

worker.createRouter

request

```
method:worker.createRouter ,id:1
data : {}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b"
}
```

response

```
{
  "accepted": true,
  "id": 1
}
```

router.createAudioLevelObserver

request

```
method:router.createAudioLevelObserver ,id:2
data : {
  "interval": 800,
  "maxEntries": 1,
  "threshold": -80
}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "rtpObserverId": "079b1620-3865-4c0b-8c0a-e6acba5af7c2"
}
```

response

```
{
  "accepted": true,
  "id": 2
}
```

router.createWebRtcTransport

request

```
method:router.createWebRtcTransport ,id:5
```

```

data : {
  "enableSctp": true,
  "enableTcp": false,
  "enableUdp": true,
  "initialAvailableOutgoingBitrate": 1000000,
  "isDataChannel": true,
  "listenIps": [
    {
      "ip": "192.168.10.12"
    }
  ],
  "maxSctpMessageSize": 262144,
  "numSctpStreams": {
    "MIS": 1024,
    "OS": 1024
  },
  "preferTcp": false,
  "preferUdp": false
}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "253c0380-359c-4102-9dce-c6db3a625944"
}

```

response

```

{
  "accepted": true,
  "data": {
    "consumerIds": [],
    "dataConsumerIds": [],
    "dataProducerIds": [],
    "direct": false,
    "dtlsParameters": {
      "fingerprints": [
        {
          "algorithm": "sha-1",
          "value":
"12:FC:DE:57:75:5E:17:CF:10:C3:9A:88:3A:0D:5B:FF:C8:C8:B0:3D"
        },
        {
          "algorithm": "sha-224",

```

```
        "value":
"0E:E2:F6:7E:BE:2A:70:D3:7C:5F:5C:28:E3:EB:06:04:81:3A:61:31:3B:C2:81:F7:03
:D8:78:52"
    },
    {
        "algorithm": "sha-256",
        "value":
"42:F5:D7:5D:F0:96:68:66:B4:F7:B9:0F:13:DA:7F:CE:26:48:94:0E:55:03:C2:B7:FA
:1D:0D:ED:EB:10:7D:29"
    },
    {
        "algorithm": "sha-384",
        "value":
"A7:33:AF:97:FF:B4:89:F7:95:77:A3:8B:38:45:0C:7C:D4:18:A2:4A:E8:24:41:6F:3A
:D7:BD:02:42:9D:28:74:B4:43:D2:80:C1:42:F2:88:64:BC:4E:8F:AF:AA:20:77"
    },
    {
        "algorithm": "sha-512",
        "value":
"A9:69:94:A9:1C:15:7C:48:3E:89:CE:D1:6A:BA:39:9A:21:B2:8D:E7:9D:D4:A6:07:59
:73:0D:AE:52:CB:2B:45:E4:2A:F7:64:C0:A8:51:B5:37:EF:BC:4D:A0:8B:E2:8D:C5:5E
:2F:1F:9D:09:EF:85:BC:FB:A1:81:89:53:B4:D5"
    }
],
"role": "auto"
},
"dtlsState": "new",
"iceCandidates": [
    {
        "foundation": "udpcandidate",
        "ip": "192.168.10.12",
        "port": 43439,
        "priority": 1076302079,
        "protocol": "udp",
        "type": "host"
    }
],
"iceParameters": {
    "iceLite": true,
    "password": "apfkmkqlij8brze8zqohrd7e3kl0wwj9",
    "usernameFragment": "1ga7pj9kdinmeqxb"
},
"iceRole": "controlled",
"iceState": "new",
```

```

    "id": "253c0380-359c-4102-9dce-c6db3a625944",
    "mapRtxSsrcConsumerId": {},
    "mapSsrcConsumerId": {},
    "maxMessageSize": 262144,
    "producerIds": [],
    "recvRtpHeaderExtensions": {},
    "rtpListener": {
      "midTable": {},
      "ridTable": {},
      "ssrcTable": {}
    },
    "sctpListener": {
      "streamIdTable": {}
    },
    "sctpParameters": {
      "MIS": 1024,
      "OS": 1024,
      "isDataChannel": true,
      "maxMessageSize": 262144,
      "port": 5000
    },
    "sctpState": "new",
    "traceEventTypes": ""
  },
  "id": 5
}

```

transport.enableTraceEvent

request

```

method: transport.enableTraceEvent ,id:6
data : {
  "types": [
    "bwe"
  ]
}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "253c0380-359c-4102-9dce-c6db3a625944"
}

