

Multimedia Communication & Quality of Service

Project 2: Signaling and Packetization of an H.264/SVC Video Stream

The image shows a Wireshark capture of an RTSP session. The main pane displays a list of packets with columns for No., Time, Source, Destination, Protocol, and Info. The packets are primarily RTP and RTCP, with some RTSP signaling. The bottom pane shows the details of packet 9317, which is an RTP packet. The details pane shows the following information:

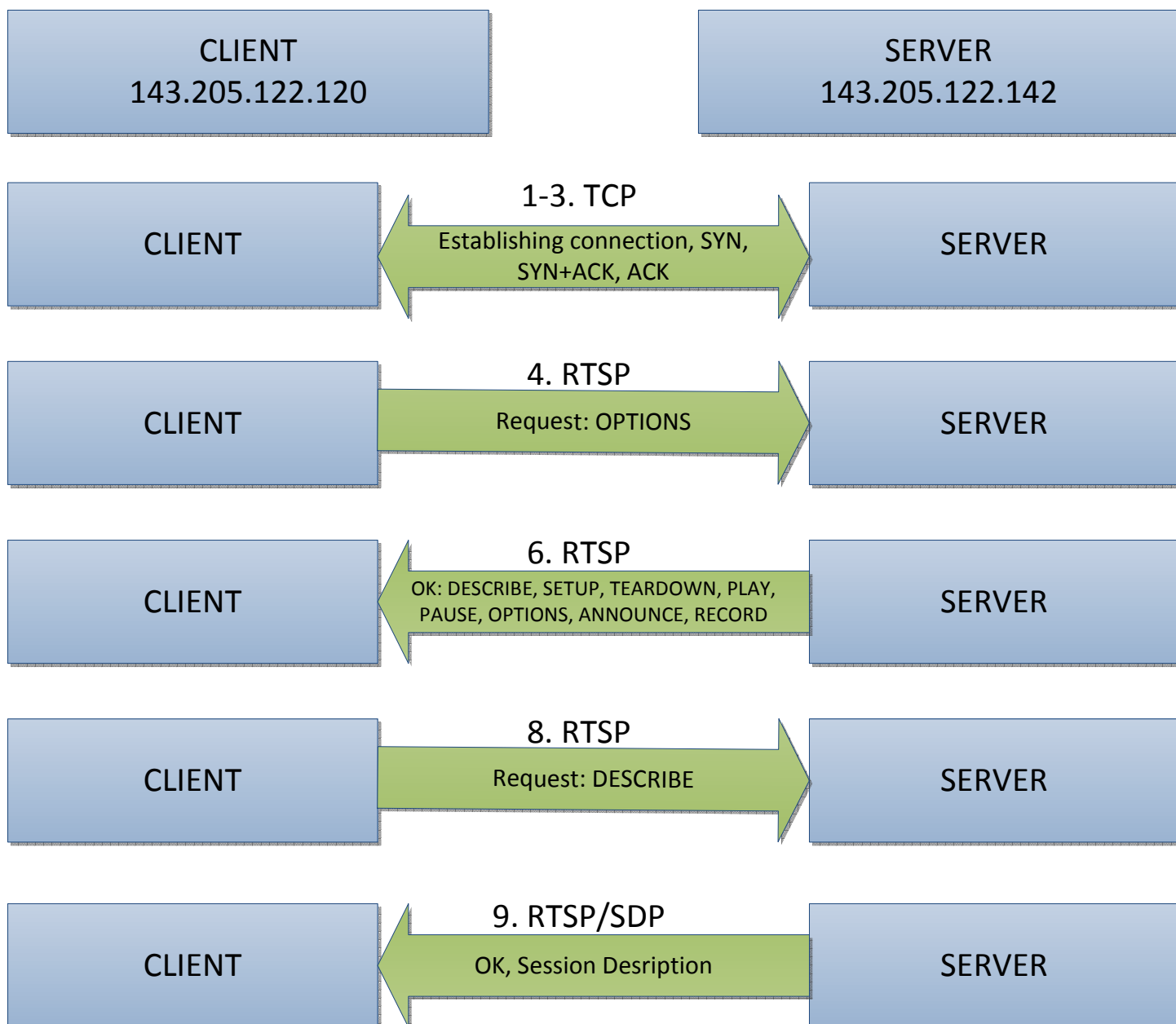
- Frame 9317: 1504 bytes on wire (12032 bits), 1504 bytes captured (12032 bits)
- Ethernet II, Src: Dell_39:5b:4c (00:24:e8:39:5b:4c), Dst: wistron_f3:b8:32 (00:26:2d:f3:b8:32)
- Internet Protocol, Src: 143.205.122.142 (143.205.122.142), Dst: 143.205.122.120 (143.205.122.120)
- User Datagram Protocol, Src Port: 6970 (6970), Dst Port: 51004 (51004)
- Real-Time Transport Protocol
 - [Stream setup by RTSP (Frame 11)]
 - 10.. = Version: RFC 1889 Version (2)
 - ..0. = Padding: False
 - ...0 = Extension: False
 - 0000 = Contributing source identifiers count: 0
 - 0... = Marker: False
 - Payload type: dynamicRTP-Type-99 (99)
 - Sequence number: 9298
 - [Extended sequence number: 74834]
 - Timestamp: 1485000
 - synchronization source identifier: 0x085f0f28 (140447528)

