +0900 Change payload length field to length field (apart of draft 13) commit 3c73a156a0df9ebf68c43eba5d181500da817eb9 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Jun 21 10:57:08 2018 +0900 Print keys for PNE when keys are updated commit 7b03ca1281046962d086c1b7bd35d4b2f78029e3 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 15:26:01 2018 +0900 Fix test\_QUICFrameDispatcher commit 51fecc1cc714f7a6d34556dd0d3b9c5399d592e5 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 15:21:15 2018 +0900 Fix unit tests commit 162d6cf735e4d9e97e2f3eb3b11a96cad0978943 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 15:05:13 2018 +0900 Const Correctness commit 5b0c618f300b277dfbc37de80d17da6bf73a87dc Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 14:54:22 2018 +0900 Print "ack\_only" when sending ack only packet commit f7473556c7cf541fff398d1b13197531fb65e715 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 14:50:50 2018 +0900 [draft-11] Follow pseudocode updates of draft-ietf-quic-recovery commit 41a18db2392dbec17d7cf7a3e8c77e2b47f2c7e2 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 20 12:22:25 2018 +0900 Reset CongestionController when QUICNetVC need to discard all transport state commit c753466bb394ea4b25b91b8792020e8fc07c8d6c Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 19 17:30:17 2018 +0900 Add QUICPacketNumberProtector commit 9a0f6635e8c251ad7fdb44f7f4b6d90204afeaff Author: Masakazu Kitajo <maskit@apache.org> Date: Tue



Jun 19 17:27:51 2018 +0900 Add static accessor methods for QUICPacket header fields commit 3ffa6b252cb5d60a2a738648d13ae61676e16673 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 19 17:23:16 2018 +0900 Print keys for packet number encryption commit 499aa73bab749ba1007e4849b1b2b789ebda5138 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 19 17:21:16 2018 +0900 Chaange type of packet number length parameters commit f48b47bdbf22ce37958bf7b23a7df5be6e5357c6 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 19 14:59:28 2018 +0900 [draft-11] Add time\_of\_last\_sent\_handshake\_packet commit 9ba6ff7af72a68b470d361092825dfa196fa64f9 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 18 16:17:57 2018 +0900 [draft-11] Initialize min\_rtt with INT64\_MAX commit c64b47636d9aa4b42b38c56c4dd5fe75fb925d98 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 18 14:12:10 2018 +0900 Fix key pahses for PNE tests commit 4eb37f2589138b8c41c3fbca776c8373d75b75b1 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 18 14:04:29 2018 +0900 Add encrypt\_pn() and decrypt\_pn() commit 8b852ab59c9a5bb2b74e349f2d0d575248a84d8f Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 18 11:47:39 2018 +0900 Cleanup: Change QUICTypeUtil::has\_long\_header(const uint8\_t \*) to QUICInvariants::is\_long\_header(const uint8\_t \*) commit 4e0cbe4324975aaf26fabccd71c613293836ce6a Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 18 11:40:42 2018 +0900 Cleanup: Remove QUICTypeUtil::has\_connection\_id(const uint8\_t \*) The omit\_connection\_id flag is removed by draft-10, This function doesn't work any more. commit 3c53ce8fb9125361983cbcfb26b5374cc68d22de Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 18 11:08:31 2018 +0900 Cleanup: remove unused function When ATS support omitting SCID, parsing Short Header packet and QUICConnectionTable structure should be revisited. commit ba07bd2001fd645bdc39ce7f314c34c61c96a2f9 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 15 15:35:38 2018 +0900 Cleanup: remove deprecated apis of QUICPacket commit 25fc9182111ddddefa55a750d0514d58b4639919 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 15 15:10:30 2018 +0900 Cleanup: Remove QUICPacketFactory::\_dcil and QUICPacketShortHeader::\_dcil We don't need to track dcil for Short Header packet, becasue it's same to scil in local. In other words, when we need dcil while reading Short Header packet, we should refer it via `QUICConfigParams::scid\_len()`; commit ac60e738390cb19871955a3017c1f14bd7cf5297 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 15 14:00:04 2018 +0900 Make sure length of scid is 18 bytes commit dbdd3d29115d11d474c3d18c2474c0cd530b5a24 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 15 10:25:30 2018 +0900 Check version in QUICPacketHandlerIn commit 648b7cd1073e8a0556d1f2dd98ce5650befde1dd Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 8 16:12:52 2018 +0900 Fix unit tests commit 43908f1799b291224f2410005f93384b71c91209 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 8 15:44:27 2018 +0900 More format debug log commit 02e9022fbd41df5ac365a3e10528b87c0bd7b50a Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 8 14:28:21 2018 +0900 Fix unit tests commit 3f549f468bff0906230b47395c05eb7a2d8b8beb Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 8 11:57:04 2018 +0900 Add aead\_tag\_len in long packet header size calculation commit 8d6359a243896c6d60cfdc512cfbdc3d15b45ae6 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 8 11:55:52 2018 +0900 Fix build error commit c345ed74d0bca99a60ae5820103d6095047750b5 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 25 10:05:02 2018 +0900 Generate a key for packet number protection commit 42b69b76558631b2b344c28b4a0730dcdaec3a16 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 23 16:59:48 2018 +0900 Packet number gap for connection migration is gone commit 538e78f99d5ab61018f069feb4d4433084949338 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 23 16:27:30 2018 +0900 Packet number is encoded into the first 1-2 bits of the packet number itself Short Header doesn't have bits anymore. commit bb89b2367a805507ae6060aaf34b229c87211c85 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 23 14:17:18 2018 +0900 Packet number for Retry packets is always 0 commit f4d4a10ed3708aa4e89a3bb9b32146e24d319cb1 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 23 12:29:26 2018 +0900 Initial packet number is 0 on draft-12 commit f6139ab26b2cb1531f24723ff9a48cb5636edf5c Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 23 11:41:52 2018 +0900 Check existence of PreferredAddress transsport parameter commit 14643af079b0309d5a283958e4ad556dc7206160 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 22 17:32:58 2018 +0900 Rename INITIAL\_MAX\_STREAM\_ID\_{BIDI,UNI} parameters to INITIAL\_MAX\_{BIDI,UNI}\_STREAMS commit 455c8a920003b425b99e1a5f827e1ccdf7384d0d Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 22 16:50:52 2018 +0900 Update QUIC/HTTP versions commit 5809e30ea8547c2fec2ac4c27bf35e482e03ca88 Author: Masakazu Kitajo

<maskit@apache.org> Date: Wed Jun 6 11:19:34 2018 +0200 Initialize bidirectional stream state appropriately commit a111b9c585d5fcfb9bdb616fd1206a60d7dc63a7 Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Jun 6 16:00:47 2018 +0900 Reset QUICPacketRetransmitter when QUICNetVC discards all transport state commit cd041706743783a52144e0bc367e1b75680301aa Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jun 6 15:15:30 2018 +0900 Check debug tag before print debug msg of frame commit 0a9fe522731ca820901781b08c6f9f892870e757 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 5 21:35:11 2018 +0900 Fix unsupported version packet handling - Do not copy payload, because payload size is unknown - Do not set largest received packet number, because packet number is unknown commit 1c8264b5fd92ab8b446dc2fb1824ddd6a0f86f5e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 5 11:16:20 2018 +0200 Remove redundant remove\_connection\_ids() call commit e06bd43bcae99fe28a0f484f617d8ee1c0678f24 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jun 5 11:14:59 2018 +0200 Fix a bug in ConnectionId comparison operators commit 25ab32e5c81ece13de55294776b6521ecea59ad5 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 5 16:57:47 2018 +0900 Move SendStreamState Ready when it is created commit 7f2038314bf54739ad498b38afd9f7a29515f4d4 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jun 5 16:02:43 2018 +0900 Check Version Negotiation packet in QUICPacketReceiveQueue::dequeue() To avoid heap-buffer-overflow in long\_hdr\_pkt\_len() commit 7b8f86e28457b96d2aa61e70be0b92bd99a03546 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jun 4 14:30:31 2018 +0200 Use this->thread instead of this\_ethread() On some pathes, this\_ethread() can be UDP thread, and it shouldn't be used. commit aea857dc20a372e72c769b8381dbb764bf233e15 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jun 4 21:02:13 2018 +0900 Add a validation of payload length of Long Header Packet commit e77ff1790167cb6dde479b4e81bc974a1e88729d Merge: c3d89e4e5 1c402972c Author: Leif Hedstrom <zwoop@apache.org> Date: Mon Jun 4 09:50:24 2018 +0200 Merge branch 'master' into quic-latest \* master: (25 commits) Removes obsolete ja traffic\_line translations Removes more references to clustering Correct the number of available disk shows in fatal message Updates documentation for gzip/compress renaming Removes the documentation for the epic plugin Clang-Analyzer: Fix false positive in IntrusivePtr. Related to 40f01aa0c4fb2ab72459dcc16d63989f40bb8b9b. tsconfig/IntrusivePtr refresh - updated for eleventy and better conformance with std::shared\_ptr. Update memory efficient string\_view to traffic\_layout related codes Update libexecdir of Layout GNU from config.layout Allow disable throttling. Log the errno from the connect failure. Only increment currently\_open if socket connects (take 2) header age not critical to HSTS header test result. doc: fixes some example configurations in the plugins docs In the non-transparent case handle EADDRNOTAVAIL as a normal connect fail. doc: Fixes some broken macro usages traffic\_crashlog can now terminate itself when using custom startup script Only increment currently\_open count if FD is really open Make ATS buildable with BoringSSL again Adds log field for "reason phrase" returned with status codes ... commit c3d89e4e5299d29be1049ed9a3725f998ac8077a Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 22:34:42 2018 +0900 maximum\_frame\_size is for STREAM data size commit e8bb31603624a47a24b43bab45194c9dfe6f413e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 22:05:59 2018 +0900 Fix a bug that bytes\_in\_flight is not decreased when retransmit HANDSHAKE packets commit d4e34a5bdb66934ba4ad7f1cfc488499e9687609 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 21:20:22 2018 +0900 Fixes QUICNewConnectionIdFrame::clone() A wrong frame was created. commit 06bdc448840c08e611e776408c1488cd4276c919 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 20:02:41 2018 +0900 Improve log output from LossDetector commit 79ee060bd1cd7178944208884fff26e89ba01031 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 19:59:05 2018 +0900 Fix QUICFrameFactory::split\_fram The new frame was not used. commit 94d86f4f899ad3a34179b920ae350cf821e6add5 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 16:55:42 2018 +0900 Maybe we should not retransmit PATH\_CHALLENGE frames commit 8d56b73aad6d58c164aa93f8131f9032ceb32377 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 1 16:26:05 2018 +0900 Print "[dcid-scid]" in debug log commit 2ccd112e536e346aac9c52efd78dd198c834d39c Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 1 14:40:21 2018 +0900 Print full connection id only if QUIC\_DEBUG\_TAG is set commit 939cdfe2169633f7bd4f3a3aad17f710eb2508c1 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 14:10:57 2018 +0900 Add QUICTransferProgressProvider.h commit 047a258b8c93e940110b1aab6cddc2bde45417a3 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jun 1 14:09:25 2018 +0900 Added TransferProgressProvider commit cc2060720722482d44e812475f65e56d85f4d21e Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 1 12:40:08 2018 +0900 Format debug log on changing connection id commit

97fa0b3ac1c9052333cc6f21331f8aae69920af0 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jun 1 08:31:28 2018 +0900 Print full connection id commit

38f6a321bc70e7ba98874150f98d168e3c29b659 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 31 16:37:59 2018 +0900 add some const commit

f6d2922fe074d14fff7eb57e249367974e8cd782 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 31 16:09:04 2018 +0900 Print bidirectional stream state appropriately commit

27a2f3069ada506d473d65753c9decedba47c103 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 31 15:15:37 2018 +0900 Update stream state machine commit

93edda2ab4d5e99780d812550a6fed0e320a1a50 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 31 14:41:46 2018 +0900 Cleanup: remove NetVConnectionContext\_t if it could be referred by QUICConnectionInfoProvider::direction() commit 4712f8a260aefb3e2c0a2c21af98074660d18650

Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 31 10:34:14 2018 +0900 Refer QUICConnectionInfoProviter when print debug log commit

976cec2ac7fc7932a0890ab8decdd532a7c1f3b5 Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 29 14:05:41 2018 +0900 Print dcid and scid in debug log to identify quic connection Only change logs in QUICNetVConnection. Other components will be fixed. commit

e2c5a0fdf4762592fec406eff9cc89ec79567596 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 31 10:59:58 2018 +0900 Rename QUICConnectionInfo QUICConnectionInfoProvider commit

997729b69d43de6bf3d39ff28ae672161a562a0c Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 31 11:35:37 2018 +0900 Fix deleter of QUICPathResponseFrame unique pointer commit

4c2db196bb1ff9f24bab5c2921b5c98a7ffe4d27 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 30 12:17:48 2018 +0900 Prevent logging "not ready" when no packets are in queue commit

7a605d51ecc39926774ed3ec215b38e58ed5c6a0 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 30 12:03:04 2018 +0900 Clone frames when retransmit them Actual buffers were released right after scheduling retransmission commit 8fe569ada69e6f39838982815b163e4535cb6fa9

Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 30 11:58:51 2018 +0900 Fix a condition for turning fin flag on commit ab0e46da98251e7ee35c4ef407746153ea072505

Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 29 16:12:54 2018 +0900 Cleanup: move read-only QUICConnection APIs into QUICConnectionInfo commit

43d0c00505a766860392f0a58737f5a93c29de4a Author: Masaori Koshiba <masaori@apache.org> Date: Tue May 29 15:16:00 2018 +0900 Start new path validation on only server side commit

90d5b413337f67dfe88dde3839fdefbb118cb986 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 29 15:06:35 2018 +0900 Connection credit can be bigger than 16bit commit

ffc2e7eeac820f2cf0e1c28f687b3c5188094f42 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 29 15:04:34 2018 +0900 RetransmissionFrame should return a type of frame that have commit

50bab2eb5288f496b5fabd7c58be9ff34227d5f1 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 29 12:24:35 2018 +0900 Do nothing if retransmission\_frames is empty commit

a32e30d333d87560f06c753755f95427d23a0b62 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 29 12:02:37 2018 +0900 Add debug string for PATH\_VALIDATION\_TIMEOUT commit

ff45ebfc370e11fa498224f1c6eb1c6d67cdf336 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 29 11:32:15 2018 +0900 Send 3 Handshake packets at maximum without path validation commit

c941afc59e562eb1c60c311167513a3d345b3f60 Author: scw00 <scw00@apache.org> Date: Mon May 28 15:36:19 2018 +0800 [QUIC] Splits Retransmit frame which exceed limit commit

0fe2c9d808580a66eeaa07b29cf8ca9fad547df8 Author: scw00 <scw00@apache.org> Date: Mon May 28 15:33:01 2018 +0800 [QUIC] split retransmit frame commit

fd837f81d9ab969b4202b805d370288e0ef75143 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 28 12:07:54 2018 +0900 Send PATH\_CHALLENGE at the beginning on server side commit

a881476ddd08d321f7f5e758c9117dd5fe1bddf4 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 28 10:39:23 2018 +0900 Update code for boringssl Still cannot compile. Don't see API for setting max\_early\_data commit 4748395981d4171f2ed7af247aa095354ef557a6

Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 25 16:34:52 2018 +0900 3733 commit

26a4682b8028deaf663c38b3e5c854aebd961cfd Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 25 15:07:22 2018 +0900 Add debug message of QUICRetransmissionFrame commit

73e3f9cc0eb4e866717d8c0319647cfc2305adbf Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 25 12:31:56 2018 +0900 Ignore VN when version is already negotiated commit

f045cc7797ea8846b5e376832267f5fc8bdd7b81 Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 25 09:21:15 2018 +0900 Remove prepended "\_" from public member of VIO in QUIC commit

6a067ec09ed860732bfc7e46ced9e80bd65ece03 Merge: 7b3a66fda de8a4ad76 Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 25 09:02:51 2018 +0900 Merge branch 'asf/master' into quic-latest