```

response

```
{
  "accepted": true,
  "id": 6
}
```

transport.setMaxIncomingBitrate

request

```
method:transport.setMaxIncomingBitrate ,id:7
data : {
  "bitrate": 1500000
}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "253c0380-359c-4102-9dce-c6db3a625944"
}
```

response

```
{
  "accepted": true,
  "id": 7
}
```

transport.connect

request

```
method:transport.connect ,id:13
data : {
  "dtlsParameters": {
    "fingerprints": [
      {
        "algorithm": "sha-256",
        "value":
"AE:20:E5:FD:92:15:DD:0A:9B:D0:D4:9F:3B:5A:18:73:C2:B6:C5:2E:AD:77:51:1E:8E
:36:A3:8A:87:87:99:DD"
      }
    ],
    "role": "server"
  }
}

internal : {
```

```
"routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
"transportId": "253c0380-359c-4102-9dce-c6db3a625944"
}
```

response

```
{
  "accepted": true,
  "data": {
    "dtlsLocalRole": "client"
  },
  "id": 13
}
```

transport.produce

request

```
method:transport.produce ,id:14
data : {
  "kind": "audio",
  "paused": false,
  "rtpMapping": {
    "codecs": [
      {
        "mappedPayloadType": 100,
        "payloadType": 111
      }
    ],
    "encodings": [
      {
        "mappedSsrc": 323744560,
        "ssrc": 3536928023
      }
    ]
  },
  "rtpParameters": {
    "codecs": [
      {
        "channels": 2,
        "clockRate": 48000,
        "mimeType": "audio/opus",
        "parameters": {
          "minptime": 10,
          "sprop-stereo": 1,

```

```

        "usedtx": 1,
        "useinbandfec": 1
    },
    "payloadType": 111,
    "rtcpFeedback": [
        {
            "parameter": "",
            "type": "transport-cc"
        }
    ]
},
],
"encodings": [
    {
        "dtx": false,
        "ssrc": 3536928023
    }
],
"headerExtensions": [
    {
        "encrypt": false,
        "id": 9,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdext:sdes:mid"
    },
    {
        "encrypt": false,
        "id": 1,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdext:ssrc-audio-level"
    }
],
"mid": "0",
"rtcp": {
    "cname": "tAPOZzhquxMA1QjR",
    "reducedSize": true
}
}

internal : {
    "producerId": "52fd0ef8-1cf8-4580-aa08-9ae33414a714",
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "253c0380-359c-4102-9dce-c6db3a625944"
}

```

```
}
```

response

```
{
  "accepted": true,
  "data": {
    "type": "simple"
  },
  "id": 14
}
```

rtpObserver.addProducer

request

```
method:rtpObserver.addProducer ,id:15
data : {}

internal : {
  "producerId": "52fd0ef8-1cf8-4580-aa08-9ae33414a714",
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "rtpObserverId": "079b1620-3865-4c0b-8c0a-e6acba5af7c2"
}
```

response

```
{
  "accepted": true,
  "id": 15
}
```

transport.produce

request

```
method:transport.produce ,id:19
data : {
  "kind": "video",
  "paused": false,
  "rtpMapping": {      //producer中的rtp流到consumer之间的映射
    "codecs":          //payload的映射
      {
        "mappedPayloadType": 101,
        "payloadType": 96
      },
      {

```



```

        "mappedPayloadType": 102,
        "payloadType": 97
    }
],
"encodings": [    //ssrc的映射
    {
        "mappedSsrc": 214799301,    //映射后的ssrc
        "scalabilityMode": "S1T3",
        "ssrc": 448203859    //producer rtp流的ssrc
    },
    {
        "mappedSsrc": 214799302,
        "scalabilityMode": "S1T3",
        "ssrc": 448203860
    },
    {
        "mappedSsrc": 214799303,
        "scalabilityMode": "S1T3",
        "ssrc": 448203861
    }
]
},
"rtpParameters": {
    "codecs": [    //producer接收到rtp的编码信息
        {    //主rtp流的信息
            "clockRate": 90000,
            "mimeType": "video/VP8",
            "parameters": {},
            "payloadType": 96,
            "rtcpFeedback": [
                {
                    "parameter": "",
                    "type": "goog-remb"
                },
                {
                    "parameter": "",
                    "type": "transport-cc"
                },
                {
                    "parameter": "fir",
                    "type": "ccm"
                },
                {
                    "parameter": "",