The bottom pane shows the raw packet data in hexadecimal and ASCII format.

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Owner/Creator:

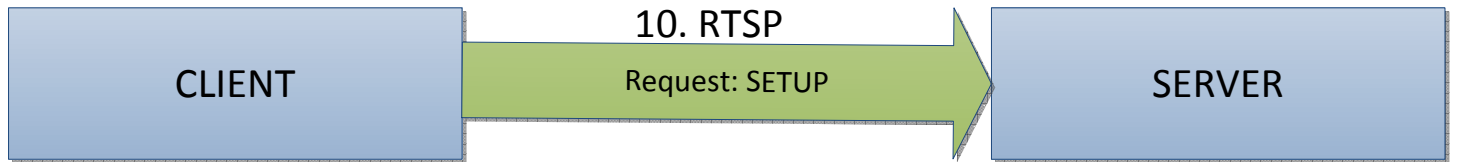
- Owner username: city_4cifVec_gop17
- Session ID: 00001
- Session version: 00001
- Owner network type: IN
- Owner address type: IP4
- Owner address: 127.0.0.1
- Session name: city_4cifVec_gop17

Media description:

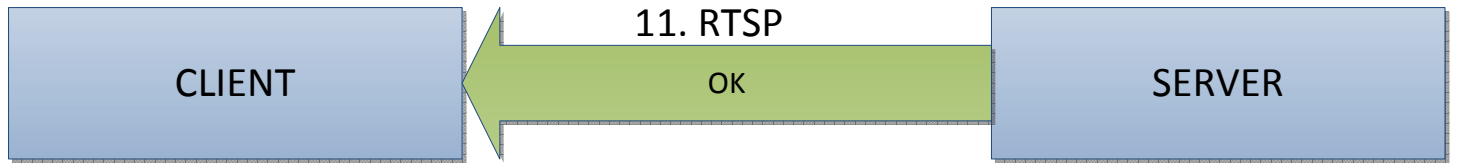
- Media type: video
- Media port: 0
- Media protocol: RTP/AVP
- Media format: DynamicRTP-Type-99

Media attribute:

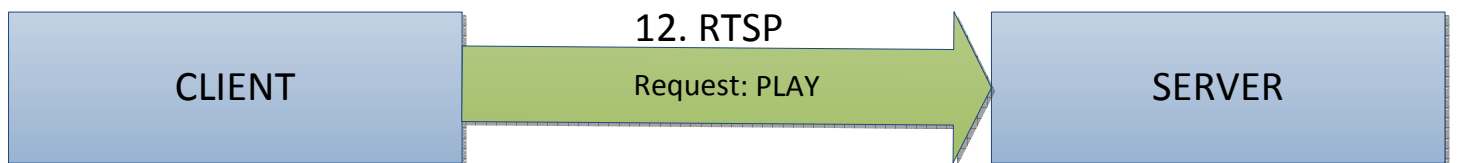
- MIME type: H264-SVC
- Sample rate: 90000
- Media format specific parameters: packetization-mode=1
- Media attribute fieldname: control
- Media attribute value: trackID=1