\* asf/master: Fix dicarding active lock in CPPAPI Async Timer. Two more places to check whether attempting half\_closed connection logic is feasible. TS-2365: Fix crash in tls dynamic record size Fixed clang-analyzer issue with dead increment in wccp Remove prepended "\_" from public member of VIO Fixed clang-analyzer issue with memory leak in LogObject Fixed clang-analyzer issue with memory leak in LogHostList Fixes compiler flags used for compress plugin Removes the remaining vestiges of log\_hosts.config support TSHttPSSnIdGet() in lua plugin Adding delay to fix race conditions Fixed clang-analyzer issue with null pointer in BufferWriter Fixed clang-analyzer issue with null pointer in URL Doc: remove cluster references in traffic\_ctl Support for clang-analyzer to use Fedora 29 packages CacheTool: Fix Unmarshal code and check for loops while scanning Log the full ATS version to traffic.out on startup. Adding missing string\_view include, hopefully makes Coverity happy Promote ts\_lua plugin to stable Replaces the old metrics.config with a simple C++ class commit 7b3a66fda73336af6fa47b3c46080bd8756e8510 Author: Masaori Koshiba <masaori@apache.org> Date: Wed May 23 16:14:59 2018 +0900 Set nbytes when total stream data length become clear To indicate FIN flag between QUICStream and QUICApplication. This is similar to processing chunked transfer encoding. Mark VIO wrapper apis in QUICStreamIO as deprecated. QUICApplications should use read/write/reenable apis. commit 433fa5b6a9e2ebab48dd71de5560fe988013ebae Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 22 16:48:58 2018 +0900 Fix tests commit a0f579e882224e8945b29f898b83fe900250512a Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 21 14:29:18 2018 +0900 Fix debug message when storing frame commit cc560cf271f0f6f0cadd56f6b992ee24d48c0807 Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 21 14:03:47 2018 +0900 Set ALPN ext for quic client commit e1cc18fbc445d36d27df39acc1adf7e76b904713 Author: scw00 <scw00@apache.org> Date: Wed May 16 15:09:41 2018 +0800 [QUIC] Fixes the compiler error with c++17 commit 2391a97e2ffa7f815d71e0e614cb4fd9ee1c8201 Author: scw00 <scw00@apache.org> Date: Wed May 16 08:12:32 2018 +0800 [QUIC] Limits the size when store frame into buffer commit 87370f98ecdaec37a53dcb15ee669c83e7922a72 Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 21 10:13:16 2018 +0900 clang-format commit b42f7d27467c6e56be9ae8f9664a55e733e7f38d Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 21 09:53:09 2018 +0900 Replace ts::string\_view with std::string\_view in QUIC commit 6d1a8eeb03eb3f4d77d903f2593d1fc4c896cf59 Merge: 57cf4157f 6932805c5 Author: Masaori Koshiba <masaori@apache.org> Date: Mon May 21 09:35:41 2018 +0900 Merge branch 'asf/master' into quic-latest \* asf/master: (40 commits) WCCP: Fix issues with gcc8. For TS remap API functions, elaborate on mutual exclusion in the documentation. dump... add -F option Fix linkage of traffic\_manager with WCCP due to removal of metric library. Editor: Fix CMakeLists.txt to handle escalate plugin promotion. Doc: Minor tweaks to clear up doc build errors. Promotes cache\_promote plugin to stable This adds a new callback to remap APIs: TSRemapConfigReload Restores the expected non-tab indentations Promote the Escalate plugin to stable Uses known port, not rfc6890 loopback ip Fix documentation regarding string\_view Replace ts::string\_view with std::string\_view Fixed memory leak in transform add test, found with clang-analyzer Removes all the metrics.config related stuff Adds a couple of more include dirs to vscode Remove TSHttPSSnConnectionGet which seems redundant. IPv6 for microserver and microDNS Allow better logging by using TSHttPConnectWithPluginId ... Conflicts: .gitignore lib/ts/Makefile.am lib/ts/ink\_inet.cc lib/ts/ink\_inet.h lib/tsconfig/TsConfigLua.h commit 57cf4157f3504ee9264786e52bd05d262cdc833b Author: Masaori Koshiba <masaori@apache.org> Date: Fri May 18 14:37:55 2018 +0900 Make PATH\_CHALLENGE/RESPONSE frame unprotected PATH\_CHALLENGE/RESPONSE frame could be in HANDSHAKE packet. commit ac6a84d294f6177ca9ebb882475017183ee056da Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 18 11:33:21 2018 +0900 draft-11 uses 2 bits but not 3 for short header type field commit 6d8574a764f2f668483956bffdff03321389c9c Author: Masakazu Kitajo <maskit@apache.org> Date: Fri May 18 09:00:53 2018 +0900 Doesn't count frame header size Offset was calculated with header size when update conection level flow control credit. commit bec0f225b593fe6c499307b626460e3758091229 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 17 22:22:59 2018 +0900 Fix a buffer overflow commit 0904ef1abe0950700a68bcfc08ed742d1109ecf8 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 17 21:28:42 2018 +0900 Add Coaslescing Packets Support commit 77a09fbda3d836a0df8770371a00462174b965fc Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 17 15:03:56 2018 +0900 Do not update peer connection id when src cid is zero commit 7268ee4916a7508f9ced4a81185ae1326ca79739 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 17 14:12:24 2018 +0900 Add nullptr check in QUICPacketReceiveQueue::dequeue() commit 5624d2365f2d2b301086826d6f84c0db815a7e16 Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 17 14:10:50 2018 +0900 QUIC Client: Set peer

connection id commit 4b3d12790c5866abe2eba0772bb9441a0aec8e6f Author: Masaori Koshiba <masaori@apache.org> Date: Thu May 17 11:29:16 2018 +0900 Fix nullptr dereference commit  
ba77c64514e9d585ed68c7c3251fe131af8c56c8 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 17 10:28:14 2018 +0900 Add AL header commit  
df23d49602dbef944a22a4a67147648b8ba3dff9 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu May 17 10:25:20 2018 +0900 Update largest received packet number The update logic was  
accidentally lost with 7cb18b38d88fd6af13eed65867701117cbc890ae commit  
041f420e53290181e841fbbb61e09610d8f40c44 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed May 16 17:35:13 2018 +0900 Print lower 64 bits of source CID at maximum commit  
7cb18b38d88fd6af13eed65867701117cbc890ae Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 15 16:40:57 2018 +0900 Capsulate how to read QUIC packets from UDP packets To prepare for  
coalescing packets commit 7e738b00efd8e3ac73cd87a6461c2560c237d681 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue May 15 16:38:04 2018 +0900 Fix a compile issue commit  
b64517ca7a70dbb53413975851b8e957f7a14bf1 Author: scw00 <scw00@apache.org> Date: Tue May 15 08:35:39 2018 +0800 Fix assertion in quic\_client commit  
2cb99d218a84453a488a02c9f7406a4d87d1523c Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 14 14:07:48 2018 +0900 Fix a heap-use-after-free commit  
7770308bad1314cb6b49a5f137ee729d5dc89162 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 14 10:30:25 2018 +0900 clang-format commit df98d80f2816ab2883af59dc4534fae89d45ef5e  
Merge: 85fb9f6b4 d4557f160 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon May 14 10:23:01 2018 +0900 Merge branch 'master' into quic-latest commit  
85fb9f6b44feca16395c77d88d84051c86454835 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Apr 27 10:33:33 2018 +0900 Add a configuration for QUIC connection migration  
quic.max\_connection\_ids commit adeaf3c131a39ddc29e383cd3d721589a7901fa7 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Apr 26 16:46:52 2018 +0900 Long header now has payload  
length and it will be 16 bytes larger when the packet is encrypted commit  
89a5830c6979906819d5a0fdee93201d9ece9cc6 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Apr 26 15:40:56 2018 +0900 Fix bugs around packet headers commit  
f4401f04d2c04cd89af01593248eff16e08346cc Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 25 16:44:44 2018 +0900 INITIAL\_MAX\_STREAM\_ID\_\* are 16 bits commit  
2cbe172c948986408a5b7cf68b21f80839c74834 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 25 15:53:45 2018 +0900 Keep payload size under PMTU - overheads commit  
2feed67598e11a9b73b182f2abb30721a0a220cb Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 25 14:46:39 2018 +0900 Fix storing Version Negotiation Packet and unit tests commit  
8a04c3b583acf7a3b2c9925f411ffe0bd26c8e8d Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 25 14:45:35 2018 +0900 Fix unit test build commit  
910e021064be3d0559ae0f9f39244b353e4fdd0f Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 25 11:06:59 2018 +0900 Move vc event logs to verbose debug logs commit  
912ecb21979ddb585c21cd77ddac9c6b0e90e59d Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Apr 24 15:55:51 2018 +0900 Update Transport Parameters for draft-11 commit  
0509f141fe02183ed2e97603902aa35ea834ae85 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 23 16:31:11 2018 +0900 Fix bugs around Connection ID commit  
0efaaa386e893cf302debe845154ba6cbd7fae56 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 23 14:44:09 2018 +0900 Update wire formats and tests commit  
adf54ea540029f6e87c6be3c2af3f428c7491b54 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Apr 20 10:36:54 2018 +0900 Make tests compilable commit  
11e0bae268895e7739fcdeff2c9f8d9b495a3355 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 18 13:25:01 2018 +0900 Update QUIC version literals to 11 commit  
cbc48bcae3f6be1febde6b38b9723233bfe596aa Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Apr 6 10:45:59 2018 +0900 Make ConnectionId width flexible commit  
84c5fd35027ab50478b9ffe5ac8118b312f3d343 Merge: 4589908ee 26da8b976 Author: Leif Hedstrom <zwoop@apache.org> Date: Wed May 2 20:55:24 2018 -0600 Merge branch 'master' into quic-latest \*  
master: downgrade 'previously indexed' cert warning to debug Ran clang-tidy with modernize-  
deprecated-headers Ignore temporary clang files Convert 'gzip' Au test case to 'compress'. Test: autest  
exercising cache-control directives Ran clang-tidy with modernize-use-override Only check for final C++  
standards Conflicts: iocore/net/P\_UnixUDPConnection.h commit  
4589908eee4863c0b33339283d3856024ab12e1f Author: Leif Hedstrom <zwoop@apache.org> Date: Sun Apr 29 13:28:10 2018 -0600 Fioxes build issues due to extraneous tab in Makefile commit  
d8feb83a9d39d269a06717e708b419ebd190c2b9 Author: Leif Hedstrom <zwoop@apache.org> Date: Sun

Apr 29 13:18:29 2018 -0600 Updated to new clang-format commit  
47b1d724279e4453a4a3d7c79c35ad55bcb96ea7 Merge: 98ebf16b3 20e83321f Author: Leif Hedstrom  
<zwoop@apache.org> Date: Sun Apr 29 13:17:35 2018 -0600 Merge remote-tracking branch  
'origin/master' into quic-latest \* origin/master: (76 commits) traffic\_layout fix option in verify added Add  
ssn and txn tests for HTTP2 don't need negative events now API for setting OCSP Callback Removes  
remnants of streams cache log actual SSL error string on failure opening connection preserve whitespace  
when reading/writing records.config Renames gzip plugin to compress Updates editorconfig files &  
normalizes white-space Update traffic\_layout runroot commands and switches fixes build on  
linux/clang/libc++ combo Remove unused TSEvent parameters from C++ API Continuation class.  
doc/admin-guide: minor fixes Move inline functions into class Doc: various fixes Doc: Unify ":unit:" to  
":units". Fix TSVCConnArg error. Adds a basic .editconfig, should follow clang-format rules Updated to  
new version of clang-format Cleans up some pylint issues in the python code Correct parameter for  
certificate verification ... Conflicts: iocore/net/I\_NetProcessor.h iocore/net/P\_UnixNetVConnection.h  
lib/ts/ink\_endian.h mgmt/RecordsConfig.cc proxy/Makefile.am proxy/http/Makefile.am commit  
98ebf16b32524dea30b042d9b823c3cb98bd5044 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Apr 23 16:20:27 2018 +0900 Add "output" option to quic client STDOUT is default destination.  
commit 36b9f22cb5d0d97f6f73a9a86f857bb80c8a8b76 Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Apr 23 16:19:27 2018 +0900 Add QUICClientConfig commit  
5beddd6d1e29ceaff9c488f00949dab17f28ab48 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Apr 20 15:29:17 2018 +0900 Print appropriate frame info in debug log commit  
10540fb9a42b6426835ebdb26ee468ac4df9ad95 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Apr 20 14:16:17 2018 +0900 Set FIN bit to request from quic client commit  
59543aacaf5a9235dfce88256a68f5992d2e5e60 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Apr 20 12:24:43 2018 +0900 Fix unit tests commit 6212927aa508e8c365a405e7e0e2db47547f54a5  
Author: Masaori Koshiba <masaori@apache.org> Date: Fri Apr 13 15:55:58 2018 +0900 Add HTTP/0.9  
exchange support on quic client Out of scope: starting session or transaction of HTTP/QUIC commit  
643f7420aeedea9602c5f941df0ca443c30721d6 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Apr 13 15:40:55 2018 +0900 Add create\_uni/bidi\_stream to QUICStreamManager commit  
e1e5e86f896bae893a6507dc5f1df61d8e37e8b3 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Apr 13 15:39:40 2018 +0900 Rename QUICConnection in QUICApplication commit  
fadeb545dff56497db8cfb7e3a1448ada881698b Author: scw00 <scw00@apache.org> Date: Fri Apr 13  
08:31:27 2018 +0800 QUIC: Adding total offset in Stream Manager commit  
13fd1491205d3d3f00f59c59feab7e593dfccee6 Author: scw00 <scw00@apache.org> Date: Thu Apr 12  
19:17:07 2018 +0800 QUIC: make ack creator derive from QUICFrameGenerator commit  
3d8dd89f1be2c032774c67e9e1efb3cfd1cc5918 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Apr 12 16:10:39 2018 +0900 Make QUICClient::start an event handler commit  
b118034bd4da5bbe0338578ee14b02bcfb1add8a Author: scw00 <scw00@apache.org> Date: Wed Apr 11  
11:08:41 2018 +0800 QUIC: Send MAX\_XXX\_FRAME 2 rtt before sender to get blocked commit  
d75edbd523c096472ce8867c79d34121e0899976 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Apr 11 14:51:38 2018 +0900 Explicitly specify max\_stream\_data in tests The default value was  
changed to 0 from INT64\_MAX commit 49c465c225c5d8a74e1a81b49f980d4bb021b171 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 11 12:18:02 2018 +0900 Fix flow control on 0-  
RTT scenario commit 0961c2af562a5f5dc501890cda07c2b1dad7a61a Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Apr 10 16:05:41 2018 +0900 Include memory in ink\_memory.h commit  
cf3c8e54af3a7a88c6f4abc11ff67235bbf96687 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue  
Apr 10 15:41:59 2018 +0900 Send data from stream 0 first commit  
084ad245364f9137e667ad7baf6a2d3116204397 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Apr 10 15:31:25 2018 +0900 Send cross thread event to the right thread on HQTransaction commit  
ef8f9768d26f40534354c1d9d22b3b11d3bb44e4 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Apr 10 14:56:19 2018 +0900 Limit the number of sending packets on closing state commit  
71a69310413b5137f4d54d97cb0f5061447ba056 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Apr 10 12:09:24 2018 +0900 Send CONNECTION/APPLICATION\_CLOSE frame commit  
6e1e41bd83461d00f379a49bc860c6c787485f5a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Apr 10 11:58:32 2018 +0900 Range of initial packet number is between 0 and 2^32 - 1025  
(inclusive) commit 9e0712024c3b5611007f084f8b5e2ef58be6be02 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Apr 10 11:11:04 2018 +0900 Respond to a STOP\_SENDING with a  
RST\_STREAM commit 55343ae365217077090580c20e9a272b481ba654 Merge: 5fa569877 7d91d1bbb  
Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 9 20:34:23 2018 +0900 Merge branch  
'master' into quic-latest Conflicts: proxy/Main.cc commit 5fa569877e56cdddb0bae36effd61140b3218809

Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 9 17:02:57 2018 +0900 Send PATH\_CHALLENGE when receives a packet with an alternative CID commit 20e97be78d145efbf8eca927add0684332767a81 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Apr 9 12:11:58 2018 +0900 Set new endpoint to QNetVC when connection migration happens commit 80763750fcfedf5ad2e8257549a67c2373e14ea4 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Apr 5 14:18:35 2018 +0900 Add Path Validator commit 4a3ea0e945557f3934f23d683bb586074dc511d3 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Apr 4 14:14:03 2018 +0900 Catch up draft-10 commit a34cac14b4bd89e83efd9fbcee1401a85a865e11 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Apr 5 16:06:49 2018 +0900 Set inactivity timeout in/out appropriately commit 308d5794a8f6f225c02eac52e9fb11e1b047045b Author: Masaori Koshiba <masaori@apache.org> Date: Thu Apr 5 15:31:43 2018 +0900 Randomize Connection ID only if needed - take 2 Connection ID should not be changed if INITIAL packet is retransmitted commit 375fe44b33f207e1ae6c24df8fe4656ee3c53cb6 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Apr 5 14:45:32 2018 +0900 Randomize Connection ID only if needed Connection id was randomized every time when state\_handshake received QUIC\_EVENT\_PACKET\_WRITE\_READY event. commit 864da3bde6765bc17943d8654010dd02635bc70c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Apr 5 12:19:06 2018 +0900 Fix QUICHandshake::is\_version\_negotiated() To do not send ACK frame if VRESION NEGOTIATION packet was sent. commit 5c7db9f3f6a9b68954798d07acb7a90eaff2dca5 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Apr 5 11:08:26 2018 +0900 Start handshake over when qvc received VERSION NEGOTIATION packet commit 6ff1a3f373f7af9339285c6f4b96d5636ca8912c Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 4 15:15:47 2018 +0900 Add Version Negotiation support on QUIC client To enforce version negotiation exercise, set below config 1. `` proxy.config.quic.client.vn\_exercise\_enabled `` commit 528f1ee56b7857c716fd74352b4ba04f19772027 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 4 15:06:13 2018 +0900 Add VERSION\_NEGOTIATION packet support to QUICVersionNegotiator commit b778c96d2cf62791168f9ac885761e79e380c090 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 4 14:58:13 2018 +0900 Remove version args from create\_initial\_packet To use PacketFactory's \_version like other create\_X\_packet functions commit fc1bc3600758cd0c712788896271db946dec669a Author: Masaori Koshiba <masaori@apache.org> Date: Wed Apr 4 14:28:43 2018 +0900 Fix QUICPacketFactory for Version Negotiation Packet commit 8185c20aad939cfe0187e1b7b711bd973e4b60e1 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Apr 2 15:18:56 2018 +0900 Add nullptr check before calling QUICConnectionTable::erase() QUICNetVConnection::\_ctable is nullptr when QVC is out going connection commit eb6b247130413a91ac816a4fa0b6174953c064b9 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Apr 2 14:52:04 2018 +0900 Make constans of Congestion Control configurable Add below configs `` proxy.config.quic.congestion\_control.default\_mss proxy.config.quic.congestion\_control.initial\_window\_scale proxy.config.quic.congestion\_control.minimum\_window\_scale proxy.config.quic.congestion\_control.loss\_reduction\_factor `` commit 90d86680169a72c94235e3591a9d72d8eb1ff467 Author: scw00 <scw00@apache.org> Date: Sat Mar 31 10:10:02 2018 +0800 QUIC: Check congestion window when sending packet commit de061414396063f85aa09a31b7a10fd60104546b Author: scw00 <scw00@apache.org> Date: Mon Apr 2 11:34:41 2018 +0800 QUIC: Fix clang warning commit b49f6c8784458d5b60762ffe6a2d113495126c32 Author: scw00 <scw00@apache.org> Date: Sat Mar 31 10:55:42 2018 +0800 QUIC: Change QUIC closing period dynamically commit 108c33a2919cc0a010df11ccbd8cbd60b3750eaf Author: Masaori Koshiba <masaori@apache.org> Date: Mon Apr 2 11:57:09 2018 +0900 Minor cleanup: rename "Client Initial" to "Initial" commit 6726567e60c83efb1605bbf6a3ddb200a3ca09de Author: Masaori Koshiba <masaori@apache.org> Date: Mon Apr 2 11:29:24 2018 +0900 Check every stream in QUICStreamManager::will\_generate\_frame() QUICStream might be in the stream\_list, if it doesn't have any data to send. commit 5b6864516badc0b60b8d89737ccc809c72439e51 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Apr 2 11:08:30 2018 +0900 Schedule QUIC\_EVENT\_PACKET\_WRITE\_READY in connectUp commit cef711994b9b676f1713bf4e79419d8f1c3a40fc Author: scw00 <scw00@apache.org> Date: Tue Feb 20 11:26:38 2018 +0800 add refcount to protect qvc commit bb333b9379f8579f918bf940542b8e290615b34b Author: scw00 <scw00@apache.org> Date: Sat Mar 31 08:32:52 2018 +0800 QUIC: Fix compiler warning commit 567f567ee4a33aadeb6156d6e8d890203b7f13f9 Author: Masaori Koshiba <masaori@apache.org> Date:



Fri Mar 30 15:56:04 2018 +0900 Cleanup Makefile.am of unit test for QUIC commit  
e7babfd06a1db965415110b2df0052cc1f039b88 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Mar 30 14:44:03 2018 +0900 Initialize RecordsConfig and QUICConfig on unit test - Load configs  
written in mgmt/RecordsConfig.cc - Start QUICConfig up commit  
5c2a52c0b4323e4e4d4c5731cd5ce40caff95c58 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Mar 30 14:26:32 2018 +0900 Make constants of Loss Detector configurable Add below configs ``  
proxy.config.quic.loss\_detection.max\_tlps proxy.config.quic.loss\_detection.reordering\_threshold  
proxy.config.quic.loss\_detection.time\_reordering\_fraction  
proxy.config.quic.loss\_detection.using\_time\_loss\_detection  
proxy.config.quic.loss\_detection.min\_tlp\_timeout proxy.config.quic.loss\_detection.min\_rto\_timeout  
proxy.config.quic.loss\_detection.delayed\_ack\_timeout proxy.config.quic.loss\_detection.default\_initial\_rtt  
`` commit 830ed665bb245b0c83aa9eb985559b55c87dc548 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Mar 30 11:49:46 2018 +0900 Check if alt\_con\_manager is available  
alt\_con\_manager is not available until handshake completion commit  
b7c07e5b45c7ec0cc2eb6f2a8e0f47ccdb1401bb Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Mar 30 10:52:37 2018 +0900 Update packet recovery logic to draft-10 commit  
6e5b664a31c54d939867469520f5609130193d8a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 26 17:24:21 2018 +0900 Create frames on demand commit  
919da9dd2fcb6411d71187fdb4de45400ec05d4c Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Mar 29 09:48:05 2018 +0900 Set nullptr when \_loss\_detection\_alarm is canceled commit  
c7a31b9bdf92e692183116b1e96da3937b535e60 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Mar 29 09:40:20 2018 +0900 Print First ACK Block when ack received Also rename  
first\_ack\_block\_length to first\_ack\_block because it's renamed by draft-08 commit  
2ca74d875c4bb2dce21e7973cf1205a7b4dab8f9 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Mar 29 09:32:55 2018 +0900 Cancel scheduled loss\_detection\_alarm on destructor Fix  
test\_QUICLossDetector crash. commit c341432576f220dfe01dccf8d727f517567ccc9d Author: Masakazu  
Kitajo <maskit@apache.org> Date: Thu Mar 29 09:12:00 2018 +0900 Remove unused header inclusion  
commit d11c84838637d5d08c37d45c19229fcd3c2d4367 Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Mar 28 15:50:26 2018 +0900 Send ack for discarded packets Pass  
discarded packet to QUICNetVConnection::recv\_and\_ack() to send ack to the packet. Probably this is  
fine, because if the packet has some stream data to ignore, it will be discarded by offset mismatch.  
commit d59e78bb0f093a9d54497fb9228721e72e19bdd7 Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Mar 28 14:22:03 2018 +0900 Ignore PROTECTED packet on  
state\_handshake commit 133e1082a5bb6e2b15ffee6a53ad572ef481987e Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Mar 28 14:21:17 2018 +0900 Fix packet type selection logic on client  
side commit 152108180a294c91e5d31ec7b7e2918e90701faa Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Mar 28 11:24:33 2018 +0900 Print ACK frame info in debug log  
commit 4cb3a5bf56446d8b2dec7a0890af1cba09e3fc5d Author: Masaori Koshiba <masaori@apache.org>  
Date: Wed Mar 28 11:13:58 2018 +0900 Ignore INITIAL packet on state\_connection\_established Client  
might retransmit INITLA packet even if connection is established. This made crash on a assert in  
connection migration logic. Just ignore it for now. commit ae3c68d463fa9f8e4985ab999580f00f8cc6bad2  
Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 22 11:20:09 2018 +0900 Refactoring  
QUICHandshake commit 6183b8ef8f8ca5f502acff834ac437db0b0568e Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Mar 27 14:04:41 2018 +0900 Re-randomize Connection ID only if TS  
received RETRY packet commit b8cae7d470eb5cc0fc23017ed73f34112021cc4a Author: scw00  
<scw00@apache.org> Date: Sun Mar 25 18:03:04 2018 +0800 QUIC: Set packet\_info's bytes to zero if it  
is the ack-only packet commit d774873ebc8ed4edc51b822f78c4d7e1b1c87b4a Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 26 16:15:41 2018 +0900 Fix unit tests commit  
2389503983f52fc0914d473489e768596eb51321 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Mar 26 14:45:11 2018 +0900 Add supported\_group configs commit  
bd09c194af798c32306923bb637e4a0def946002 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Mar 26 12:46:03 2018 +0900 Separate SSL\_CTX for client and server As for client, add  
SSL\_CTX\* to QUICConfig, just like SSLConfig has SSL\_CTX \*client\_ctx. As for server, add  
SSL\_CTX\* to QUICConfig too for now. Probably this should be integrated with SSLCertLookup or  
SNISConfigParams. commit 9946719bddd3be87f78740fbb03a993817fad6 Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 26 15:00:42 2018 +0900 Fix QUICAckFrameCreator::update()  
calling in unit tests commit 7cb0796781a075c9585fed9355cda9b92f61c69e Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Mar 26 11:04:46 2018 +0900 Handle RETRY packet on client side  
commit d268ad432abff4379c158afd5db1b761ae688ee3 Author: Masaori Koshiba



<masaori@apache.org> Date: Fri Mar 23 14:01:12 2018 +0900 Add reset api to QUICLossDetector, QUICStreamManager and QUICStream for handling RETRY packet commit dc7577a4151361ddfa4b3db595712ad2100b866b Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Mar 23 12:22:57 2018 +0900 clang-format commit bef6fbad1085423d4b1a1b4228fea4f2e62a1a2e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Mar 23 09:29:43 2018 +0900 Don't ack protected packets with a handshake packet commit f17041180f4452031cb85cfd10958f9752ed1c7a Author: scw00 <scw00@apache.org> Date: Fri Mar 23 10:07:45 2018 +0800 QUIC: Memory pollution in building packet commit 20bc8b3aab51f8b2e089bee7d6085339f75dbb6d Merge: f3cceb579 60b2d9982 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Mar 22 20:18:39 2018 +0900 Merge branch 'master' into quic-latest commit f3cceb579ca3049da4a47efb7e551d38f8444824 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Mar 22 16:27:49 2018 +0900 Handle ACK block length and gap as ranges This fixes #3314 commit 72c9c4abad2b0b9a7ce6b4173390ca129da2f34c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 22 10:20:51 2018 +0900 Rename handshake msg types commit 17a22bf0d8452b5be926b0888496571c45e6baf6 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 22 09:35:45 2018 +0900 Do not allow early data when stateless retry is enabled The operator must decide calling SSLStateless() or SSL\_read\_early\_data(), because these are incompatible. For now, if `proxy.config.quic.stateless\_retry` is enabled, 0-RTT is disabled. This could be changed if SSL\_accept() support cookie ext. commit 63bb874a887c99340951111302f2d1db6ef60d1f Author: scw00 <scw00@apache.org> Date: Wed Mar 21 17:06:38 2018 +0800 QUIC: Fix compiler error commit 976e1ecf82f82659d5145435ffc1cb6ebe52544a Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Mar 20 16:08:24 2018 +0900 Add five\_tuple() to QUICConnection interface commit 0bf98811bcb980b88c2e430e0c2f9accfba910c0 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Mar 20 15:06:07 2018 +0900 Echo packet number of INITIAL packet in RETRY packet Following below in section 5.4.2 "Retry Packet" (draft-09) > The packet number field echoes the packet number field from the triggering client packet. commit ef7df31604ac843e736dd758c7debdafe68fc595 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Mar 20 15:23:26 2018 +0900 Add tests for HQ commit 4c6a3e851bbaf11c29660730fab0e3c051dd9db3 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Mar 19 16:56:27 2018 +0900 Add HQ frame support commit 05f30d5785544ca2d3168a8cc65cfaf62d501311 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Mar 19 23:17:36 2018 +0900 Fix Version Negotiation Fixes #3305 commit e7fda2c95512d6151860b68e0b3776360069bed1 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Mar 19 16:33:03 2018 +0900 Derive key after handshake completed on client side commit 3e379b176101a87bbfb257cab47f837010937ebb Author: Masaori Koshiba <masaori@apache.org> Date: Mon Mar 19 11:37:08 2018 +0900 Format debug logs of sending/receiving packets/frames commit 09f62d9ffc55e6d18bbad8df76aa93bf37945a00 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Mar 19 10:14:26 2018 +0900 Separate stateless cookie callbacks from QUICGlobal QUICNetVconnection is used from these callbacks for getting client address. This made link issues in Unit Tests of QUIC. commit 8388bc206fb86a824e26d1d1a778132f0f261ebd Author: Masaori Koshiba <masaori@apache.org> Date: Mon Mar 19 09:26:59 2018 +0900 Fix compile errors of unit tests commit 5f04fd1bc14d79e920c36ceb87d1615b855aacc8 Author: Masakazu Kitajo <maskit@apache.org> Date: Sun Mar 18 21:13:46 2018 +0900 Use negotiated cipher suite It was broken when we add 0rtt support because the logic checked whether handshake is complete. commit 147b19b16d760e692df7e5b267f6324f390478ef Author: Masaori Koshiba <masaori@apache.org> Date: Fri Mar 16 11:00:03 2018 +0900 clang-format commit 89f9562844399648d28184662b60fe1072ca000f Author: Masaori Koshiba <masaori@apache.org> Date: Fri Mar 16 10:57:44 2018 +0900 Generate client address validation token commit e10160e6b505b9a285ee85d641f15158409357f9 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Mar 14 12:08:57 2018 +0900 Add Stateless Retry Support To enable this feature set `proxy.config.quic.stateless\_retry` 1. Currently Address Validation Token in cookie ext is dummy. commit e86ea3860f2ca5ca74f7c8322e61abba2e0ad635 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Mar 15 15:24:05 2018 +0900 Move ats\_unique\_buf to ink\_memory commit a9565325408e3aa15c22560c95cd7336b21a652d Author: scw00 <scw00@apache.org> Date: Thu Mar 15 11:36:59 2018 +0800 QUIC: Fix compiler error of memcpy commit b12c4d49582afcb943c67557efc443a2aa4ed29d Author: scw00 <scw00@apache.org> Date: Tue Mar 13 17:47:44 2018 +0800 QUIC: Fix the QUICHandshakeProtocol test commit 3d549767e6379eb6fb1e415b1ffdf6a508cf8549 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Mar 14 16:26:18 2018 +0900 Separate out QUICVariableInt from QUICUtil so that HQ can use it commit c9845e0ed9d68ad2dd6abecd40f0e609459aea37 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Mar 14 09:31:32 2018 +0900 Create RETRY packet commit 94263e8967288676c1d3f16910a8cad9c9f2a16b Author: Masakazu Kitajo <maskit@apache.org> Date:

Tue Mar 13 17:03:11 2018 +0900 Delay key driviation until it's ready to do that commit  
f9651e356af77b531a03ab982345199db1d34a93 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Mar 13 16:08:42 2018 +0900 Add SSL\_stateless() support in QUICTLS Also add test cases for  
key\_share mismatch, stateless retry and both. This is a piece of Client Address Validation support. This  
requires latest OpenSSL (1.1.1-rc3+) for SSL\_CTX\_set\_stateless\_cookie\_{generate,verify}\_cb -  
<https://github.com/openssl/openssl/commit/3fa2812f32bdb922d47b84ab7b5a98a807d838c0> commit  
943dfdb66eef9aec56e417bcb4e49165429331365 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Mar 13 14:31:11 2018 +0900 Make tests compilable again commit  
ca73ea98ac4618c464c6c27d478dfc2a52388783 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Mar 13 10:26:03 2018 +0900 Add logs around encrypting and decrypting commit  
6f515f1c1b33b930b1acd023c722c97eef501ada Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Mar 13 10:08:31 2018 +0900 Fix signature of QUICHandshakeProtocol::is\_key\_derived() in Mock.h  
commit 95474563255c9169ca71d1d3740ae3b38fc3e1d7 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Mon Mar 12 17:26:22 2018 +0900 Fix build warnings commit  
3f85b668c732baf2b354f95351ca5d374df243e7 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 12 16:24:32 2018 +0900 Fix memory leaks under iocore/net/quic commit  
47289d2a581b9800d630d3425b789975bceaf6b7 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Mar 7 11:45:21 2018 +0900 Support QUIC 0-RTT commit  
ad869730cb5e3e24ca4e2b4f87542e13e1649130 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 12 14:26:25 2018 +0900 Fix a buffer overflow on creating a stateless reset packet commit  
429f0ac1e08fb6f9b1c05903aec1e95d8c279a73 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 12 14:25:53 2018 +0900 Fix a build issue commit  
f8aa0dfc4c5077a101bbba928cf21278df14a09d Author: scw00 <scw00@apache.org> Date: Sun Mar 11  
08:47:52 2018 +0800 QUIC: Make sure only schedule one event when close connection commit  
2da95412be31c7cc43b4c0fbde18ab856b995d3c Author: scw00 <scw00@apache.org> Date: Fri Mar 9  
09:01:20 2018 +0800 QUIC: free the retransmission initial packet commit  
fe1335fa69998e8798e3279ab528a2d32e16994a Author: scw00 <scw00@apache.org> Date: Fri Mar 9  
08:25:21 2018 +0800 QUIC: Add default TCL path commit  
3467144cfef30841cc10785ebbbabf6d5a4aa253 Merge: 387323abc 20db74bc0 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Wed Mar 7 14:10:36 2018 -0800 Merge branch 'master' into quic-latest \*  
master: (49 commits) s3\_auth: check if previous config (re)load failed Fix string\_view hash function all  
or nothing for readIntoBuffer Diagnostic message when openning hostdb file fails Fixing #3232, crash  
when making a server push Add option to always add Client-ip header disable fips when  
TS\_ENABLE\_FIPS == 0 Select the current cert when looking for issuer Respond with 400 code when  
Content-Length headers mismatch, remove duplicate copies of the Content-Length header with exactly  
same values, and remove Content-Length headers if Transfer-Encoding header exists. Fix default include  
path ordering. remove HAVE\_POSIX\_MEMALIGN related code Acquire lock before calling  
Http2ClientSession::free() from Http2ConnectionState Combine mutex of Http2ClientSession and  
Http2ConnectionState Removed MD5 signature values based on ASF updated release policy New policy  
: -- MUST provide a SHA- or MD5-file -- SHOULD provide a SHA-file -- SHOULD NOT provide a  
MD5-file Add declaration of ssl\_verify\_client\_callback Optimize: define AIO\_Reqs::aio\_temp\_list by  
ASLL macro fix unpredictable diskok within CacheProcessor::start\_internal Create a new AIOCallback  
to call back aio\_err\_callbck if there is an error from Linux Native AIO Remove unused SHARED\_\* build  
variables. Client verify callback with client verify hook ... Conflicts: proxy/http/Makefile.am commit  
387323abc755f79317576fc717a64591f78640f3 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Mar 7 17:34:07 2018 +0900 Fix a buffer overflow commit  
aea566de628622436347fbcf7080b0585ab7e7a9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Mar 7 15:42:52 2018 +0900 Fix warnings on compile with gcc commit  
499a39bc5f9764801f6f68f79d93a5b38ad2af04 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Mar 6 14:16:36 2018 +0900 Read and discard early data commit  
8004b3768733a9dba99b59871e6fa681e026d516 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 5 14:43:09 2018 +0900 Retransmit all handshake packets Because of this block, handshake  
packets might not be retransmitted actually if protected packets are already in the list. commit  
50476f0ccab5bcbfff5efa56ca3a1232cbb7977a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 5 11:58:56 2018 +0900 Don't use raw pointer for QUICPacketHeader commit  
9fa21b09e8f643b8b8f6cfcdbaaef77b0db00ce Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Mar 5 11:58:42 2018 +0900 Don't use std::move when return commit  
c3af882434fd279e82e5534a55f2faded535e957 Author: scw00 <scw00@apache.org> Date: Mon Mar 5  
08:31:34 2018 +0800 QUIC: Mem leaking with QUICPacketHeader commit

b3759a9addf8709c0552cbc282f048f8bbda8614 Author: Jordy Liu <zdlju26@gmail.com> Date: Sat Mar 3 17:39:14 2018 +0800 Using MT\_hashtable for VC lookup. commit  
1d7d681cd5a6da686d88f066ce3897ad1a0b8c53 Author: scw00 <scw00@apache.org> Date: Fri Mar 2 14:13:07 2018 +0800 QUIC: Ensure switch to closed state once commit  
e6b552872ba68acf235577b656752af7b2278713 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Mar 1 20:57:54 2018 +0900 Clear SSL\_OP\_ENABLE\_MIDDLEBOX\_COMPAT option of OpenSSL commit 358718497de8dcd6ded3a9d1e0f9206fd7bbef83 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Mar 2 14:45:27 2018 +0900 Add debug log in  
QUICLossDetector::detect\_lost\_packets() commit 1eba7ea33c0a710bb27828329dac55393525fd93 Author: scw00 <scw00@apache.org> Date: Thu Feb 22 17:19:16 2018 +0800 QUIC: Insert client selected connection id into ctable commit 4f68ac7e5f293e2bd1afa9af3bad79b22028e817 Author: scw00 <scw00@apache.org> Date: Tue Feb 27 13:53:01 2018 +0800 QUIC: Ensure only first initial packet could enter QVC::acceptEvent commit 8a7696cacff20c68b3f04345b88239e03e2e135b Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 27 15:40:00 2018 +0900 Ignore 0-RTT Protected packets for now commit 4925d9af45ee240e73f725acad384e966a4e5720 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 27 14:29:54 2018 +0900 Notify packet arrival with  
QUIC\_EVENT\_PACKET\_READ\_READY Calling schedule\_imm without specifying event implicitly use EVENT\_IMMEDIATE, and it confuses QUICNetVC because the event is also used for inactive timeout. commit 29cb75274ebb23ed37d1c370c70a9468a6231e24 Author: scw00 <scw00@apache.org> Date: Fri Feb 23 13:40:18 2018 +0800 QUIC: clean the inactive timeout in closing and draining state commit 532e9dd14d1c3c44b58d4853afaed2d2dd1af045 Author: scw00 <scw00@apache.org> Date: Fri Feb 23 10:22:47 2018 +0800 QUIC: Send close frame packet when we are in close period commit 73d0ad369de49adf1480c08255594f1a9cdaeb19 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Feb 23 11:13:29 2018 +0900 Don't decrypt packets that have unsupported versions commit 4f0255b9c6ec46c1c775a25da452f70e25465a89 Author: scw00 <scw00@apache.org> Date: Fri Feb 23 09:25:33 2018 +0800 QUIC: remove useless scheduling event commit 779b69ce89d436bc64802a72fccfeacb49b8356d Merge: 6706e60b8 b2705d6a7 Author: Leif Hedstrom <zwoop@apache.org> Date: Wed Feb 21 21:36:31 2018 -0700 Merge branch 'master' into quic-latest \* master: Doc: Update documentation building documentation. Adds tcp\_i\_total\_retrans to tcpinfo Doc: Fix more documentation build warnings. Call mark\_body\_done() when response body is empty commit 6706e60b8c49c64df3c42d4ff415d2986bee02af Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 22 12:34:28 2018 +0900 Return CreationResult::IGNOER when keys for decryption are not ready commit 1f2013e10574380c1c2880d4e2bcf4f46c9730b1 Author: scw00 <scw00@apache.org> Date: Thu Feb 22 10:02:51 2018 +0800 QUIC: Fix Unexpected event on state\_connection\_closing commit 54853e1453af9f4a3dec67a7cf829835093427e6 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 22 12:21:53 2018 +0900 clang-format commit f8a968bc780fc698ae9b909f61f8c52fdc459a00 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Feb 22 10:20:45 2018 +0900 Set max\_early\_data to 0xFFFFFFFF commit aea4c6c2c9109745554733ceb17c0b754ead3ab0 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 11:26:15 2018 +0900 Prevent logs for unexpected events on EVENT\_IMMEDIATE commit 235252651b7935c928bc13432c87813942e870ba Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 17:27:12 2018 +0900 Rename QUICCryptoTls to QUIC TLS commit 4d58fcd16ff3d0ee5d23710d33dee45b8106f7bc Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 17:04:00 2018 +0900 Rename QUICCrypto to QUICHandshakeProtocol commit a60303a647bec7c718e66f351cd877c7e9f68488 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 16:13:42 2018 +0900 Update tests commit 72dc4b76f0951ec5163b1be635d5b2445d53778f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 15:41:44 2018 +0900 Remove QUICStreamManager::init() commit 11a3c6f99bd3ef97ce406c0af62c1f23e59401cc Author: scw00 <scw00@apache.org> Date: Wed Feb 21 12:19:57 2018 +0800 QUIC: Sends stateless reset packet if connection is closed commit e4effa3a228d7e016d95a97f414402b47508fc8f Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Feb 21 14:31:53 2018 +0900 Use pragma once commit 3405854015c379bb61250d6736c459288e4aaa4f Merge: 39c800963 e4aa18e33 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Feb 20 21:12:24 2018 +0900 Merge branch 'master' into quic-latest Conflicts: iocore/net/Makefile.am proxy/Main.cc proxy/http/HttpProxyServerMain.cc commit 39c80096354acf44ed47647bb3f5c8b63bbebd02 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 19 17:38:25 2018 +0900 Add QUIC HKDF.h commit 999dde94f5e67d19f5a4c3d8e289a62962606871 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Feb 19 15:41:06 2018 +0900 Don't free QUICNetVConnections to avoid crash #3139 commit 970ca9b52ea07170076408faa8117771f9532cb9 Author: Masakazu Kitajo <maskit@apache.org> Date:

Mon Feb 19 15:26:53 2018 +0900 Update HQ version number commit  
f3eaaaa195f628596eb331844692fc546598f663 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Feb 19 14:25:06 2018 +0900 Update loss detectin logic to draft-09 commit  
e957bbf555146d5f9f9aa8785f1443d1195c3b11 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Feb 19 13:55:20 2018 +0900 Separate out QUIC specific function from ts/HDKF commit  
b6098434a09a1ad8a86ac6125092a6c8c1827b59 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Feb 19 11:45:58 2018 +0900 Update labels for key generation commit  
9e3d6220f37eb5e225aeb4c6f796dfe0549e9fb6 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Feb 19 11:42:31 2018 +0900 Don't send transport parameters on NEW\_SESSION\_TIKECT  
messages commit 365581b4857a16d4153cf984167b564e8599691b Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Feb 19 11:38:37 2018 +0900 Update QUIC version to draft-09 commit  
e4c3201015f3d62438b7843ad20072b12219f200 Author: scw00 <scw00@apache.org> Date: Fri Feb 16  
09:25:05 2018 +0800 QUIC: Push closed conn into closed queue commit  
fa5100060a43d95ec8df9c3b67ca9fa3388b141a Author: scw00 <scw00@apache.org> Date: Tue Feb 13  
18:14:13 2018 +0800 drain all of udp packets and make sure PollCont run before UDPNetHandler  
commit 0b78de52fc25f8d4cd79348f894d6104faa26d17 Author: scw00 <scw00@apache.org> Date: Tue  
Feb 13 18:46:37 2018 +0800 introduce init function to initailize QUICPollEvent commit  
de29fa6c686ea9bfd0be1419de240517e9e01fcb Merge: ba5ff998a ec3ed32c9 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Sat Feb 10 20:49:39 2018 -0700 Merge branch 'master' into quic-latest \*  
master: to only fix the SELECT\_ALT hook Correct clear and assign of FIPS cache keys in HTTPInfo.  
Remove client read timeout Added logcode and stats Send VC\_EVENT\_WRITE\_READY/COMPLETE  
when write\_vio is consumed X-Debug: log-headers Make throttling feature more useful. psutil can not  
find python.h withouth python3-dev in Ubuntu Fix a bug that chunked resopnses aren't logged properly if  
the client side is H2 Documentation: correct inku16 to unsigned int:16 correct negative event's timeout\_at  
value Fixes the escalate plugin such that redirects are followed Use CRYPTO\_HEX\_SIZE instead of  
hardcoded fixed sizes. fix OCSP under OpenSSL 1.1.x Note the stripe meta while clearing the stripe  
coverity 1385717: Out-of-bounds write heap use after free Adding custom method support and bug fixes  
Fix X-Id logging for slow log commit ba5ff998aef294820ea59c1d4363c5d9a423a56f Author: scw00  
<scw00@apache.org> Date: Tue Feb 6 14:01:38 2018 +0800 add QUICPollEvent to packet UDPPacket  
and QVC commit 35abc38261e68d3d3ba7ffc9730f43f071387ac7 Author: scw00 <scw00@apache.org>  
Date: Sat Feb 3 11:04:14 2018 +0800 connect\_re processed by nethandler commit  
04dfc12f56e034d041789a3d2ebbbdf069a10f44 Author: scw00 <scw00@apache.org> Date: Sat Feb 3  
08:59:27 2018 +0800 Add syscall into EventIO for qvc to avoid system call commit  
5c219098a1ebc2d66b3e627b532079ccb3e976f1 Author: scw00 <scw00@apache.org> Date: Wed Jan 31  
14:35:20 2018 +0800 [QUIC Client] fix the quic client commit  
c85f903a11d12b4e1505bd68603f2c157805c4a8 Author: scw00 <scw00@apache.org> Date: Sun Jan 28  
21:22:41 2018 +0800 complete pollcont commit d9a5b22299a8d9dbcc1d7231ae806ab692669166  
Author: Oknet Xu <xuchao@skyguard.com.cn> Date: Sun Jan 28 17:55:16 2018 +0800 Add  
QUICPollCont commit a0beeed6a9a7cf52e737191b75728c81ed05beae Author: scw00  
<scw00@apache.org> Date: Fri Feb 2 08:13:46 2018 +0800 initialize `opts` to create udp connection  
with correct local addr commit 4fc50043fd4a40e80b1585db9dbd8d036b2fdd4e Merge: 56bf2d39e  
424c70a44 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Feb 2 10:59:36 2018 +0900  
Merge branch 'master' into quic-latest \* master: Bring back MT\_hashtable.h under lib/ts/ Fixes a warning  
from clang v6.x Fixed crash in microserver help message Use NetVCOptions to create UDPConnection  
Add support to chunk post body's that come from H2 client without content length. Changes to allow for  
possible stale ua\_session pointer in HttpSM object. Add an example of testing http2 with httpbin commit  
56bf2d39e085a183a751c1e50a654b6c48108643 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Feb 1 11:01:19 2018 +0900 Add QUICCrypto::is\_key\_derived() commit  
7452dc21dfd2410ef30e510551134ed45d8fd09d Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Feb 1 10:14:29 2018 +0900 Cleanup test\_QUICCrypto commit  
14dc16cc951b99f312f209e546ea4ce139c5b4f5 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Feb 1 10:13:41 2018 +0900 Write debug logs in stderr when unit tests run commit  
3f4fe3d4d28d33e6fc67df14d1600d89ff32e65f Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Jan 30 16:54:00 2018 +0900 Fix tests for QUICHandshake commit  
150c1e0cfb1ab8dcefa3a24c1085fb6b270eef4e Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Jan 30 16:49:01 2018 +0900 Fix tests for QUICCrypto commit  
d313bbaee52e2d7b26c5d8fd8906a6836744fd7a Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Jan 30 16:48:18 2018 +0900 Print TLS Version on debug log commit  
4e7658ba62614bc982362820a06c69f7d0675862 Author: Masaori Koshiba <masaori@apache.org> Date:

Tue Jan 30 12:27:27 2018 +0900 [QUIC Client] Load params from records.config commit  
e71980164966b320a13718d5eb903bc35b0a2a1a Merge: ce3d7c302 752899c76 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Mon Jan 29 11:47:48 2018 -0700 Merge branch 'master' into quic-latest \*  
master: moves certain ocsf error messages to Debug commit  
ce3d7c30263edb588c8fc77b165733d5d0aab856 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Sun Jan 28 23:48:24 2018 +0900 Manage connection table from QUICNetVConnection side  
PacketHandler doesn't have enough information to manage CID-Connection mapping.  
QUICNetVConnections take care of the mapping by themselves, and PacketHandler only lookups the  
mapping. commit 8be2071db8fec2d9e2f03ce7828e0e99afd14dd0 Author: scw00 <scw00@apache.org>  
Date: Sat Jan 27 12:14:57 2018 +0800 Replace INK\_MD5 since c93790a merged commit  
3420f3eb702c7eb7cbb3e57e4988b2e8bcded1d6 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Sun Jan 28 00:33:57 2018 +0900 Fix tests for TransportParameters commit  
90ea93d5e7cc0a2f79075067ea155118a0380c90 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Sun Jan 28 00:33:36 2018 +0900 Make tests compilable commit  
e3ad67a5094a768705c473eefd3b5afddfc69792 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Sat Jan 27 23:48:59 2018 +0900 Remove QUICConnection::reset\_connection\_id() commit  
186dddfbc19c4dfb4e6a0fdadc35857a2c85f5f86 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat  
Jan 27 21:54:30 2018 +0900 clang-format commit 7a1dc73d3c4e9718c9286a96b41fa509e3b4af87  
Merge: 9d47df294 c93790aa7 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Jan 27 21:51:22  
2018 +0900 Merge branch 'master' into quic-latest commit  
9d47df294e2ea29a33dc91b89be936c6df1b8c27 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Jan 25 14:45:15 2018 +1100 Allow empty Stream Data with FIN bit commit  
b62739606baf7508531270ec16c09fc599370700 Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Jan 24 09:23:27 2018 +1100 Check SSL\_is\_init\_finished() before complete handshake commit  
4f55b160ae66f6ecb7fe34b9b6c060fc4ccb3c5b Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Jan 23 14:04:23 2018 +1100 Add a log for binidng client generated CID and server generated CID  
commit 66f1fc25205bd02f666bc151871004ee73dc0f5a Author: Masakazu Kitajo <maskit@apache.org>  
Date: Tue Jan 23 13:43:36 2018 +1100 Don't decrypt packets that have unsupported version commit  
5a363861f812bfa4b2a0ed3775a011d2334739ca Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Jan 23 01:52:30 2018 +1100 Print server generated CID on LossDetecotr logs commit  
75812607fa50f5b165159cc0f9662e65d52a0311 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Jan 23 01:51:56 2018 +1100 Add QUIC CID to quic\_app logs commit  
163e3a7d518bd0e71d4010636d1ec7f492b13b94 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Jan 23 01:21:56 2018 +1100 Add QUIC CID to HQ logs commit  
77badcf9df125dd2c3129dbabc02b773a2f26195 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Jan 22 16:00:39 2018 +1100 Fix a bug that retransmission timer wasn't reset correctly commit  
9549f57290fb9d44ba7f175ba18834d3bdd248cd Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Jan 22 15:43:14 2018 +1100 Deactivate QUICNetVC on closing state commit  
2c7ebfb7282ba0064c33af5eddc2fda77a76ce19 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Jan 22 14:55:13 2018 +1100 Print retransmission alarm in millisecond commit  
9a8b3155dbe9d1a0bd4b97411c52925f2f5e3121 Merge: b0c77cd5a 129f59db0 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Mon Jan 22 11:38:24 2018 +1100 Merge branch 'master' into quic-latest \*  
master: Do not send HSTS header when remap has failed commit  
b0c77cd5a5831d0601434db2e4f8044a09b08fab Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Jan 22 10:53:04 2018 +1100 Fill the unused field of Version Negotiation Packet with random value  
commit f5b039539d13debe891b821afeb1dbeb709caa74 Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Jan 22 09:59:12 2018 +1100 Print event number commit  
56ab5ab706d0542f8924f082667e45d2499f88f3 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Jan 22 09:31:36 2018 +1100 Print  
QUIC\_EVENT\_HANDSHAKE\_PACKET\_WRITE\_COMPLETE event commit  
e9619720ce62bf20ed3c4ce3d271626a61fd2828 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Jan 19 16:33:24 2018 +0900 Use UDPNetProcessor::CreateUDPSocket() commit  
ea129d3ff4476c9f2509ccc32e6ae52817e515f9 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Jan 19 16:21:48 2018 +0900 Disable TLP for now TLP causes infinite retransmission & acknowledge  
loop somehow. Disable this as a workaround for next interop. commit  
c041e55ae46f785df472922745083e04e2318f52 Author: Leif Hedstrom <zwoop@apache.org> Date: Fri  
Jan 19 10:33:43 2018 +0900 Fix a compiler warning for now commit  
6d75bb178ffc16cfe9ad78c41d1687d4123f52d2 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Jan 19 10:19:49 2018 +0900 Allocate QUICNetVConnection by ClassAllocator commit

d133aae32768bed32c96b14a54da3d99874236d6 Merge: 2b002aabe f14df9e43 Author: Leif Hedstrom <zwoop@apache.org> Date: Fri Jan 19 09:41:39 2018 +0900 Merge branch 'master' into quic-latest \* master: Coverity ID 1241990: Fixes memory leak Makes it actually create a Config object Avoid copying over data in the write\_vio into response\_buffer Fix UDPNetProcessor::CreateUDPSocket() Reset water\_mark in new\_empty\_MIOBuffer\_internal Remove Congestion Control Feature appends missing dot to udns domain Conflicts: proxy/Makefile.am commit

2b002aabe93ecc6eaa1cd71b06d02b5243d34f2d Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 17:03:07 2018 +0900 Complete handshake after sending finished commit

997c57b47d78cdddbf2e30fc37e05b98786950a2 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 14:06:22 2018 +0900 Add null packet check before sending packet commit

871fa49fe1b91a0f62740163aed26e558cead417 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 14:04:45 2018 +0900 Ignore Initial and Handshake packet after handshake completed commit

1afd5a880a4acca0460d69f0b07c291b4dc70901 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 09:49:57 2018 +0900 Add in/out checks after handshake commit

f884b3f05751e4e6c257ab53ac94f2938543b7da Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 09:47:22 2018 +0900 Fix error handling of handshake commit

4e3fa10bb1feb9ed63ff0246ffc67ef602053d3d Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 17 10:43:44 2018 +0900 Remove an unused variable commit

1a8b894ecc0abdb760c745c631ecd44d484713c0 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 17 10:20:47 2018 +0900 Include headers at an appropriate place commit

2f954c6eaa6c0ec07025830af8160ffd5269ded3 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 17 10:18:23 2018 +0900 Add QUICStats.h commit

24b104f01261c6ac8dd5b7c5d1885fe066a4d315 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 17 01:11:36 2018 +0900 Prepare for adding stats Currently proxy.process.quic.total\_packets\_sent is the only stat. commit

abab45200c76b5afb7b4d01e811c95011a5284ef Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 16 15:20:03 2018 +0900 Implement PONG commit

aa724876b275ade448747980ae8291dc07d13baa Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 16 14:33:20 2018 +0900 Respond with a closing frame on closing state commit

af7e1b460fe5f00e5939cc291cd2f2beafdc1a62 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 16 14:29:58 2018 +0900 Fix QUICTransportParameters validations of initial\_max\_stream\_id\_bidi/uni commit

124c4d7af5ac0c21f6574a3ba5e4ba5b06cfd66d Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 16 14:03:33 2018 +0900 Rename QUICStreamManager::create\_client\_stream to QUICStreamManager::create\_stream commit

7972edd073ffe90a5c647d88f7fe8cfab8ca9403 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 16 12:32:50 2018 +0900 Check handshake status before connection migration commit

010f95eb9b103b99f55a9d8eb5b28e68b43f6309 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 16 11:53:42 2018 +0900 Fix Transport Parameter validations and default value of \_initial\_max\_stream\_\* commit

c8728dbb2f8afdf4974964c257ee6c85c2da72c8 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 16 10:33:24 2018 +0900 Create handshake stream via QUICStreamManager on connect commit

bdd4f7a0a71f42f89b079002ceab092f02634152 Merge: 54a24da4a 995b6ef9c Author: Leif Hedstrom <zwoop@apache.org> Date: Mon Jan 15 10:22:25 2018 -0700 Merge branch 'master' into quic-latest \* master: Fix an enum element mismatch between TSServerState and ServerState\_t Traffic-replay updated new\_MIOBuffer: uninitialized water\_mark fix. change history buffer from linear buffer to circulating buffer fixes parse of redirect uris missing leading / commit

54a24da4aaee498acb955a4a54409fb5d859489e Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 17:34:23 2018 +0900 Switch to close state on receiving a closing frame on draining state or closing state commit

c147874b6c051944845be9931ef13f9a304f8968 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 17:07:00 2018 +0900 Draining period and closing period can share the same timer commit

e2dc349fc37276fbd166028cc3000cd92e4d1194 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 15 16:58:42 2018 +0900 Divide QUICPacketHandler into QUICPacketHandlerIn (incoming conn) and QUICPacketHandlerOut (outgoing conn) commit

dbb740f141d97b882ca8e9512586a41fecc7b231 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 15 16:56:04 2018 +0900 Fix condition of ssl extention context on adding Transport Parameters commit

56fa13fdd531561ecec4e2e643dc3bc7f79d2a63 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 16:21:01 2018 +0900 Switch to draining state on idle timeout commit

06986e42ebb5600ff14b25d7db08a99edf301e74 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 14:42:39 2018 +0900 use this\_ethread() instead of eventProcessor commit

e9c5e429189e3b325f017dd2d3ae329e3d5d7939 Author: Masakazu Kitajo <maskit@apache.org> Date:

Mon Jan 15 14:42:04 2018 +0900 Fix a bug that draining state can cause BAD\_ACCESS commit 1f37f7ba8a3813dd553539a0d71d996acf9501f9 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 13:04:15 2018 +0900 Add draining state to QUICNetVConnection commit bf8cf5f1fd9d695f46191e9d97ebbbb00724302f Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 15 12:53:14 2018 +0900 Call default constructor of QUICStatelessResetToken commit a149a1f251e54a0904e38906459bacf8dae38278 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 15 12:00:04 2018 +0900 Support taking address and port on traffic\_quic cmd commit 365b4cc97c307050f00805b6834d668cdb8f9558 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Jan 15 11:03:36 2018 +0900 Divide traffic\_quic.cc commit fa2c6df6dbfd0c4a03e6de6eb6c55b8995d709aa Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Jan 15 09:47:12 2018 +0900 Cleanup QUICHandshake constructor commit a897358589476006deddf729f5b71ec0d340b284 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jan 12 18:23:54 2018 +0900 Send transport parameters on NewSessionTicket messages too commit b7885e3d75dd2640a56f9a0a2492abf96403c8b1 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Jan 12 17:52:57 2018 +0900 Refactor QUICHandshake constructor & start() commit 23fe5043a1e361ed4b62648175882d469c4d1768 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Jan 12 16:57:15 2018 +0900 Set net\_config\_poll\_timeout on quic client commit 4576fc763dab539f4dbe278fc1a92c4f465acfc2 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 10 15:05:15 2018 +0900 Cleanup QUICTransportParametersHandler::parse commit cb4ea64f415c6e5030e74792c680d4adeeb6c2c2 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 10 14:27:35 2018 +0900 Resolve a deadlock commit 24c99bcd1d988d6aed3b131e4e2dafc3ff1531d Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 10 14:15:49 2018 +0900 Add some command line arguments on quic client commit 56b8ac248f8c45cf63154db896041794a224c67a Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 10 12:31:35 2018 +0900 Retransmit all lost packets without congestion control commit e6f5c12642537c6d5d5b6a8a9d95d91a48ca9f86 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 10 11:50:43 2018 +0900 Format QUICStreamType commit 6cf85f5621715c6b79c1d035dce3a1f4681759e6 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Jan 10 11:50:00 2018 +0900 Fix QUICTransportParameters for client commit b43897362755392e179d1a403d5055bc71583039 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Jan 10 10:26:40 2018 +0900 Make sure that loss detection alarm duration is positive value commit 11c27699e97f8d0ad806f7be190772e4e698dd1c Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 17:06:48 2018 +0900 Fix a testcase for LossDetector commit 40c752228dc97ce0ccadfd3a70506b6b586a9a9a Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 17:05:04 2018 +0900 Fix a bug that floating values are actually calculated as integers commit 666e7d6223a8a225d158b750caeb7abb813834db Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 9 15:29:23 2018 +0900 Replace QUICDebugNames::vc\_event(int) with get\_vc\_event\_name(int) commit c68dd224475302476276616c1fe430662b635e4c Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 14:18:42 2018 +0900 Use the latest supported version number before version negotiation completes instead of 0 Version number 0 is reserved to represent version negotiation. commit 1cb8e693b1341b7b9da260523627dcac15c048c9 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 12:14:27 2018 +0900 Move some code for BoringSSL to not lost them commit 1415df3e5e4522c8b6a66f251d93ffe2fe5809c3 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 12:00:34 2018 +0900 Remove unused functions commit a851522a2c8ba57d942c4fcb486099de58ce623e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Jan 9 11:42:26 2018 +0900 Conver keys and IVs to hex only if the debug tag is set commit fe29839e094550d2493177f66d666adeece1b904 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Jan 9 11:40:55 2018 +0900 Print negotiated cipher suite commit e653a773eb3efda2732b893f2b4f8c392808cd7b Merge: 509723575 00d35d77f Author: Leif Hedstrom <zwoop@apache.org> Date: Sat Jan 6 00:10:08 2018 -0700 Merge branch 'master' into quic-latest \* master: clang-format cleanup Fix compiler issue with ubuntu Remove use of netstat in tests Add fix to select ports better on the Mac based on PR 2832 MADV\_DODUMP Restructured traffic\_layout and command line handle transport of empty body response fix ts\_lua core dump issue during config reload Modify regex\_revalidate so that traffic\_ctl may be used to trigger config file updates and add a config parameter to disable timed updates if desired. Cleans up the build, excludes ccache where it fails Conflicts: cmd/traffic\_layout/traffic\_layout.cc commit 509723575212cbd8c2eb401dfd6d818fd996140d Author: Masaori Koshiba <masaori@apache.org> Date: Thu Dec 28 22:21:47 2017 +0900 clang-format commit c33d80e362819450c5eeaccd5ab5a26e210ed75d Author: Masaori Koshiba <masaori@apache.org> Date: Thu Dec 28 22:13:46 2017 +0900 Start QUIC handshake from client



commit 9ac1e8d777a7bd2ba789c6e67c74d8f81822f3e3 Author: Masaori Koshiba  
<masaori@apache.org> Date: Tue Dec 26 16:06:36 2017 +0900 Add initial code of QUIC client commit  
d82803897529df721f38ac054aa01467e9ef9404 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Dec 28 11:56:03 2017 +0900 Add QUICHandshake test & refactoring commit  
cba3193ceadadde8612966b657fd54138a8bb5ee Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 26 09:52:44 2017 +0900 Fix build errors of unit tests (tests for QUICLossDetector is FAIL)  
commit f584c8b37a5f08c37c6135ecb5564e1104026ff2 Author: Masaori Koshiba  
<masaori335@gmail.com> Date: Sun Dec 24 22:07:27 2017 +0900 Fix build errors commit  
661204572b3cecd3f0362843c773cfa5b87f421a Merge: 24d344d4d 68dd4e3cf Author: Leif Hedstrom  
<zwoop@apache.org> Date: Fri Dec 22 17:35:46 2017 -0700 Merge branch 'master' into quic-latest \*  
master: (33 commits) coverity 1374999: Resource leak Fix race condition during testing rc2. Fix naming  
of average aggregate function Make sure that push requests use the custom port, if specified. <RNP>  
Fixed uri\_signing plugin to use pristine request header. Allow for spaces in list of algorithms in  
configuration file for gzip plugin. Change normalize\_ae handling to normalize request from client not  
request to server (for benefit of gzip plugin). Add pparam to url\_sig plugin to make it authenticate pristine  
URL, eliminate sheme check, other minor changes. coverity 1367517: Destroy held lock option for using  
the host field for response lookup Delete space after semi-colon when deleting cookies with a test to  
ensure not overflowing the cookies char buffer. Ensure idx + 1 is less than len before checking for space.  
Delete space after semi colon when deleting cookies with test to ensure not overflowing end of cookies  
char buffer. remove code to set hard limit in ink\_max\_out\_rlimit(), hard limit should be set in the system  
outside of ats Update the docs to be a bit more clear about config behavior Issue #2883: Split TXN and  
SSN user arg allocation. Fix sdk\_sanity\_check\_null\_ptr to take a <const void \*> Make some of build  
options configurable logging: fix incorrect use of LogAccess::strlen() Do not try to load empty client\_cert  
path. TransformVC may be double closed because there is a issue within HttpTunnel::chain\_abort\_all ...  
commit 24d344d4dd3847224458c8f51885d485c84c15b2 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Dec 22 17:02:43 2017 +0900 Ack delay field can be 64bit value commit  
74061b16162994b2518053d7281a6b5e9c5882c4 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 22 16:17:09 2017 +0900 Add getUInt8 and getUInt16 to QUICTransportParameter commit  
0dc38c4ac27c8751681292a1a635cbca0a72bbfe Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 22 11:34:36 2017 +0900 Don't retransmit version negotiation packets This fixes #2977 commit  
c644c6c1c46f7c5dd17ca89c7312260f9ef632f6 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Dec 22 11:04:58 2017 +0900 Translate the pseudo code for congestion control to C++ commit  
c61bbf1231c54c6654f98ab3a3a4b306d2686e9a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 21 16:30:49 2017 +0900 Send ACK frames actively commit  
ac2e13dcd1c59fb98eeefd3f69505680ebef0dd2 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 22 11:00:38 2017 +0900 Wait whole client HTTP/0.9 request on read commit  
ad7d9eb2859974acb1d3add8c7a6fc3816a42c17 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 21 15:02:15 2017 +0900 Update loss detection logic to draft-08 commit  
d1ef4a49c61a9628f2359cbac3ce385f76128bb0 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 19 16:28:40 2017 +0900 Send ACK frames during handshake This fixes #2955 commit  
703471b24d6e29057b7a6b52754fa7f4ec9d46a9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 19 11:18:40 2017 +0900 Fix a check for INITIAL\_MAX\_STREAM\_ID\_UNI commit  
6616b3798fd4e9cbcd5327304b766628c093e74d Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 19 11:16:26 2017 +0900 Print generated keys and IVs with extra care Keys and IVs will be  
logged if you specify vv\_quic\_crypto (double v). commit 48f5acb0488b47aff70d72de2e9a319598493d82  
Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 19 09:09:41 2017 +0900 Update tests for  
version negotiation commit 9266834ec31f5fc83e5e0458a3b3361b281858a7 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Tue Dec 19 02:43:22 2017 +0900 Validate negotiated version in proper way  
commit 32225be3b3f084e91ac78141e36ace6986c8ba38 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Tue Dec 19 01:31:43 2017 +0900 Fix a bug that receiving the first stream frame with fin flag  
causes RST\_STREAM This fixes #2951 commit 72056a67d53bf232ae56391f6ca75d9c8d080c8c Author:  
Masaori Koshiba <masaori@apache.org> Date: Mon Dec 18 14:21:39 2017 +0900 draft-08: Support new  
PING/PONG frame format commit bbd681820940e62944052bc33884434b358db359 Author: Masakazu  
Kitajo <maskit@apache.org> Date: Mon Dec 18 14:11:03 2017 +0900 Resolve an deadlock issue on  
retrasnmission commit 6c80bfb792659c7a8ed9eabb1c124557f7b65921 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Dec 18 12:33:05 2017 +0900 Print the reason when switch to closing  
state commit 3cd8b506bee93f58518d747c817cf0e70836837a Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Dec 18 11:51:20 2017 +0900 Shortest timeout period is 25ms commit  
e317a528e028c0fdf3076d2b75d7e02de6efdbbc Author: Masakazu Kitajo <maskit@apache.org> Date:



Mon Dec 18 11:48:45 2017 +0900 Implement TLP and RTO commit  
af623f8864a7567fe0cbb4dfb8ac65b5663e35ce Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Dec 18 11:43:09 2017 +0900 Add tests for retransmission and fix QUIC\*Frame::store() commit  
0fa3586002d78f6e19329098c593a58f4514169b Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 18 11:12:34 2017 +0900 Fix retransmittable packet count commit  
2411e7e9c4e8296b4c3ce82cd13ed814e62cca8a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 18 11:10:48 2017 +0900 Unify log output from LossDetector commit  
559ed2c19e0a99707beb55be9f2429c366797afa Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Dec 18 10:59:54 2017 +0900 Fix storing STREAM frame on retransmission commit  
d7ebd15ffe97105f105642812bcaadf0dea9672 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Dec 18 10:13:47 2017 +0900 Add more tests of QUIC\*Frame::size() and bugfix commit  
9ec0a4a2742522d00c2f93e6c625d10b359292b9 Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Dec 18 09:32:31 2017 +0900 Fix offset field length of STREAM frame when offset is 0 commit  
076fc93baf634f9146739af6bc34733c9367cc31 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 15 15:21:22 2017 +0900 Reenable quic stream when hq transaction is reenabled commit  
937019af98332ee9f4dd978fde62e837c1035d07 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 15 14:57:40 2017 +0900 MAX\_DATA is now in units of octets commit  
9707a54e3d1a363635e7d941308fd2f3c320cb32 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 15 14:41:54 2017 +0900 Add tests for QUICPacketHeader::store() commit  
1a37dc6cad043a66af512de27a7161efb5cde1f6 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Dec 15 14:07:05 2017 +0900 Set omit-connection-id flag correctly commit  
b0520cd27bbe8b653d08e9791b703f90601bba04 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 15 12:10:34 2017 +0900 Fix STREAM frame loading commit  
17cdcbf5bbcf42f55c799f2c6dfc4df04b48888 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Dec 15 12:10:55 2017 +0900 Update version number for ALPN (hq-07 to hq-08) commit  
bb65d674656b2ca1172251753f3272d6a2c02590 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 15 11:41:04 2017 +0900 Validate transport parameters commit  
5b9acb9618f5c54e6d34a531374edee19d702e6f Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 15 11:20:34 2017 +0900 draft-08: Support new ACK frame format commit  
7b398cd194cf6be63d81d7c9eec473fe9dde4d29 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 16:42:44 2017 +0900 Update tests for KeyGenerator since secrets are updated commit  
30bb94126f0e87e5b184307c4cf45cf983d59f54 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 16:30:40 2017 +0900 Fix the last fix commit  
32b5f3d1254a8d0989113a5290c634ec0408385d Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 16:16:38 2017 +0900 Fix a check for connection id presence commit  
3a77c75c4cdc613d287669a5cfd56cadd65f705f Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 15:43:53 2017 +0900 Fix a default transport parameter value for  
INITIAL\_MAX\_STREAM\_ID\_UNI commit b5f3490db7566330f36c49991ded136841593994 Author:  
Masaori Koshiba <masaori@apache.org> Date: Thu Dec 14 15:37:05 2017 +0900 draft-08: Support new  
frame format of NEW\_CONNECTION\_ID and STOP\_SENDING commit  
cf90c5fc28dee4019db42bb29dead2bc0d5e068b Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 15:31:31 2017 +0900 Load local max\_stream\_data before starting handshake commit  
66b937f6b31b79c34682a4a84ff28a2f78830680 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Dec 14 15:03:37 2017 +0900 draft-08: Support new frame format of BLOCKED,  
STREAM\_BLOCKED, and STREAM\_ID\_BLOCKED commit  
9859e54c495023d591d437d90330fb05efd7d541 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Dec 14 12:50:41 2017 +0900 draft-08: Support new frame format of CONNECTION\_CLOSE,  
APPLICATION\_CLOSE, MAX\_DATA, MAX\_STREAM\_DATA and MAX\_STREAM\_ID commit  
d62dcb52c0ceceb90d824ba967e0b2f563273c58 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 12:34:11 2017 +0900 draft-08: Update transport parameters & partially support  
unidirectional streams commit c7f4e0a6f5a46962d80a5d1a666f3573e34dd674 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Thu Dec 14 12:15:20 2017 +0900 Fix a wrong packet type check commit  
13819f30931b7855ca8fc1f5b5f55d651e7de715 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Dec 14 12:10:17 2017 +0900 draft-08: Update labels for handshake secrets commit  
fe481dfe4c1e3105d2f729dfd80bf2fb690c10 Author: Masaori Koshiba <masaori@apache.org> Date:  
Thu Dec 14 11:32:41 2017 +0900 draft-08: Support new RST\_STREAM frame format commit  
25fc8ab030b5af02283fe120a294eff0b58a4f7b Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Dec 13 16:07:35 2017 +0900 draft-08: Support new STREAM frame format commit  
3d3b174fd8579feb7d5eaa12d927d16861458b85 Author: Masaori Koshiba <masaori@apache.org> Date:

Wed Dec 13 10:56:10 2017 +0900 draft-08: Adjust frame types commit  
7e7e3fcf0d2990170772cb7dd86b3ee79a60cfc2 Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Dec 13 10:22:00 2017 +0900 draft-08: Support Variable-Length Integer Encoding commit  
af62ebda49bc8511b61209f59d3fb3f6f6364615 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Dec 13 12:10:50 2017 +0900 Parse and create ack block in draft-08 way commit  
c90274a75db135e2d420e457ed262cadd69954f2 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 16:28:27 2017 +0900 draft-08: Bump version commit  
ab3a06b8a88880441539457f4fd314f1a0b55ea1 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 16:28:11 2017 +0900 Fix QUICPacketLongHeader::store for new long header format commit  
624c5c7e3274717667db4faf796867e8bc89d1ce Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 16:08:08 2017 +0900 draft-08: Support short header packet type & format commit  
387788783bf1013b982474ee59ec095345c964dd Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 15:55:34 2017 +0900 draft-08: Support long header packet type & format commit  
069f3e8c2ab9abcb8b3798e4276fd0a6daee1c12 Merge: 9786e2b85 8581d6b10 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Tue Dec 12 13:09:57 2017 -0700 Merge branch 'master' into quic-latest \*  
master: uDNS no longer redirects NXDOMAIN to lo fix post-redirect test removes unused public ip  
option from microserver code Changing all \*Debug\* macros to \*Debug Cleanup of bool conversion in  
Ptr.h for C++11. Update the autest.sh script that runs from Jenkins Add httpbin extension in Autest Fix  
typo remove hack for traffic\_top update base version to 1.4.1 for autest Add closedir for dangling dir  
pointer Fix wildcard entry for SNI config Create system\_stats plugin. This will insert system information  
in to the stats list on a five second interval. Currently it pulls load averages, number of processes, and  
most of the information from sysfs for each available network device. Removes DES-CBC3-SHA from  
the default cipher list (again...) commit 9786e2b8507c0eb76c6f874b5bcf66e4f7012565 Author:  
Masakazu Kitajo <maskit@apache.org> Date: Tue Dec 12 14:00:12 2017 +0900 Send  
NEW\_CONNECTION\_ID frames when connection establish commit  
fd308e09a529500daada004efaffc5bd94f710e4 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 11:35:16 2017 +0900 Stop increasing nbytes on write commit  
77e901243ebc3a5c24e9eed88c2a6d3676c91d81 Author: Masaori Koshiba <masaori@apache.org> Date:  
Tue Dec 12 11:20:02 2017 +0900 Cleanup QUICSimpleApp commit  
535134be1c2b83a4bb3fff0b2d6cfbb0d2288ec2 Author: Masaori Koshiba <masaori@apache.org> Date:  
Fri Dec 8 16:51:35 2017 +0900 Refactoring QUICStream & HQClientTransaction commit  
53b5663462bbfb30904ce8c3ae7a19c203e7a4cf Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 11 16:03:46 2017 +0900 Revert "Unify how to create null frames and packets (cont.)" This  
reverts commit eb005d09dbcf00ff574efe69e6225f0d8e01eb4c. commit  
eb005d09dbcf00ff574efe69e6225f0d8e01eb4c Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 11 15:07:19 2017 +0900 Unify how to create null frames and packets (cont.) commit  
f0feed2037674255ab9d9bdc4fe8b0ab098e65ac Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 11 15:03:22 2017 +0900 Unify how to create null frames and packets commit  
328b1e7c3d3896f11750191906940ab25ef94454 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 11 11:41:41 2017 +0900 Fix a transport parameter name stateless RESET token is the right  
name. commit ee1e415b4a3599381b8532cdeff1169edd6f159a Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Dec 11 09:14:12 2017 +0900 Close connection if transport parameters  
are invalid commit 98b258efe2733145a8fe3985b62b7b7dda4d19a1 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Fri Dec 8 16:15:59 2017 +0900 Prohibit duplicate transport parameters  
commit 3a1d008ac2d4fb1b19ee4f3aea7a55f0cdf86971 Author: Masakazu Kitajo <maskit@apache.org>  
Date: Wed Dec 6 17:04:21 2017 +0900 Fix debug log format commit  
f0c333cec0aefb1421cfa5e24ba8e1a4f8a703eb Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Dec 6 16:54:47 2017 +0900 Fix a bug introduced with  
a300d3a828916ce1ec8b6bf5ee818ce4a327bc28 commit 76083d8bf0acdffe2faaacbd429a5712e970919e  
Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Dec 6 16:17:50 2017 +0900 Fix loss  
detection timer commit 8e8e57de7ce508ac6f53ee3178e7c0be713b4fda Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Dec 6 15:56:59 2017 +0900 Use std::atomic for packet counts in  
LossDetector commit a300d3a828916ce1ec8b6bf5ee818ce4a327bc28 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Dec 6 15:37:00 2017 +0900 Use ink\_hrtime internally for RTT  
calculation commit e86b83ac32771808d9f4d8a4f7de937621615625 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Wed Dec 6 15:07:41 2017 +0900 Implement ack block section parser  
commit 331bfb36ec4bb3f91c93d4f1c858568bb26f50c8 Author: Masaori Koshiba  
<masaori@apache.org> Date: Wed Dec 6 15:03:54 2017 +0900 Check \_write\_vio is initialized commit  
40c8e02cbceb10257ba7246bcc33084da564812e Author: Masakazu Kitajo <maskit@apache.org> Date:

Wed Dec 6 14:52:43 2017 +0900 Fix a build issue commit  
c327d2a40434a1a925a01cbb68de8a43bdfcb597 Author: Masaori Koshiba <masaori@apache.org> Date:  
Wed Dec 6 10:13:59 2017 +0900 Transfer huge response using HttpTunnel flow control mechanism  
commit 9576d280286361a61832eb0e9ff1a2e86947aebf Author: scw00 <scw00@apache.org> Date: Fri  
Nov 17 10:59:46 2017 +0800 fix #2793 rework quic ack creator commit  
67e1eeb39bdbc177656251cfa3d7492494569bc9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 5 11:50:10 2017 +0900 Rename DebugQUIC\*() to QUIC\*Debug() commit  
d7cce37efb9cb68361793bf62e965fba263c2fe3 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 5 10:57:33 2017 +0900 Fix a bug that QUICPacket doesn't return packet size correctly commit  
7fcb88e2330696d357da60ea7698ea6c1f7b8914 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Tue Dec 5 10:50:00 2017 +0900 Update tests for Flow Controller commit  
f9d95ff8ed16041160d45e6f6c80874af20bfe64 Merge: d48163476 eee39a7c4 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Mon Dec 4 09:07:54 2017 -0700 Merge branch 'master' into quic-latest \*  
master: coverity 1382722: Unchecked return value Deprecates the collapsed\_connection plugin, use  
collapsed\_forwarding instead speedup the script load process when multiple remap rules load the same  
lua script file Created URI Signing Plugin. Fix crash from HttpSM::setup\_100\_continue\_transfer Limit  
the amount of memory that an HTTP/2 stream will allocate commit  
d481634760331f8206ef8aa09fe9046fb04134f0 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 4 17:38:13 2017 +0900 Reduce number of events for loss detection commit  
16eca8226501a1292d934d35e8cf3e618eebd910 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 4 15:33:11 2017 +0900 Fix a bug that QUICStream can consume window without sending  
frames commit b9c256cda794194ec6d25cc55f7983b52f4335f9 Author: Masakazu Kitajo  
<maskit@apache.org> Date: Mon Dec 4 15:28:09 2017 +0900 Don't return QUICError from  
FlowController commit 3f0a35bc4ccf44e5fabeac40c1cd6ce4c8c6897f Author: Masaori Koshiba  
<masaori@apache.org> Date: Mon Dec 4 14:42:41 2017 +0900 Fix big file transfer commit  
a648bb52fba52c2176e3151fe1968b1808f3745f Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 4 12:58:59 2017 +0900 Use std::atomic to generate packet numbers commit  
3e3938fc972276cb82dfdd84bda421fc4bf7185c Author: Masaori Koshiba <masaori@apache.org> Date:  
Mon Dec 4 12:20:54 2017 +0900 Add error logs of quic commit  
35512a6c852a2f2bfd66336d9b273b311471bcfd Author: Masakazu Kitajo <maskit@apache.org> Date:  
Mon Dec 4 11:38:21 2017 +0900 Fix packet retransmission commit  
877d9ff1f2f867ca184e83fae4fde41ec1d8c910 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Dec 1 16:29:10 2017 +0900 Fix a crash on idle timeout commit  
437bb7c5574037ef52d912e649933ae90fdc2dab Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 1 15:28:43 2017 +0900 Fix a bug that data on streams can be corrupted commit  
f1782a09965733c3d9e3fba2d69d44a7d91405ea Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 1 11:27:09 2017 +0900 Fix a test for flow control commit  
a0ec809922cf7b1f1736d6eb71dbc5bf6f6da462 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri  
Dec 1 11:12:05 2017 +0900 Make state transition solid commit  
387b032b8763ad75ec773b45b10ea5d6c74a56f3 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Fri Dec 1 09:48:58 2017 +0900 Wait for handshake completion with patient commit  
45624e8e2b7c2aaa6c215f76ad7aad69d525e5c6 Merge: de1ea8c2f 531ec4ea1 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Thu Nov 30 09:18:16 2017 -0700 Merge branch 'master' into quic-latest \*  
master: move TRANSACT\_RETURN to Transaction.cc Revert "bugfix for malformed chunked response  
will be cached under some terrible network circumstances," header\_rewrite - Delete cookies if they are  
empty in rm-cookie operation. overload ats\_stringdup for string\_view Fix potential crash from returning  
string\_view from nullptr instead of default constructor. Suppress udpnet-service debug log bugfix for  
malformed chunked response will be cached under some terrible network circumstances, clang-format  
code indent adjusted too! Reverts the changes from TS-3054 commit  
de1ea8c2f98e6f62d5436bfd1e5fb9fc9ab46b10 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 30 18:05:19 2017 +0900 Stabilize handshake commit  
86a0e52f73737e08d8f70ef22380561a91e7b047 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 30 17:55:02 2017 +0900 Fix connection level flow control calculation commit  
99bf22ad4d7fe09c7966005956f1894b91646133 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 30 16:26:03 2017 +0900 Remove an unused type QUICMaximumData commit  
463b30577acb800eb80463ca7885eced4285e9a9 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Thu Nov 30 15:31:25 2017 +0900 Increase buffer size for SSL error messages commit  
2d3a1421c603bdb76e074c615f1bb6f2e5308e9a Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Nov 29 14:07:06 2017 +0900 Update application name for ALPN to hq-07 commit

5f3df783483b11c0b599b73300d920aa8ae44e29 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 29 12:49:34 2017 +0900 Remove 1-RTT Protected packet types commit  
ae2835c859a4295da7615c30a87c8fb3ef80df16 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 29 12:01:45 2017 +0900 Update stateless reset packet format commit  
aac32c9aa000b8c2fbd0aef7bdbb0801de51617b Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 29 10:16:55 2017 +0900 Use unprotected packet for Version Negotiation Packets commit  
837b02218eef2ec8fb3ca48b382efc8422b89dfe Merge: 7db88767d edbb96927 Author: Leif Hedstrom <zwoop@apache.org> Date: Tue Nov 28 16:49:18 2017 -0700 Merge branch 'master' into quic-latest \* master: (49 commits) Cleans up some build issue and unnecessary casts Fix a number of tests Enable WCCP building on the Github builds Add protocol metrics to traffic\_logstats Adds some basic documentation for traffic\_logstats Move NetHandler initialization to be static and not per thread. Remove update race conditions. Related to issue #2761 Doc: Add Layer 4 / SNI Routing documentation. coverity 1382722: Unchecked return value Delete ssl\_SNI.config from tests/min\_cfg coverity 1382799, 1382796: Unchecked return value coverity 1382795: Pointer to local outside scope Fixed another build issue on Ubuntu, errors ignoring return value Rename prepare\_plugin to PreparePlugin to follow naming convention Coverity: removing null pointer dereference Doc: Fix build warnings - SSL Session, Overridable Config. Fixed build on Ubuntu, errors ignoring return value Clean up tls test make it python3 compatible add autest for post redirection Fixed broken build on OSX where st\_mtim is not defined ... Conflicts: proxy/Main.cc commit 7db88767ddcabfd3e03f5ff6944309f94869eea0 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 21:09:22 2017 +0900 Remove timestamp section from ACK frame commit 092d089e043e8b22385a1468227b606f976386f5 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 17:45:29 2017 +0900 clang-format commit  
51a84aa2ae0b424ccfd46b2b71ed534d83fe17a6 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 17:24:48 2017 +0900 Remove duplicate code commit  
66044e3f4e99372fbc33d2b2f4e0b095164ff4c1 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 17:22:04 2017 +0900 Resolve a race commit ff03253e49394fa8323018a9a4ba93b39e2bd351 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 14:33:26 2017 +0900 Remove a wrong assert commit 668757f0ac9f291323fd05d086dc9e54abcbe34a Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 14:22:14 2017 +0900 Rename QUICPacketHeader::length() to size() commit 9b2da8fe85ae9b82ca7d12db7917217426b5a25f Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 28 14:18:45 2017 +0900 Fix packet size calculation commit  
7acc7881ed4a001b89ea3eed8181e22ace4a7fd8 Author: Bryan Call <bcall@apache.org> Date: Wed Nov 22 10:48:19 2017 -0800 Fixed build issue with Fedora 26, may be used uninitialized in this function commit f91516c61c74d25f30516a1e372d376ea4c48ba4 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 21 17:46:12 2017 +0900 Fix 1-rtt packet protection commit  
0173ca9d97b49f61c87a17b9bf57d40500798074 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 21 15:17:30 2017 +0900 Fix cleartext packet protection commit  
e9c499b297487f96e9526e5e3ebced8c1bb93fd2 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Nov 21 00:36:21 2017 +0900 Make the check for HKDF support more strict commit  
3fac60a83568d2ba00c2b71b1cde7a4790b05442 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 20 22:57:22 2017 +0900 Add a check for kdf.h and hkdf.h commit  
9964e57b378fa1472a677c868292a683f73b0720 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 20 17:20:10 2017 +0900 Fix bugs and make all tests pass (but still cannot handshake) commit  
0e83437af5abf82a64da3de326cd82114b8fd95e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Nov 17 15:54:42 2017 +0900 Make tests compilable commit  
e5af6be2b46d31768f29f8387febb0c3bd9b8b74 Author: scw00 <scw00@apache.org> Date: Fri Nov 17 11:22:40 2017 +0800 return something to make g++ happy commit  
4232178f07465b8fc7d59d7c42ed58757d64713d Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Nov 15 10:29:34 2017 +0900 Use AEAD instead of FNV-1a commit  
f04b6b5939cd3f59e0a0de4bbd7302112bdcf8cc Author: Masaori Koshiba <masaori@apache.org> Date: Wed Nov 15 14:15:40 2017 +0900 Add APPLICATION\_CLOSE frame and change Error Code commit  
d6cac6a7024077486a3408be10392fa2716e3bc2 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Nov 13 17:54:10 2017 +0900 Extract HKDF logic to use it for cleartext packet validation commit  
41e5504da198ab7486ca50232abd7647ed612e8c Merge: 1bb9f2eb1 4e5f024eb Author: Leif Hedstrom <zwoop@apache.org> Date: Mon Nov 13 10:43:32 2017 +0800 Merge branch 'master' into quic-latest \* master: Fix crash in H2 priority tree cleanup. Issue 1597: refactor ParentSelection to remove duplicated markParentDown() and markParentUp() code. Optimize: update ink\_thread\_create with thread-safe support Send RST\_STREAM frame when deleting a stream if it is not CLOSED state Correct the listen\_backlog Optimize: Within udp\_read\_from\_net, change the receive IOBufferBlock size to 2048

bytes README: Alpine build instructions Optimize: Use a positive number as the timeout of DNSEntry.  
move the postbuf to HttpSM Fix #2533: ATS doesn't have an active timeout for http2 connection commit  
1bb9f2eb160b017c0e28bea661c45094c76df555 Author: Masakazu Kitajo <maskit@apache.org> Date:  
Wed Nov 8 14:21:55 2017 +0900 Update Makefile to build tests commit  
53a5fd81b2940ffed9db2b49d0e5fbfd5491678e Merge: a2be49013 2bea8ce48 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Tue Nov 7 16:42:11 2017 -0700 Merge branch 'master' into quic-latest \*  
master: coverity 1021700: Uninitialized pointer field lib/ts/ink\_sys\_control: work around a glibc'ism  
lib/ts/ink\_{defs,error}: modify imports lib/ts/ts\_error.h: define throw Move Brotli library check into the  
library check section CFLAGS is getting set the default -g -O2. When optimization is set on CFLAGS or  
CXXFLAGS, optimization will not be added to the flags. Single nameserver failover in DNSHandler  
Delete H2 stream before destroy TS-5057: Add 103 Early Hints support Add flag to ignore out of bounds  
compile error for test iocore/dns: switch data-type to unsigned bug fix: timeout argument not being used  
Format some test file with autopep8 remove annoying print message that was added by mistake to the  
microserver extension fix syntax issue with double and txn that cause it to fail on different OS linux  
systems add some conditions for netstat existence Fix #2761. NetHandler needs to be initialized API for  
retrieving TSVConn from TSHttpSsn Fix logic for loading config file for url\_sig plugin. Remove  
MIOBufferWriter unit tests that throw exceptions. Strict checks of RFC7540 8.1.2.2. commit  
a2be490138f5bb8ec9d90c6825b96c42de37f89e Merge: 586982227 6dcc822ba Author: Leif Hedstrom  
<zwoop@apache.org> Date: Sun Nov 5 17:36:13 2017 -0700 Merge branch 'master' into quic-latest \*  
master: Send data fairly on H2 streams even if stream priority is disabled Add traffic\_server.memory.rss  
as a gauge to Epic Fixed chunked\_encoding gold file Doc: Cleaning wording in  
proxy.config.http2.accept\_no\_activity\_timeout information Doc: Updating  
proxy.config.https.accept\_no\_activity\_timeout information commit  
5869822270e857da897a95a0efd99c4b623f71dc Merge: 7e1cd27be af92bb6b1 Author: Leif Hedstrom  
<zwoop@apache.org> Date: Thu Nov 2 11:53:52 2017 -0600 Merge branch 'master' into quic-latest \*  
master: (27 commits) This removes all configuration Element ctor/dtor code Removes the rest of the  
CfgContext files and objects Removes the Configuration Context Manager list packages for building in  
Ubuntu Correct comment about TS\_HTTP\_SSN\_CLOSE\_HOOK. More header\_rewrite examples Treat  
SSL\_ERROR\_SSL as EPIPE within SSLNetVC::load\_buffer\_and\_write() Doc: Minor fixes - some  
MimeHdr functions, traffic\_layout, event loop metrics. Implement zero-copy within  
UDPNetProcessorInternal::udp\_read\_from\_net updated abbreviations in README include cstring to  
make the compiler stop complaining about strlen added tests for different thread configurations, thread  
information is verified using gdb More NULL to nullptr conversion fix 2707, assign server\_session to  
nullptr after do `chain\_abort\_all` Getting rid of ts::Vec implementation and replacing it with std::vector  
Rework the new udp connection coverity 1376260: Uninitialized scalar field Prevent releasing streams  
simultaneously Within UDPConnection::Release(), it should calls the ep.stop() only if the  
UDPConnection will be closed Optimize: define UDPQueue::atomicQueue by ASLL macro and rename  
to outQueue ... Conflicts: iocore/net/P\_UnixUDPConnection.h lib/records/I\_RecHttp.h  
lib/records/RecHttp.cc commit 7e1cd27bec7631de9be8ef8a686ca8a99fc6fc56 Author: IvanStarodubtsev  
<webdriverrr@users.noreply.github.com> Date: Fri Oct 27 11:15:39 2017 +0300 QUIC\_TLS\* defines  
are extra to IETF QUIC draft commit 4449401f5938bddb0f7a74a64189d324a1c7b83b Merge: 91294bf2c  
3ab974252 Author: Leif Hedstrom <zwoop@apache.org> Date: Tue Oct 24 09:46:41 2017 -0700 Merge  
branch 'master' into quic-latest \* master: event loop metrics collection TS-5088: Fix missing initial buffer  
from server, when combined with 101 response cachekey: ability to base the key on pristine URI. add  
string\_view hash operator commit 91294bf2cbdf1bdd01f9daa8e01c8b061bc1389 Merge: 22a9c65cf  
bc3395439 Author: Leif Hedstrom <zwoop@apache.org> Date: Fri Oct 20 08:36:28 2017 -0600 Merge  
branch 'master' into quic-latest \* master: Skip Link Local address to mitigate slow getnameinfo(3)  
problem on macOS coverity 1021743: Uninitialized members commit  
22a9c65cf6f0556d9229b70dd325b21fe9961fdd Author: Leif Hedstrom <zwoop@apache.org> Date: Thu  
Oct 19 15:15:58 2017 -0600 Change to use string\_view, which is needed after merging current master  
commit 32106e9394162fcddb3665229144d038417c31f0 Merge: d48631f3d ff8b8a1f0 Author: Leif  
Hedstrom <zwoop@apache.org> Date: Thu Oct 19 10:58:57 2017 -0600 Merge branch 'master' into quic-  
latest \* master: (32 commits) add http 0.9 in find\_proto\_string Add MIOBufferWriter class which writes  
to an MIOBuffer instance. event loop changes use os.path.join added plugin exists condition Added skip  
condition on http2 test for lack of curl http2 CID 1196423: Error handling issues (CHECKED\_RETURN)  
UDPBind with EventIO of UnixUDPConnection. Optimize: rename close\_UnixNetVConnection to  
NetHandler::free\_netvc. Allow binding value to non-nil variable in LuaVM for configuration files  
evaluations. This allows us to fix issue #2511. Tests for chunked POST over HTTP1.1 and HTTP2 and  
GET chunked over HTTP1.1 fix the missing lock in TSVConnFdCreate api Checking the retval of