```

```

        "type": "nack"
    },
    {
        "parameter": "pli",
        "type": "nack"
    }
]
},
{
    //重传流的信息
    "clockRate": 90000,
    "mimeType": "video/rtx",
    "parameters": {
        "apt": 96
    },
    "payloadType": 97,
    "rtcpFeedback": []
},
],
"encodings": [
    //每条rtp流的rtp信息    simulcast中有三条rtp流
    {
        "active": true,
        "dtx": false,
        "maxBitrate": 500000,
        "rtx": {
            "ssrc": 3051205391    //对应重传流的ssrc
        },
        "scalabilityMode": "S1T3",
        "scaleResolutionDownBy": 4,
        "ssrc": 448203859    //rtp流的实际ssrc    由webrtc客户端决定
    },
    {
        "active": true,
        "dtx": false,
        "maxBitrate": 1000000,
        "rtx": {
            "ssrc": 3051205392
        },
        "scalabilityMode": "S1T3",
        "scaleResolutionDownBy": 2,
        "ssrc": 448203860
    },
    {
        "active": true,
        "dtx": false,

```

```

        "maxBitrate": 5000000,
        "rtx": {
            "ssrc": 3051205393
        },
        "scalabilityMode": "S1T3",
        "scaleResolutionDownBy": 1,
        "ssrc": 448203861
    }
],
"headerExtensions": [ //rtp头部扩展中的信息
    {
        "encrypt": false,
        "id": 9,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdrext:sdes:mid"
    },
    {
        "encrypt": false,
        "id": 3,
        "parameters": {},
        "uri": "http://www.webrtc.org/experiments/rtp-hdrext/abs-
send-time"
    },
    {
        "encrypt": false,
        "id": 5,
        "parameters": {},
        "uri": "http://www.ietf.org/id/draft-holmer-rmcat-
transport-wide-cc-extensions-01"
    },
    {
        "encrypt": false,
        "id": 4,
        "parameters": {},
        "uri": "urn:3gpp:video-orientation"
    },
    {
        "encrypt": false,
        "id": 2,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdrext:toffset"
    }
],
"mid": "2",

```

```

      "rtcp": {
        "cname": "tAPOZzhquxMA1QjR",
        "reducedSize": true
      }
    }
  }

  internal : {
    "producerId": "fca32301-23e9-4d48-bd4a-01af50695541",
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "253c0380-359c-4102-9dce-c6db3a625944"
  }
}

```

response

```

{
  "accepted": true,
  "data": {
    "type": "simulcast"
  },
  "id": 19
}

```

router.createWebRtcTransport

request

```

method:router.createWebRtcTransport ,id:20
data : {
  "enableSctp": true,
  "enableTcp": false,
  "enableUdp": true,
  "initialAvailableOutgoingBitrate": 1000000,
  "isDataChannel": true,
  "listenIps": [
    {
      "ip": "192.168.10.12"
    }
  ],
  "maxSctpMessageSize": 262144,
  "numSctpStreams": {
    "MIS": 1024,
    "OS": 1024
  },
  "preferTcp": false,
}

```

```

    "preferUdp": false
  }

  internal : {
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "870bb417-2843-483e-9919-6ae249ead2e9"
  }

```

response

```

{
  "accepted": true,
  "data": {
    "consumerIds": [],
    "dataConsumerIds": [],
    "dataProducerIds": [],
    "direct": false,
    "dtlsParameters": {
      "fingerprints": [
        {
          "algorithm": "sha-1",
          "value":
"12:FC:DE:57:75:5E:17:CF:10:C3:9A:88:3A:0D:5B:FF:C8:C8:B0:3D"
        },
        {
          "algorithm": "sha-224",
          "value":
"0E:E2:F6:7E:BE:2A:70:D3:7C:5F:5C:28:E3:EB:06:04:81:3A:61:31:3B:C2:81:F7:03
:D8:78:52"
        },
        {
          "algorithm": "sha-256",
          "value":
"42:F5:D7:5D:F0:96:68:66:B4:F7:B9:0F:13:DA:7F:CE:26:48:94:0E:55:03:C2:B7:FA
:1D:0D:ED:EB:10:7D:29"
        },
        {
          "algorithm": "sha-384",
          "value":
"A7:33:AF:97:FF:B4:89:F7:95:77:A3:8B:38:45:0C:7C:D4:18:A2:4A:E8:24:41:6F:3A
:D7:BD:02:42:9D:28:74:B4:43:D2:80:C1:42:F2:88:64:BC:4E:8F:AF:AA:20:77"
        },
        {
          "algorithm": "sha-512",