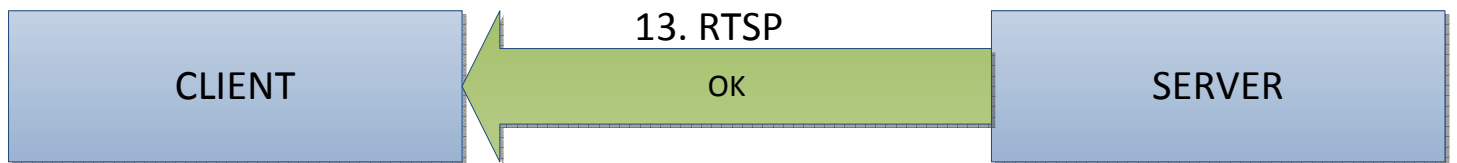
URL: rtsp://143.205.122.142/serve=city_4cifVec_gop17/trackID=1
Transport: RTP/AVP;unicast;client_port=51004-51005



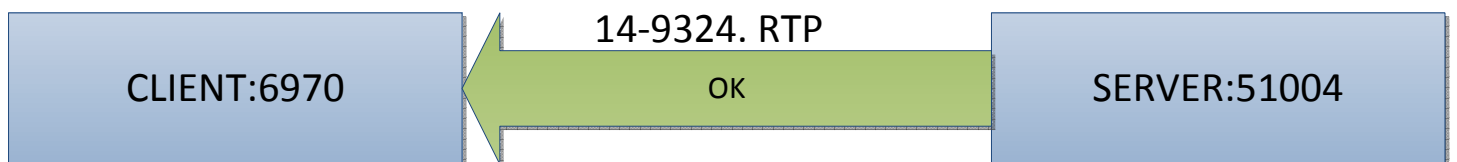
Transport: RTP/AVP;unicast;source=143.205.122.142;client_port=51004-51005;
server_port=6970-6971;ssrc=4CBAC47C



URL: rtsp://143.205.122.142/serve=city_4cifVec_gop17/



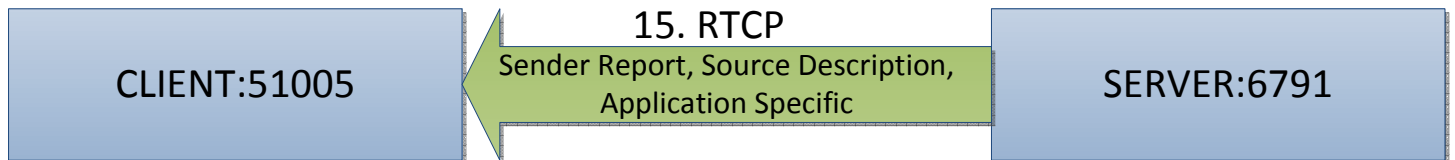
RTP-Info: url=rtsp://143.205.122.142/serve=city_4cifVec_gop17/trackID=1;
seq=0;rtptime=0



Payload type: DynamicRTP-type-99
Sequence number: 0 – 9305
Timestamp: 0 – 1485000 (3000)
Synchronization source identifier: 0x085f0f28
Number of packets: 9306
Packetization mode:

- 0 823
- 1 1307
- 2 278
- 3 210
- 4 214
- 5 1352
- 20 5122

Packet type: NAL unit
Number of markers: 106



Sender Report:

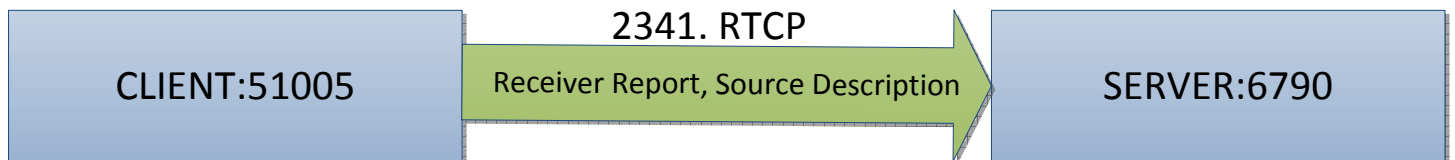
- Sender SSRC: 0x4cbac47c
- Timestamp, MSW: 3501480208
- Timestamp, LSW: 4166118277
- RTP timestamp: 0
- Packets send: 1
- Octets send: 8

