



- Media Server hosts stat websocket service in port configured in “Web” section of configuration
- Stat collector connects to MS stats service waits for stat messages
- When calls are active MS sends out stat/event reports to end points connected to stats service
- Stat collector gathers the stat messages and takes out the interested parameters (e.g. session ID and mos value, bandwidth...etc) and inserts to OCM DB (previous implementation used to insert to Influx DB).
- TMC Stats service configurations point to the DB and TMC Stats UI queries the data from this service to display in reports.
 - The events may be received by endpoint (agent, customer) UIs or from media server (agent/customer legs of media server)
 - The TMC UI must have a way to configure which data set to be used to display in reports (i.e. it can take data received from UIs or from MS)

Media Server Message formats

Stats:

```
"stats" :
{
  "stats" :
  {
    "audio" :
    {
      "local" :
      {
        "bytesSent" : <bytes-sent-in-this-interval>,
        "jitter" : <jitter-ms>,
        "mos" : <mos>,
        "packetsLost" : <packets-lost-in-this-interval>,
        "packetsLostFraction" : <packet-loss-percentage>,
        "packetsSent" : <packets-sent-in-this-interval>,
        "rtt" : <rtt-ms>
      },
      "remote" :
      {
        "bytesReceived" : <bytes-recv-in-this-interval>,
        "jitter" : <jitter-ms>,
        "packetsLost" : <packets-lost-in-this-interval>,
        "packetsLostFraction" : <packet-loss-percentage>,
        "packetsReceived" : <packets-recv-in-this-interval>,
        "rtt" : <rtt-ms>
      }
    },
    "network" :
    {
      "availableReceiveBandwidth" : <kbps>,
      "availableSendBandwidth" : <kbps>,
      "bytesReceived" : <bytes-recv-in-this-interval>,
      "bytesSent" : <bytes-sent-in-this-interval>,
      "localAddress" : "<local-ip-port-of-candidate>",
      "remoteAddress" : "<remote-ip-port-of-candidate>",
      "rtt" : <rtt-ms>
    },
    "video" :
    {
      "local" :
      {
        "bytesSent" : <bytes-sent-in-this-interval>,
        "firCount" : <fir-count>,
        "framesSent" : <frames-in-this-interval>,
        "jitter" : <jitter-ms>,
        "mos" : <mos>,
        "nackCount" : <nack-count>,
        "packetsLost" : <packets-lost-in-this-interval>,
        "packetsLostFraction" : <packet-loss-percentage>,
        "packetsSent" : <packets-sent-in-this-interval>,
        "pliCount" : <pli-count>,
        "rtt" : <rtt-ms>
      },
      "remote" :
      {
        "bytesReceived" : <bytes-recv-in-this-interval>,
        "firCount" : <fir-count>,
        "jitter" : <jitter-ms>,
        "nackCount" : <nack-count>,
        "packetsLost" : <packets-lost-in-this-interval>,
        "packetsLostFraction" : <packet-loss-percentage>,
        "packetsReceived" : <packets-recv-in-this-interval>,

```

```

        "pliCount" : <pli-count>,
        "rtt" : <rtt-ms>
    }
},
"tagKeys" :
[
    "Location",
    "SessionId",
    "ConversationId"
],
"tagValues" :
[
    "mediaserver/agent",
    "33fb6624-de18-4be0-98aa-5e6f1174d68c",
    "32546"
],
"ts" : 1607574550624147
},
"statsType" : "webrtc"
}

```

Events:

```

"stats" :
{
    "events" : [
        {
            "type" : "signal",
            "signal" : "offer|answer|ice|end|route-call",
            "source" : "agent|customer|<agent-id>|<customer-id>",
            "target" : "media-server",
            "descriptor" : "<sdp>",
            "tsOffset" : <offset>
        },
        {
            "type" : "signal-error",
            "signal" : "offer|answer|ice|end|route-call",
            "source" : "agent|customer|<agent-id>|<customer-id>",
            "target" : "media-server",
            "error" : "<error_str>",
            "tsOffset" : <offset>
        },
        {
            "type" : "ice-state-change",
            "state" :
"new|checking|connected|completed|failed|disconnected|closed",
            "entity" : "<entity-name>",
            "tsOffset" : <offset>
        },
        {
            "type" : "media-state",
            "activated" : "activated|deactivated",
            "entity" : "<entity-name>",
            "track" : "<track-name>",
            "tsOffset" : <offset>
        },
        {
            "type" : "track",
            "track" : "audio|video|data",
            "name" : "<track-name>",
            "owner" : "agent|customer|<agent-id>|<customer-id>",
            "externalId" : "<track-id>",

```

```
        "groupId" : "<stream-id>",
        "tsOffset" : <offset>
    },
    {
        "type" : "entity",
        "entity" : "agent|customer",
        "externalId" : "<agent-id>|<customer-id>",
        "name" : "<entity-name>",
        "tsOffset" : <offset>
    },
    {
        "type" : "session-state",
        "state" : "start|stop",
        "tsOffset" : <offset>
    }
],
"tagKeys" :
[
    "SessionId",
    "ConversationId"
],
"tagValues" :
[
    "33fb6624-de18-4be0-98aa-5e6f1174d68c",
    "32546"
],
"ts" : 1607574550624147
},
"statsType" : "webrtc"
}
```