safe\_getsockname() and safe\_getpeername() optimize: move http 408 response logic into transaction log when ssl\_multicert.config is successfully reloaded Optimize: If failed on migrateToCurrentThread, put the server session back to global server session pool This removes the FILE\_WRITE mechanism from the core remove unnecessary assertion for "alternate" we have set the NO\_FD in close already Fix prepare\_plugin ... Conflicts: lib/records/RecHttp.cc lib/ts/ink\_inet.cc lib/ts/ink\_inet.h commit d48631f3d0c0bedf43655ab56b698341f931fb42 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 19 16:27:52 2017 +0900 Fix stream level flow control It didn't use available credit if sending data don't fit in. commit 843a7ca5f2369d474d114e8d0feefc572125374f Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 19 12:26:19 2017 +0900 Add missed changes for the last commit commit ba7974de6e5b577f98945de8136130b6b43982bc Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 19 10:51:51 2017 +0900 Don't free QUICNetVConnection for now to prevent crashes Since we don't have QUICNetHandler, all IO events are handled by QUICNetVC directly, which causes crashes when the events are processed after freeing QUICNetVC. It is going to be addressed by introducing QUICNetHandler. commit 8ff12813d3147acb7333f55bd953a5dd5a78ee1 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Oct 18 17:27:30 2017 +0900 Fix the last wrong fix commit 5e713636eca3c1ef870a043b71b3935ff10d579b Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Oct 18 10:55:41 2017 +0900 Fix max stream id limitation commit 461b7c80e578e51054a76c48bb319ddde259259e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 17 15:19:45 2017 +0900 Remove temporal debug logs commit 266d5cb0ea2a57142975f8816f01481f50941e4e Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 17 15:04:18 2017 +0900 Add null checks commit 0a9919e60538d162d9d28767f6ab43b4d2059c49 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 17 14:26:02 2017 +0900 Fix a bug that packet number can be decoded with an uninitialized value commit a739464caef585a11ca82d927429371d61187b49 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 16 17:28:32 2017 +0900 Fix packet number decoding It was not decoded correctly when packets were not sequential. commit 03b95cdd897a245fc1544a60bc30e6b50ddf03e6 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Oct 16 15:19:26 2017 +0900 Change handshake state after handshake has completely completed commit e72cfd9c10b940971ff2643d46417ab4098656fa Author: Masaori Koshiba <masaori@apache.org> Date: Fri Oct 13 12:02:30 2017 +0900 Stop Version Negotiation Packet retransmission commit 2250a414d8818b5f6b781a9ee9811521d6022e20 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Oct 12 16:34:14 2017 +0900 Fix heap-use-after-free in QUICStreamFrame::store Make data of QUICStreamFrame ats\_unique\_buf. Copy data of \_write\_vio to the buffer, when QUICStream sends frame. Ideally this malloc and copy should be avoided. commit d46ff1251c628b642f1822591d1ac5126e916933 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Oct 12 14:11:32 2017 +0900 Fix building unit tests of quic commit 2f5caad25df450b16f9458c7119a421652f6ddb5 Author: scw00 <scw00@apache.org> Date: Tue Oct 10 08:19:00 2017 +0800 add QUICInBuffer feature commit 6df84c9fb9a4ba936bd747e8509e56ea32d4f903 Author: Bryan Call <bcall@apache.org> Date: Thu Oct 5 13:21:29 2017 -0700 Call the QUICFrame destructor before freeing into the ClassAllocator commit e07806283172cd91256fc12235738e07607e0742 Author: Bryan Call <bcall@apache.org> Date: Thu Oct 5 12:00:14 2017 -0700 Moved the set handler in QUICNetVConnection constructor to init method commit f322f09d56ff4c9e956807f7a5754fe2274ad6be Merge: 05a419ec6 f556ec631 Author: Leif Hedstrom <zwoop@apache.org> Date: Thu Oct 5 11:41:40 2017 -0700 Merge branch 'master' into quic-latest \* master: Change the include from .cc to .h, as Odin intended Fix mem leak related to do\_os\_response() function Runroot for traffic\_layout Fixed typo in cachekey plugin documentation commit 05a419ec6dfa3d58ca4b16ea00c768089b639076 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 5 06:31:07 2017 -0700 Add connection id to debug logs from QUICHandshake commit 239ffeee50c3514dbc6f957100f6601e6c7db592 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 5 06:09:05 2017 -0700 Add connection id to debug logs from QUICPacketHandler commit 6e223b7fe1e19f5df7d75152f89a571e29e355c2 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 5 05:42:51 2017 -0700 Add connection id to debug logs from QUICStream commit 99338bd3a4d9bfe4aff3eb7b3a29c4acb208c428 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 5 04:57:17 2017 -0700 Add connection id to debug logs from QUICLossDetector commit 51825180400fbc25a756ed45854ab3f20740cfa5 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Oct 5 00:33:53 2017 -0700 Postpone processing protected packets if handshake is not completed There's no guarantee that protected packets arrive after handshake completion because actual stream data is not processed on PACKET\_READ\_READY events. commit 3362d2b2597073979cde2ebd3ae18c31bd154287 Merge: b0df673a6 ed6dda01e Author: Leif Hedstrom <zwoop@apache.org> Date: Wed Oct 4 14:23:09 2017 -0700 Merge branch 'master' into quic-latest \*

master: Added std::make\_unique for C++11 Fix runtime undefined symbol error in multiplexer plugin. commit b0df673a64bcd9df284f48886ed388272679a1ca Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Oct 4 13:00:08 2017 -0700 Print hq and quic to Via header commit f90c3197dc48a7c34023bfa459873d79016e8585 Author: Leif Hedstrom <zwoop@apache.org> Date: Wed Oct 4 12:47:40 2017 -0700 Prefix the verbose handshake dump with v\_ commit 72dc8c3a1c758cef3dec3869c889c281dc867cad Author: Bryan Call <bcall@apache.org> Date: Wed Oct 4 12:06:31 2017 -0700 Implemented HQClientTransaction::get\_transaction\_id commit e47001634c272861187f033537e7f321e8dfa9d0 Author: Bryan Call <bcall@apache.org> Date: Wed Oct 4 11:13:37 2017 -0700 Stubbed out get\_transaction\_id for now to get QUIC to build commit 57d68dc00c9aad4f70cb9596c6d5b750d23242da Author: Bryan Call <bcall@apache.org> Date: Wed Oct 4 10:52:31 2017 -0700 Use std::max instead of internal max macro that was removed commit b44224fd97b289a97a1bdb09aa6bed80f2d9a360 Merge: 8cc22df13 22af8981f Author: Leif Hedstrom <zwoop@apache.org> Date: Wed Oct 4 10:27:50 2017 -0700 Merge branch 'master' into quic-latest \* master: (149 commits) ESI: Make maximum file count runtime configurable. Add support for Forwarded HTTP header tag (RFC7239). UDPNet: Yet another timing fix for test\_UDPNet. Support dynamic registration to StatPages. Cleanup: fix rollback to use elevating file operations. Update s3auth test, removed cpp file and added the Catch main define in the unit test file BufferWriter: Add data() method for access to the internal buffer for API consistency with std::string and ts::string\_view. Ignoring unit tests Make sure all files in the sandbox are readable Test: Fix timing issues with txn and double tests. Also tweak test\_UDPNet to report errors better and use a less common port. Preserve Accept-Encoding header for H2 Server Push promise. Tests: Clean up file extensions in lib/ts unit tests. Update document add new TLS milestones Doc: Clean up comments in null\_transform example plugin. Add string literal support to ts::string\_view. Replace proxy.config.http.normalize\_ae\_gzip with normalize\_ae w/ Brotli support Issue # 2100 Cleanup: Fix traffic\_manager so its checks run if WCCP is enabled. Doc: Minor fixups for duplicated milestones and stat typo. YTSATS-1464: Support set-redirect with READ\_REQUEST\_PRE\_REMAP\_HOOK ... commit 8cc22df1355e37b46c6665ecd7d2970aee464215 Author: Zizhong Zhang <zizhang@linkedin.com> Date: Tue Oct 3 17:38:13 2017 -0700 Fix #2494 Generate Stateless Reset Token with a configurable value commit 36afa3a1708420b4232a63ab43a791e6fef83995 Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 18:05:06 2017 -0700 Have Quic use make\_unique commit c4c3bd9c213b63d03108653761be90f52ac55c33 Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 17:17:41 2017 -0700 Added std::make\_unique for C++11 commit 4abd02447216d925f0aaf3f26c5a6581eed4b7b8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Oct 3 16:20:46 2017 -0700 Discard packets instead of crash This just avoids crashes. The packets need to be acked. (#2609) commit 4617336ff08ad85c1e33ebad83aea45abf2af3ef Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 3 15:55:23 2017 -0700 Set default app name if client send no ALPN commit 155d69971f4cfb656c97c7583ea975643e168840 Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 15:33:09 2017 -0700 Initialize all members in QUICLossDetector and clean up to use C++11 assignment initialization commit 6fb7f874fba599efe602c35901d1df68da8d72e2 Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 13:57:46 2017 -0700 Initialize the SSL\_CTX in QUICNetProcessor and clean up to use C++11 assignment initialization commit 49ce8f11234a11639b9ee69829193fbb8845d2f3 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Oct 3 13:07:17 2017 -0700 Add debug tag for handshake packet dump commit d74253e17cd7237b744e8cfc9a262e7fc8e98b2b Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 11:03:07 2017 -0700 clang-format commit cbf265cd6b0b06ce9c353f911ef109026fbe412b Author: Bryan Call <bcall@apache.org> Date: Tue Oct 3 10:45:15 2017 -0700 Initialize variable to fix gcc 7.2.1 error error: 'gap'™ may be used uninitialized in this function commit 0551bfdb9673b71cbfd64c5fb59c502c82ee60b4 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Sep 30 22:01:18 2017 +0900 Remove QUICNetVConnection from the map when the connection has been freed commit 110d21d5b8482915bfc4ad1cea64d127af95b4c9 Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Sep 30 18:48:22 2017 +0900 Add nullptr check for error reason phrase commit ebe0a758b53b53e026db31c7c7b58d435de3abbd Author: Masakazu Kitajo <maskit@apache.org> Date: Sat Sep 30 18:01:20 2017 +0900 Fix tests commit 4774200a265a59889b240fc1995ae03343cefcdbd Author: scw00 <scw00@apache.org> Date: Sat Sep 30 09:37:07 2017 +0800 fix mock complie error commit cee56b92a8e70f9939746fd6061d6138b2a3a1f Author: scw00 <scw00@apache.org> Date: Fri Sep 29 10:49:05 2017 +0800 fix the calc of rtt in LossDetector commit 57fe4b2a4981b7ec3126e2094f854c4e589b0c4a Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Sep 28 17:24:35 2017 +0900 Send CLOSE\_CONNECTION or RST\_STREAM when error occurs commit 8b47c2e9e95e0ac1b03a58606bf893c70bd77d89 Author:



Masaori Koshiba <masaori@apache.org> Date: Thu Sep 28 13:58:09 2017 +0900 Cleanup: unify debug tag of QUICLossDetector commit 9f8001a96c9882b232c2e633ca1d4efb34505e35 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 28 13:53:35 2017 +0900 Cleanup: use type alias of unique\_ptr of QUICPacket commit f446bb6802d19a55a6afc2a16d8c575a178c172e Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 28 13:40:11 2017 +0900 Cleanup: use type alias of unique\_ptr of QUICFrame and QUICStreamFrame commit 9b4f995d10c98e7c58784248f327b02031f91df6 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 28 11:22:01 2017 +0900 Move QUICSimpleApp under proxy/hq/ commit 294d36f83ca407c84a136e0ab777fff336fd24b3 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Sep 28 11:10:23 2017 +0900 Fix Makefile.am QUIC related sources were build even if QUIC is not enabled commit 230216c7cd4fbbc971271cd04d47098a29a3a7c0 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Sep 28 10:36:24 2017 +0900 Call set\_parent() to set host\_res\_style when start HQClientTransaction commit 1418c4f569f87fff9e938fc8554c93286c3b25cb Author: Masaori Koshiba <masaori@apache.org> Date: Wed Sep 27 17:00:21 2017 +0900 Restart sending after received MAX\_STREAM\_DATA commit f0548d651a252600eabeea49ecba99dca6883efc Author: Masaori Koshiba <masaori@apache.org> Date: Wed Sep 27 16:53:48 2017 +0900 Add \_stream\_frame\_send\_queue for remote flow control ` \_frame\_send\_queue ` of QUICNetVConnection is the queue for any type of frame except STREAM frame. The flow control doesn't block frames in this queue. ` \_stream\_frame\_send\_queue ` of QUICNetVConnection is the queue for STREAM frame except Stream 0. commit 5575369ad6f09f3b3f24a4b9c422f77d37341302 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 26 11:53:42 2017 +0900 Delegate creating QUIC application to SessionAccept commit e601615b20dc73978acc2452d38d9b4c8169e1eb Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 22 16:24:34 2017 +0900 Rename QUICStream::set\_fin() to QUICStream::shutdown() commit 57011b159de89cb5aca24c09a3428c0a66c8cf24 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 22 15:29:09 2017 +0900 Set FIN flag on final STREAM frame commit 7d6097e360430a2494e154b55c9e9f77b949f6ce Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 22 14:51:37 2017 +0900 Skip HTTP/1.1 response headers commit 53afc1ece0adfa27a30e8b6189b0ce9ec08fa9 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 22 10:47:12 2017 +0900 Add simple multi-streamed application Also add HQClientSession and HQClientTransaction to connect to HttpSM from QUICSimpleApp. HQClientTransaction convert HTTP/0.9 GETs to HTTP/1.1. This will be changed to HTTP over QUIC eventually. commit 0d3bd625dd84405fb0ac42ebd5e3d37715f59b33 Author: scw00 <scw00@apache.org> Date: Mon Sep 18 15:50:23 2017 +0800 move state change in \_write\_to\_read\_vio commit 62bae4c01dd345f2b018d7dada932d3fbfc11b4c Author: scw00 <scw00@apache.org> Date: Mon Sep 18 12:04:02 2017 +0800 fix the compile error with test\_QUICStreamManager commit 1eb074fa2a96ded10371cee3e7ad991b17659887 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 15 12:28:53 2017 +0900 Clear tracked event in the beginning of the event procedure - Clear tracked event in the beginning of the event procedure - Add internal version of transmit\_frame() and transmit\_packet() The methods from QUICPacketTransmitter and QUICFrameTransmitter could be called from QUICApplication. In that cases, PACKET\_WRITE\_READY event should be scheduled (if there're no tracked event). OTOH, internally called enqueue and dequeue frames or packets should not schedule event. So this change separate the methods for internal and external, and clear tracked event in the beginning. commit 47078f9aa1c62e9b7e80fb2fe2d95aeb5b1fa139 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 15 11:25:11 2017 +0900 Acquire a lock before \_frame\_send\_queue operation commit f973bccd4b5b55f61104ada6e231495672756acb Author: Masaori Koshiba <masaori@apache.org> Date: Fri Sep 15 10:56:46 2017 +0900 Rename \_frame\_buffer of QUICNetVConnection to \_frame\_send\_queue commit 0ee430e9666ac63b6595d5952a129e3046ee892c Author: scw00 <scw00@apache.org> Date: Tue Sep 12 20:32:22 2017 +0800 correct the calc of the forward\_limit commit 0a56b5af456a7f0c8ed15b38fa21c87345291699 Author: scw00 <scw00@apache.org> Date: Fri Sep 15 08:57:46 2017 +0800 remove the useless frame since we already written it in vio commit 2110b5ba4c611520b9f1a735088de11a493c2675 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Sep 13 14:39:07 2017 +0900 Use the shortest offset length commit 581151aaf5c55e9c47fcfc3f99ed0cd9b458aa84 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Sep 13 11:12:25 2017 +0900 Use shortest stream id length commit 27899d856fef2cfedf62eb9deec0e7b8a41348df Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 12 17:36:08 2017 +0900 Add support for MAX\_STREAM\_ID frame and initial\_max\_stream\_id transport parameter commit 0952de777ffd7b54b62c364dc0be5c65518aeb20 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 12 16:52:44 2017 +0900 Add QUICDebugNames::quic\_event(int) commit 3bfc675a3b530903b4d75647a5c2cb32b2368471 Author: Masaori Koshiba



<masaori@apache.org> Date: Tue Sep 12 16:47:24 2017 +0900 Schedule QUIC\_EVENT\_SHUTDOWN when change state to state\_connection\_closed commit b3c97064c70832f7c59f63c984266c14dd235a6f Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 12 16:42:35 2017 +0900 Change default error\_code to QUICErrorCodes::NO\_ERROR commit 2786a2c23a3250df3be41f16b92ac0fdce4420ac Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 12 16:11:53 2017 +0900 Remove send\_frame from QUICStreamManager Since QUICStreamManager::send\_frame does nothing, QUICStreams pass frames to QUICFrameTransmitter directly commit a46bcab6c6949a7d4685f03dbff912b603574ecf Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 12 14:50:33 2017 +0900 Send stateless reset packet if the client id doesn't seem valid anymore commit 34c9253dc403af84ed3938414f26bfaa05cc5d0b Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 12 11:21:35 2017 +0900 Add create\_stateless\_reset\_packet commit 5442415d17b4062a9cf5b64db62a103d6ff559a9 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 12 09:56:37 2017 +0900 [draft-05] Fix QUICLossDetector to follow pseudocode of draft-05 commit 5241e33e39f690f0a7e42acdaf55f2372ae7337b Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 16:55:46 2017 +0900 [draft-05] Fix error codes commit fd62dfc9f51d708ddb4e901057ee2c0e405ec1b2 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 15:47:21 2017 +0900 Cleanup QUICFrame - Replace hard-coded QUICFrameType - Reorder arguments of QUICRstFrame constructor - Use write\_QUICStreamId() commit 58bd89f66df87e359816085a12a49cce4150bba9 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 15:11:15 2017 +0900 [draft-05] Add STOP\_SENDING frame commit 533f8bbe94884e46521e5af45d6da7b6dc4f2de5 Author: scw00 <scw00@apache.org> Date: Sat Sep 9 20:38:46 2017 +0800 initialize the quic stream after allocator.alloc commit c445c53e159472ae894825d7f1628b877d534612 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 11:51:37 2017 +0900 Fix RST\_STREAM frame format commit e98590b5d7934360ffef3c6f9b5918969e746fa4 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 11:43:12 2017 +0900 [draft-05] Remove GOAWAY frame from QUICFrameType commit 6160455655b2c2aef934fe081cedb7f3f1a8d057 Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 11:29:28 2017 +0900 [draft-05] Remove GOAWAY frame commit 2f2ca3b2620e1672b21bdd102acf28c5b1a92948 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Sep 11 11:13:53 2017 +0900 Rename truncate\_connection\_id to omit\_connection\_id commit c1a88370301c7174a3f7fbc25fccb1376a2921a Author: Masaori Koshiba <masaori@apache.org> Date: Mon Sep 11 11:08:50 2017 +0900 [draft-05] Increase the maximum length of ACK Block Length to 64 bits commit d62137c4ba9b715484dd7c0284440b9510e30474 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Sep 11 11:06:58 2017 +0900 Append PADDING frame randomly Minimum QUIC packet size applies only Cilent Initial Packet commit 27fca42498de9d55d54dd53ca07d6f5858f5fca4 Author: scw00 <scw00@apache.org> Date: Wed Sep 6 10:59:41 2017 +0800 support stateless retry token in transport parameters commit 6d8eee58fb8abdf2e796c0f1a9f12ba64ec37f6 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Sep 6 16:35:15 2017 +0900 Rename buffer for received STREAM frame commit c193d323b0dc8e883a0f5d182319bf5e831b7f3c Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Sep 6 10:46:40 2017 +0900 Prevent triggering READ\_READY event on every frame commit 913767ae488c7f2414545adc22bcc5fd003edba4 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 5 16:32:32 2017 +0900 Randomize initial value for packet number commit 368e54b8df5acd4c5eff21a7d29a7fec643bc04f Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Sep 5 16:24:08 2017 +0900 Schedule QUIC\_EVENT\_PACKET\_WRITE\_READY only if it's not scheduled commit 4e471619c2b0d8a505beb1d7aac148bc90da87d Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 5 15:52:46 2017 +0900 Encode/Decode packet number commit 9af58ef1f308ea6481a2878770c4b9c5b210e50e Author: Masaori Koshiba <masaori@apache.org> Date: Tue Sep 5 09:27:03 2017 +0900 Add packet number encoder and decoder commit de466e93b69b0be8d2439d7b4313a05460692e65 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Sep 4 17:43:09 2017 +0900 clang-format commit 22dfdfb3cf243377bf0ed864eee88ccb16b19a5e Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Sep 4 17:40:32 2017 +0900 Add tests for QUICStreamManager (total\_offset\_sent/received) commit c20192b930196249719fc0922254ecd88bc8457c Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Sep 4 11:22:20 2017 +0900 Add tests for QUICStreamManager commit f0f998cc16f6e4e4368ff8244430e906fc0b81f4 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Sep 1 16:45:19 2017 +0900 Reimplement flow control with QUICFlowController commit 05de7b0180622c53527e5656a601ee3c1bd4e4d5 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 30 14:16:15 2017 +0900 Fix trivial things commit

d1cbe218accf9647e018c8a5a86ff3a93861c88e Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 30 12:41:47 2017 +0900 Improve debug logs commit