Source description:

- Identifier: 0x4cbac47c
- CNAME: QTSS1292491408

Application specific:

- Identifier: 0x4cbac47c
- Name: qtsi
- App specific data

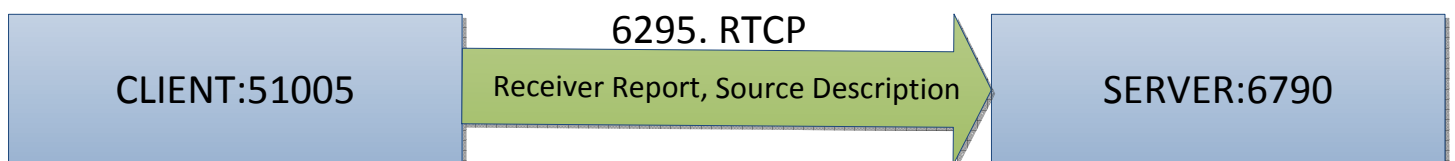


Receiver report:

- Sender SSRC: 0x0327bbd5
- Fraction lost: 0/256
- Cumulative number of packets lost: 0
- Highest sequence number received: 2324
- Interarrival jitter: 2852
- Last SR timestamp: 0
- Delay since last SR timestamp: 0 (ms)

Source description:

- Identifier: 0x0327bbd5
- CNAME: nblenovo6

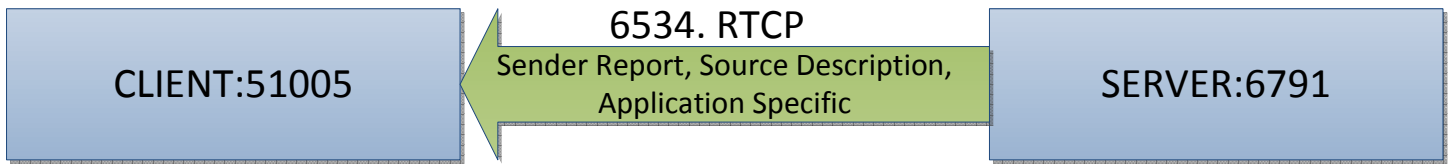


Receiver report:

- Sender SSRC: 0x0327bbd5
- Fraction lost: 0/256
- Cumulative number of packets lost: 0
- Highest sequence number received: 6277
- Interarrival jitter: 2721
- Last SR timestamp: 0
- Delay since last SR timestamp: 0 (ms)

Source description:

- Identifier: 0x0327bbd5
- CNAME: nblenovo6



Sender Report:

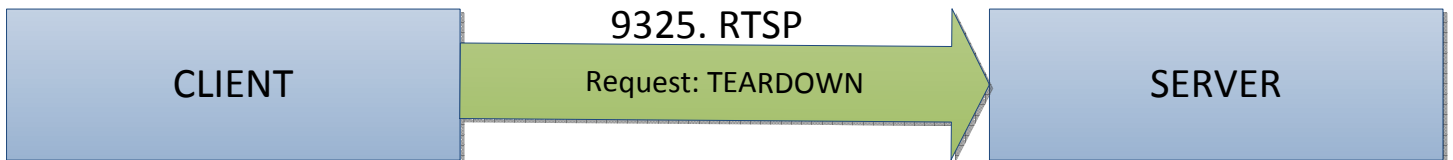
- Sender SSRC: 0x4cbac47c
- Timestamp, MSW: 3501480215
- Timestamp, LSW: 4170413244
- RTP timestamp: 1044000
- Packets send: 6516
- Octets send: 8182324

Source description:

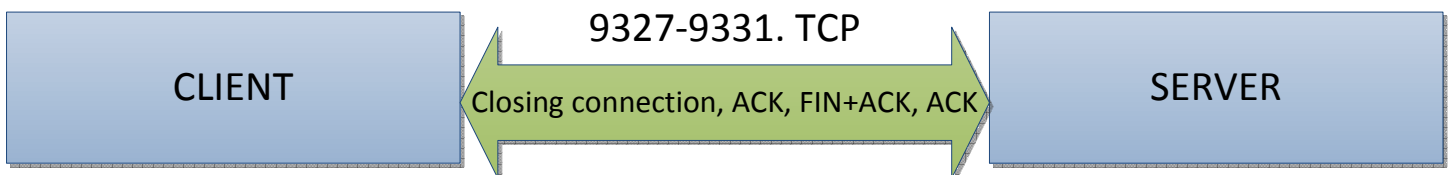
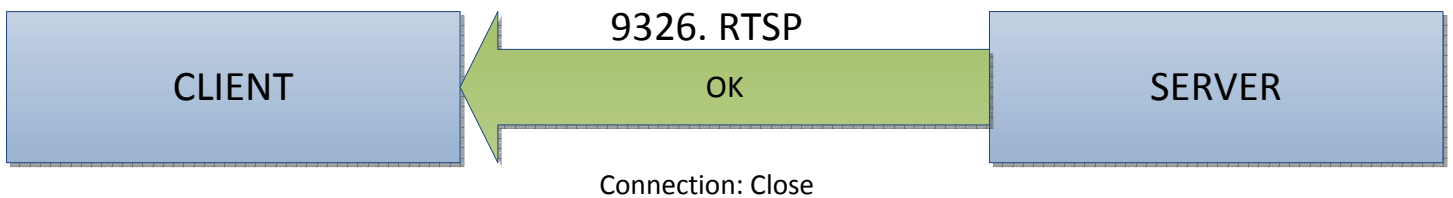
- Identifier: 0x4cbac47c
- CNAME: QTSS1292491408

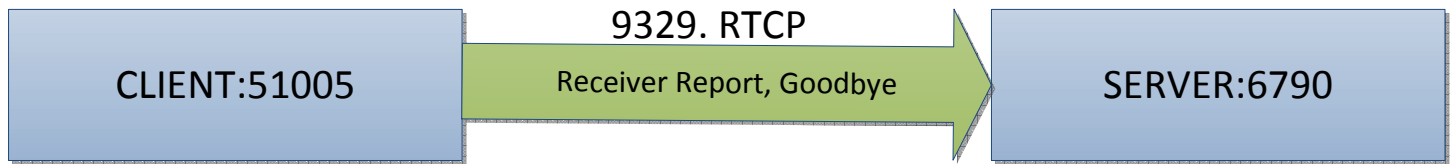
Application specific:

- Identifier: 0x4cbac47c
- Name: qtsi
- App specific data



URL: rtsp://143.205.122.142/serve=city_4cifVec_gop17/

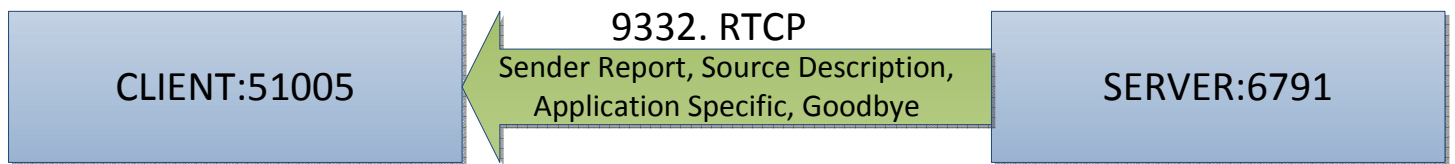




Receiver report:

- Sender SSRC: 0x0327bbd5
- Fraction lost: 0/256
- Cumulative number of packets lost: 0
- Highest sequence number received: 9305
- Interarrival jitter: 2695
- Last SR timestamp: 0
- Delay since last SR timestamp: 0 (ms)

Goodbye message



Sender Report:

- Sender SSRC: 0x4cbac47c
- Timestamp, MSW: 3501480218
- Timestamp, LSW: 4170413244
- RTP timestamp: 1485000
- Packets send: 9306
- Octets send: 11686358

Source description:

- Identifier: 0x4cbac47c
- CNAME: QTSS1292491408

Application specific:

- Identifier: 0x4cbac47c
- Name: qtsi
- App specific data

Goodbye message