```

```
        "value":  
        "A9:69:94:A9:1C:15:7C:48:3E:89:CE:D1:6A:BA:39:9A:21:B2:8D:E7:9D:D4:A6:07:59  
:73:0D:AE:52:CB:2B:45:E4:2A:F7:64:C0:A8:51:B5:37:EF:BC:4D:A0:8B:E2:8D:C5:5E  
:2F:1F:9D:09:EF:85:BC:FB:A1:81:89:53:B4:D5"  
    },  
    ],  
    "role": "auto"  
},  
"dtlsState": "new",  
"iceCandidates": [  
    {  
        "foundation": "udpcandidate",  
        "ip": "192.168.10.12",  
        "port": 45804,  
        "priority": 1076302079,  
        "protocol": "udp",  
        "type": "host"  
    }  
],  
"iceParameters": {  
    "iceLite": true,  
    "password": "upwuf97lwxiny6m9ryxb0ywaxyvwfb7q",  
    "usernameFragment": "9ofhu4u03sduh110"  
},  
"iceRole": "controlled",  
"iceState": "new",  
"id": "870bb417-2843-483e-9919-6ae249ead2e9",  
"mapRtxSsrcConsumerId": {},  
"mapSsrcConsumerId": {},  
"maxMessageSize": 262144,  
"producerIds": [],  
"recvRtpHeaderExtensions": {},  
"rtpListener": {  
    "midTable": {},  
    "ridTable": {},  
    "ssrcTable": {}  
},  
"sctpListener": {  
    "streamIdTable": {}  
},  
"sctpParameters": {  
    "MIS": 1024,  
    "OS": 1024,  
    "isDataChannel": true,
```

```

        "maxMessageSize": 262144,
        "port": 5000
    },
    "sctpState": "new",
    "traceEventTypes": ""
},
"id": 20
}

```

transport.enableTraceEvent

request

```

method:transport.enableTraceEvent ,id:21
data : {
    "types": [
        "bwe"
    ]
}

internal : {
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "870bb417-2843-483e-9919-6ae249ead2e9"
}

```

response

```

{
    "accepted": true,
    "id": 21
}

```

transport.setMaxIncomingBitrate

request

```

method:transport.setMaxIncomingBitrate ,id:22
data : {
    "bitrate": 1500000
}

internal : {
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "870bb417-2843-483e-9919-6ae249ead2e9"
}

```

response

```
{
  "accepted": true,
  "id": 22
}
```

transport.consume

request

```
method:transport.consume ,id:26
data : {
  "consumableRtpEncodings": [
    {
      "dtx": false,
      "ssrc": 323744560
    }
  ],
  "kind": "audio",
  "paused": true,
  "rtpParameters": {
    "codecs": [
      {
        "channels": 2,
        "clockRate": 48000,
        "mimeType": "audio/opus",
        "parameters": {
          "minptime": 10,
          "sprop-stereo": 1,
          "usedtx": 1,
          "useinbandfec": 1
        },
        "payloadType": 100,
        "rtcpFeedback": []
      }
    ],
    "encodings": [
      {
        "ssrc": 762429432
      }
    ],
    "headerExtensions": [
      {
        "encrypt": false,
```



```

        "id": 1,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdrext:sdes:mid"
    },
    {
        "encrypt": false,
        "id": 4,
        "parameters": {},
        "uri": "http://www.webrtc.org/experiments/rtp-hdrext/abs-
send-time"
    },
    {
        "encrypt": false,
        "id": 10,
        "parameters": {},
        "uri": "urn:ietf:params:rtp-hdrext:ssrc-audio-level"
    }
],
"mid": "0",
"rtcp": {
    "cname": "tAPOZzhquxMA1QjR",
    "mux": true,
    "reducedSize": true
}
},
"type": "simple"
}

internal : {
    "consumerId": "545db098-3705-472a-bd21-27d6a5272c7c",
    "producerId": "52fd0ef8-1cf8-4580-aa08-9ae33414a714",
    "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
    "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}

```

response

```

{
    "accepted": true,
    "data": {
        "paused": true,
        "producerPaused": false,
        "score": {
            "producerScore": 10,

```

```

        "producerScores": [
            10
        ],
        "score": 10
    }
},
"id": 26
}

```

request

```

method:transport.consume ,id:27
data : {
    "consumableRtpEncodings": [ //consumer可以消费的流信息，也就是producer提供的流信息。
        {
            "active": true,
            "dtx": false,
            "maxBitrate": 500000,
            "scalabilityMode": "S1T3",
            "scaleResolutionDownBy": 4,
            "ssrc": 214799301 //producer映射后的ssrc
        },
        {
            "active": true,
            "dtx": false,
            "maxBitrate": 1000000,
            "scalabilityMode": "S1T3",
            "scaleResolutionDownBy": 2,
            "ssrc": 214799302
        },
        {
            "active": true,
            "dtx": false,
            "maxBitrate": 5000000,
            "scalabilityMode": "S1T3",
            "scaleResolutionDownBy": 1,
            "ssrc": 214799303
        }
    ],
    "kind": "video",
    "paused": true,
    "rtpParameters": { //consumer发送流的信息