08c398d158c6877f98fa0c981cc955536800dfd4 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 30 11:41:22 2017 +0900 Propagate errors commit

5f46f5c50a8093536fc242da03b82f46c3035fc6 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 30 11:38:47 2017 +0900 Update stream state after sending / receiving frames commit

b8a2a62bc83e17ec4721e50e65fdfb84c179755a Author: Oknet Xu <xuchao@skyguard.com.cn> Date: Mon Aug 28 10:56:16 2017 +0800 Resign server.pem for autests to 10 years commit

c90703cc4c3be3c5b7790265cd09c584c30b1be0 Author: scw00 <scw00@apache.org> Date: Fri Sep 1 09:49:23 2017 +0800 fix the compiler error with gcc 4.9 commit

407dd1b98156af1010893aa75d428cd70e6b27a8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 29 09:59:19 2017 +0900 Fix a runtime error on Fedora 26 commit

ca6ab0c896348e65d9a8c8c2422312a3c023be0a Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 28 16:26:37 2017 +0900 Allocate QUICPacketHeader with class allocators commit

b9570de8dabe46f8a0f7b8fa8eae5e219d1827a2 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 28 15:49:24 2017 +0900 Allocate QUICPacket with a class allocator commit

6f1f8ae58ec06c64b674be0e84025c122ac2847e Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 25 17:32:34 2017 +0900 Print transport parameters commit

0472c9dcca114c68e7642a7390eaceabec46cc1 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 25 17:32:06 2017 +0900 Fix transport parameter parser commit

30f32d1735719592382e358f4215b8dce785fb51 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 25 15:08:54 2017 +0900 Use constant expressions commit

a281282714390a0367b34786aca2b78b49c52471 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 25 15:06:39 2017 +0900 Ran clang-format commit

13e1e43c4c2ae8f70878fbbcb64fc65188b8981f6 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 25 14:10:34 2017 +0900 Ran clan-tody with performance-unnecessary-value-param commit

8e231ee8dc6a4ff04e88c4b19156c2c82042e4b1 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 25 13:52:21 2017 +0900 Modernize typedef and remove unused aliases commit

996ab43b7632823249fd38ead7d401f0dfc7080b Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 25 12:08:42 2017 +0900 Fix tests commit 1acd290179f3ad0f963ba6410e6cf8d50b271f62

Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 25 11:14:30 2017 +0900 Refactor handshake As per 7.2 Cryptographic and Transport Handshake, crypto module, transport parameter, negotiated version, negotiated application are provided from Handshake. commit

c6da89c43342b91e30617982907faf248c6da2e6 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 25 11:06:03 2017 +0900 Fix handshake\_outstanding count commit

f52efea24b10c8fbbf641cd5784eccbacf14107c Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 24 16:01:12 2017 +0900 Fix alarm duration of QUICLossDetector - Fix cut & paste code from pseudocode for SetLossDetectionAlarm - Use ink\_hrtime type commit

ed4ff1b7ab89b0176d7559519d493377ecb5f949 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 24 15:09:43 2017 +0900 Set inactivity timeout before handshake start commit

1f8eeaae5364da3db3fe3e7cb130827321690d88 Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 24 14:39:47 2017 +0900 Prevent retransmitting Handshake packets many many times commit

075d829b405800c70061797725a5584d378f48ab Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 16:35:10 2017 +0900 Cleanup QUICStreamManager commit

0b589903df5f433fc44df2c408eb30428c13de99 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 16:25:45 2017 +0900 Remove duplicated mutex allocation commit

6d538d4e4cb385325999150e67c0b1848aca6997 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 16:05:01 2017 +0900 Return QUICError from QUICFrameHandler::handle\_frame() commit

5a5d53f384fe5ed5526676678e2bd44d9b4e0610 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 23 16:00:40 2017 +0900 Add support for ALPN on QUIC Since there's only one application layer protocol now, NextProtocolAccept is not introduced yet. commit

970d63786d0711ecf283f7d719a9b5f725c42caf Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 14:58:04 2017 +0900 Delete QUICFlowController class commit

08f2639c08f722660317b95f0c6d9116cb01f5ac Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 11:47:56 2017 +0900 Add Flow Control support commit

1d28d8c41ca04d8e97e8c49d5710dd1ee240ddba Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 12:10:56 2017 +0900 Rename \_request/\_response\_buffer\_offset to \_recv/\_send\_offset commit a86fca03b73533a4bcdcf2f58e9bd17413791a9f

Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 10:37:54 2017 +0900 Cleanup QUICTransportParameterValue commit

28dd6829690dd5ee39c6bffe9c92afd8fa594cc Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 23 09:57:34 2017 +0900 Cleanup FrameDispatcher commit  
a4657c59fb7d2c1315ca09ecb2b3145c7168c5f2 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 09:11:26 2017 +0900 Load TransportParameters from QUICConfig commit  
f98e16d6606509782ddb11dcf25797404aaccebd Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 08:40:53 2017 +0900 Fix QUICTransportParameter - Make data of QUICTransportParameterValue std::unique\_ptr - Change \_parameters table to std::map - Fix binary format of TransportParameter commit 6115406298e96219ab1a20e671094c52f5dea760 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 23 08:34:07 2017 +0900 Fix build error of test\_QUICStream commit cd36a9eb52c220cd9d38947408d8d9c43fd43d87 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 22 15:48:45 2017 +0900 Add QUICApplicationMap commit c485128a5ca56b2f4621b8511218a6d11b4751c1 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 22 12:00:10 2017 +0900 Introduce QUICApplicationMap class To keep QUICNetVConnection focused on connection, delegate streams and applications mapping to QUICApplicationMap. commit 8562c59545fd70e0c5ad5e6c57d7f073fac9ce03 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 22 09:29:28 2017 +0900 Use pragma once commit 0f3003b2f0b524b53f382c41593021fd54f0895b Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 22 09:28:31 2017 +0900 Create mutexes in QUICApplication constructor There's no need to create and pass it from QUICNetVConnection commit 51e8f5a08df023ad2e1f5d96046045ff0d679ce8 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 22 09:07:32 2017 +0900 Remove get\_crypto from QUICNetVConnection Crypto module should not be exported because it's too powerful to touch it from QUICApplications except QUICHandshake. commit 78330c7f962d47c4a9483098d2e804779f4d56f0 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 21 11:51:00 2017 +0900 Fix a compile error commit 82a41a975057018651b588d4f05b5356004d9887 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 21 11:46:49 2017 +0900 Revalidate negotiated version (server side) commit e27a5b83238a9b3a2ae2d6849d7981349ab12216 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 18 15:24:17 2017 +0900 Fix build issue on Fedora 26 commit 8790f3df35de521add33e18021b45337a5603647 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 18 15:24:02 2017 +0900 Add AL header commit 5adb4a1d0c9ec1c803353f5d2bd868390463aa7a Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 18 15:23:10 2017 +0900 clang-format commit 71f40486164fdc29a86bd80f0a730e1d6ccbda6c Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 18 14:59:41 2017 +0900 Exchange Transport Parameters This commit just enable to exchange the parameters, and the parameters are not loaded from configuration nor processed. commit 6ea3b7d6c2bd0dc32c88f90e841c6d7092ff12b7 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 18 14:40:32 2017 +0900 Fix max data size of STREAM frame commit 2ec9b809a898c083bad84abfff87e3dd99416c36 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 18 14:38:11 2017 +0900 Set sa\_family when initialize QUICNetVConnection commit 5fe89243e0d21d4cf0a1c268cb85ec7840f0198a Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 18 14:35:57 2017 +0900 Fix "Invalid argument" error on sending UDP packet commit 8eaad3da7e604b97fe3dc9c34d3094aad3bed3b1 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 18 14:32:45 2017 +0900 Set IPV6\_V6ONLY socket option commit 8f7f0a8300e20b55c61f76acf355439710e1add4 Author: Masaori Koshiba <masaori@apache.org> Date: Fri Aug 18 14:30:55 2017 +0900 Add QUICDebugNames::error\_class and QUICDebugNames::error\_code commit 6a633e6d13363316c4f8fdcd0467e8f91b0d74c4 Author: Masakazu Kitajo <maskit@apache.org> Date: Fri Aug 18 14:45:02 2017 +0900 Fix TLS 1.3 check Check for TLS1\_3\_VERSION was still needed for OpenSSL < 1.1.1 commit 985169147a952dfd67c5e790f2d39c00cae8459b Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 17 11:25:34 2017 +0900 Make a check for TLS 1.3 support strict commit 31ca4fa14c9d007f5a16645da4a01fb1040cb4b0 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 16 15:56:00 2017 +0900 Add MAX\_DATA, MAX\_STREAM\_DATA, BLOCKED, and STREAM\_BLOCKED frame factory commit e44f61e268b0af2921e96d398150e06001a3b9e4 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 16 11:05:56 2017 +0900 Fix build issues on FreeBSD 11 commit 39356833845830c0f6901af61dbacd3885cd5cc9 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 16:36:23 2017 +0900 clang-format commit af8743532fc8f4429caffd75e8e887f1785f7e54 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 16:34:55 2017 +0900 Add AL header commit df6c99e3c0a86f512ed39764b580ae5acb878e70 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 16:14:55 2017 +0900 Add one more TS\_USE\_QUIC check commit 49e6fc74cfe533e33ac39b4f7af44f30907cf464 Author: Masakazu Kitajo

<maskit@apache.org> Date: Tue Aug 15 15:43:57 2017 +0900 Build QUIC modules only if TLS 1.3 is available commit b82fd38bb5408eefc6351780a88ed86940e28685 Author: Masakazu Kitajo

<maskit@apache.org> Date: Tue Aug 15 12:27:10 2017 +0900 Make TLS 1.3 support optional commit 58478550894828671231bb94b7584db4cbe26991 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 10:55:55 2017 +0900 Increase buffer sizes for UDP socket commit c6b05347e0616fe666dc6412a76f05291bce68a1 Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 10:50:15 2017 +0900 Allocate buffer for UDP packets with a size of PMTU commit 92741d4334cc3a8b4d87ae310f51c192597b4838 Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 15 09:52:55 2017 +0900 Add draft-05(-pre) support - Change label prefix of Key Expansion - Change largest length of the Largest Acknowledged field of Ack frame - Change QUIC\_SUPPORTED\_VERSIONS commit 85155fa607828380f9b55d2a7ebfbb1b32b1976c Author: Masakazu Kitajo <maskit@apache.org> Date: Tue Aug 15 09:23:32 2017 +0900 Change QUICNetProcessor from struct to class commit 08ef8e4d398e2084b28ac4e766dc34379b1b0720 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 14 17:45:42 2017 +0900 Add a test case for handling CONNECTION\_CLOSE frames on FrameDispatcher commit e4d34d77238292453ee3358e7d4f0bd8f61c3dcb Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 14 17:30:18 2017 +0900 Remove dependency for NetVConnection To make it possible to run test without real network layer, QUIC related classes depend on QUICConnection abstraction layer instead of QUICNetVConnection. commit 52ba71ad38ed36af6a7290f0fa8f9a41adc256f4 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 14 16:59:25 2017 +0900 Remove QUICConnectionState commit c4a8ea6adaf59b234f299f38935aa68362dc8617 Author: Masakazu Kitajo <maskit@apache.org> Date: Mon Aug 14 16:55:05 2017 +0900 Handle CONNECTION\_CLOSE frame on QUICNetVConnection Integrate QUICConnectionManager into QUICNetVConnection. commit e95c8f38ca1d029a2218d16d4295a4e10200e2ac Author: Masaori Koshiba <masaori@apache.org> Date: Mon Aug 14 10:43:48 2017 +0900 Print Connection ID on debug logs in QUICNetVConnection commit e8c6b978ed02ea96b80901f662a47a07d89c34ef Author: Masaori Koshiba <masaori@apache.org> Date: Thu Aug 10 15:34:56 2017 +0900 Add QUICConfig and proxy.config.quic.no\_activity\_timeout\_in Add QUICConfig class to load configs related to QUIC. "proxy.config.quic.no\_activity\_timeout\_in" is also added. Default value is 30 seconds. commit fc797a0838dd8d6c62a9a068b1e8c730d98ac780 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 10 16:11:46 2017 +0900 Fix a runtime error on Fedora 26 operator[] of std::map try to create a value if the key doesn't exist, which we don't want to because it would be a shared\_ptr. Use find() instead. commit 43a9f9ec1f639ef7dc9d9de6e37daf252d617bbd Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 10 15:58:46 2017 +0900 Fix an runtime error on Fedora 26 Make sure that all information are extracted from a packet before std::move release it when passing the information and the packet at the same time. commit b51be170deb0cec505233b912e9b80c72d33913b Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 10 12:15:21 2017 +0900 Fix a build error on Fedora 26 swap() in Vec.h was actually a global function, and it seems like the function confuses gcc 7.1.1 if we use unique\_ptr in some situation. commit 7ee8f3966b75092a5045fe0b9413368d20d17278 Author: Masakazu Kitajo <maskit@apache.org> Date: Thu Aug 10 11:57:18 2017 +0900 Fix build warnings on Fedora 26 commit 7052a17f4e884e013d6efc78167375a6e2787093 Author: Masaori Koshiba <masaori@apache.org> Date: Wed Aug 9 15:20:35 2017 +0900 Close QUIC Connection by inactivity timeout commit a080d20eff91423956bed23f4f57879cb1d8e1a4 Author: Masakazu Kitajo <maskit@apache.org> Date: Wed Aug 9 10:26:37 2017 +0900 Use cross-platform print format commit 94f42e73042c77891bf1dabbd083d59978626c05 Author: Bryan Call <bcall@apache.org> Date: Tue Aug 8 15:51:05 2017 -0700 Updates to build on Fedora 26 and clang-format commit 14ebf42f3f408c784a73f476587f9e39facfa97a Author: Masaori Koshiba <masaori@apache.org> Date: Tue Aug 8 10:26:35 2017 +0900 Add basic support of IETF QUIC (draft-04) Some features listed on the First Implementation is supported. - Version negotiation - Basic packetization and reliability - Basic STREAM sending and receiving - Integration with TLS 1.3 handshake (1-RTT) - Authentication for cleartext - PADDING frames - Connection ID - Packet protection - Frame parsing for all frames This commit also has - Simple echo QUIC application But this commit doesn't support - Connection Close Many features which are out of scope of First Implementation are also not supported. - The entire HTTP mapping - Congestion control ...etc Co-authored-by: Masakazu Kitajo <maskit@apache.org>

**label:** code-design

## github\_issues:

1. **title:** ~, Plugins to remove for v9.0.0

- body:** - [x] balancer - [x] buffer\_upload (or promote) - [x] header\_normalize - [x] hipes - [ ] memcache, but make an example plugin - [x] memcached\_remap - [ ] mysql\_remap: Mark as deprecated for v9.0.0, remove / rewrite in 10.0.0 - [x] stale\_while\_revalidate (deprecated, should remove code)
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#### github\_issues\_comments:

1. This list also needs to be vetted on the mailing list.
2. Blocks #5457
3. > \* [ ] mysql\_remap > \* How can I make dynamic remaps without mysql\_remap plugin?
4. If you need the behavior, we should implement something different such as sqlite, or some non-block APIs (but that gets tricky as a remap plugin).. The MySQL APIs are blocking, and it's a really bad idea to use with ATS. We should just not have plugins with such bad behavior.
5. How dynamic do the remaps need to be? You could write a config and then use a plugin message to signal a config reload. We're using a similar technique internally.
6. Another approach is to use REDIS with an external process that loads the data. I think the SSL session reuse plugin demonstrates how to do that.
7. Yes, something other than the blocking MySQL APIs would be preferable :). Even a sqlite implementation would likely be better.
8. what about balancer? do we have a good story how to "replace" that?

9. From the balancer plugin page <https://docs.trafficserver.apache.org/en/latest/admin-guide/plugins/balancer.en.html> "Note: All of the the features in this plugin (and more) are found in parent.config. As a result, this plugin is likely to be deprecated"

**github\_pulls:**

**github\_pulls\_comments:**

**github\_pulls\_reviews:**

**jira\_issues:**

1. **summary:** Remove cqbl and pqbl log tags  
**description:** In TS-4763 we standardized on "content length" as the common terminology. Remove the {{cqbl}} and {{pqbl}} log tag aliases.
2. **summary:** Remove cqbl and pqbl log tags  
**description:** In TS-4763 we standardized on "content length" as the common terminology. Remove the {{cqbl}} and {{pqbl}} log tag aliases.

**jira\_issues\_comments:**