```

```

"codecs": [      //编解码信息
{
    "clockRate": 90000,
    "mimeType": "video/VP8",
    "parameters": {},
    "payloadType": 101,
    "rtcpFeedback": [
        {
            "parameter": "",
            "type": "transport-cc"
        },
        {
            "parameter": "fir",
            "type": "ccm"
        },
        {
            "parameter": "",
            "type": "nack"
        },
        {
            "parameter": "pli",
            "type": "nack"
        }
    ]
},
{
    "clockRate": 90000,
    "mimeType": "video/rtx",
    "parameters": {
        "apt": 101
    },
    "payloadType": 102,
    "rtcpFeedback": []
}
],
"encodings": [    //rtp流的信息
{
    "maxBitrate": 5000000,
    "rtx": {
        "ssrc": 344149589      //重传流的ssrc
    },
    "scalabilityMode": "S3T3",
    "ssrc": 919050306          //consumer发送rtp流的ssrc
}
]

```

```

    ],
    "headerExtensions": [          //rtp头部扩展的信息
        {
            "encrypt": false,
            "id": 1,
            "parameters": {},
            "uri": "urn:ietf:params:rtp-hdext:sdes:mid"
        },
        {
            "encrypt": false,
            "id": 4,
            "parameters": {},
            "uri": "http://www.webrtc.org/experiments/rtp-hdext/abs-
send-time"
        },
        {
            "encrypt": false,
            "id": 5,
            "parameters": {},
            "uri": "http://www.ietf.org/id/draft-holmer-rmcat-
transport-wide-cc-extensions-01"
        },
        {
            "encrypt": false,
            "id": 11,
            "parameters": {},
            "uri": "urn:3gpp:video-orientation"
        },
        {
            "encrypt": false,
            "id": 12,
            "parameters": {},
            "uri": "urn:ietf:params:rtp-hdext:toffset"
        }
    ],
    "mid": "1",
    "rtcp": {
        "cname": "tAPOZzhquxMA1QjR",
        "mux": true,
        "reducedSize": true
    }
},
"type": "simulcast"
}

```

```

internal : {
  "consumerId": "de8613b0-4f4e-441f-9417-fecad78d1a4b",
  "producerId": "fca32301-23e9-4d48-bd4a-01af50695541",
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}

```

response

```

{
  "accepted": true,
  "data": {
    "paused": true,
    "preferredLayers": {
      "spatialLayer": 2,
      "temporalLayer": 2
    },
    "producerPaused": false,
    "score": {
      "producerScore": 0,
      "producerScores": [
        10,
        10,
        10
      ],
      "score": 10
    }
  },
  "id": 27
}

```

transport.connect

request

```

method:transport.connect ,id:30
data : {
  "dtlsParameters": {
    "fingerprints": [
      {
        "algorithm": "sha-256",
        "value":
"63:83:34:CE:F4:E7:80:BF:56:A6:BE:44:FE:3A:42:69:7B:ED:6C:D8:9D:4E:11:06:EE
:9D:BB:C8:2A:1B:30:85"
      }
    ]
  }
}

```

```

    }
    ],
    "role": "client"
  }
}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}

```

response

```

{
  "accepted": true,
  "data": {
    "dtlsLocalRole": "server"
  },
  "id": 30
}

```

consumer.resume

request

```

method: consumer.resume ,id:32
data : {}

internal : {
  "consumerId": "545db098-3705-472a-bd21-27d6a5272c7c",
  "producerId": "52fd0ef8-1cf8-4580-aa08-9ae33414a714",
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}

```

response

```

{
  "accepted": true,
  "id": 32
}

```

consumer.resume

request

```
method:consumer.resume ,id:36
data : {}

internal : {
  "consumerId": "de8613b0-4f4e-441f-9417-fecad78d1a4b",
  "producerId": "fca32301-23e9-4d48-bd4a-01af50695541",
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}
```

response

```
{
  "accepted": true,
  "id": 36
}
```

transport.close

request

```
method:transport.close ,id:46
data : {}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b",
  "transportId": "376998e4-908a-419a-aa58-d420992ce2e9"
}
```

response

```
{
  "accepted": true,
  "id": 46
}
```

router.close

request

```
method:router.close ,id:49
data : {}

internal : {
  "routerId": "ab8baa18-e002-44d7-a6e2-dc298587dd8b"
}
```

response

```
{  
  "accepted": true,  
  "id": 49  
}
```