



# Quality of Service Subscription (QSS) Beta Plan

# Table of Contents

03

Enable Zoom's Developer Permissions

04

Setup Your App's Secure Endpoints

04

Create & Activate Zoom Webhook App

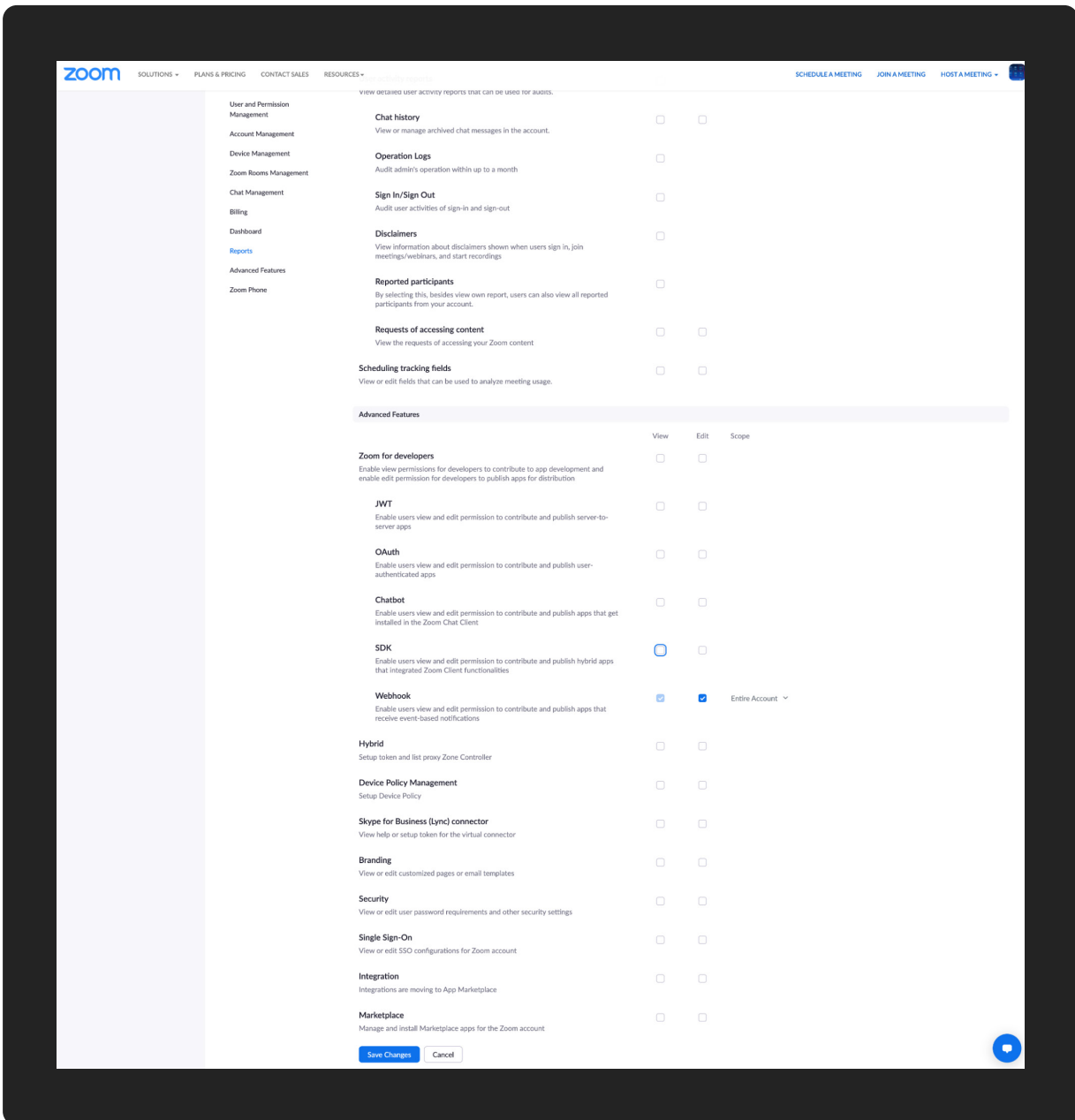
07

Verify Event Payloads

# Test Plan

## 1. Enable Zoom's Developer Permissions

- At least one user on the account will need to have developer permissions enabled to be able to create an application that can subscribe to QSS events.
- Begin by logging into your Zoom Account and navigating to User Management under your Admin dashboard.
- Ensure you have the Webhook developer permissions enabled for the user role that will be creating the application.

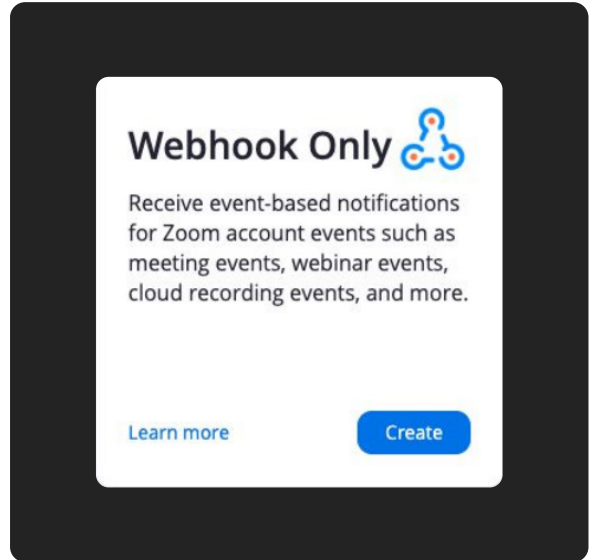


## 2. Setup Your App's Secure Endpoints

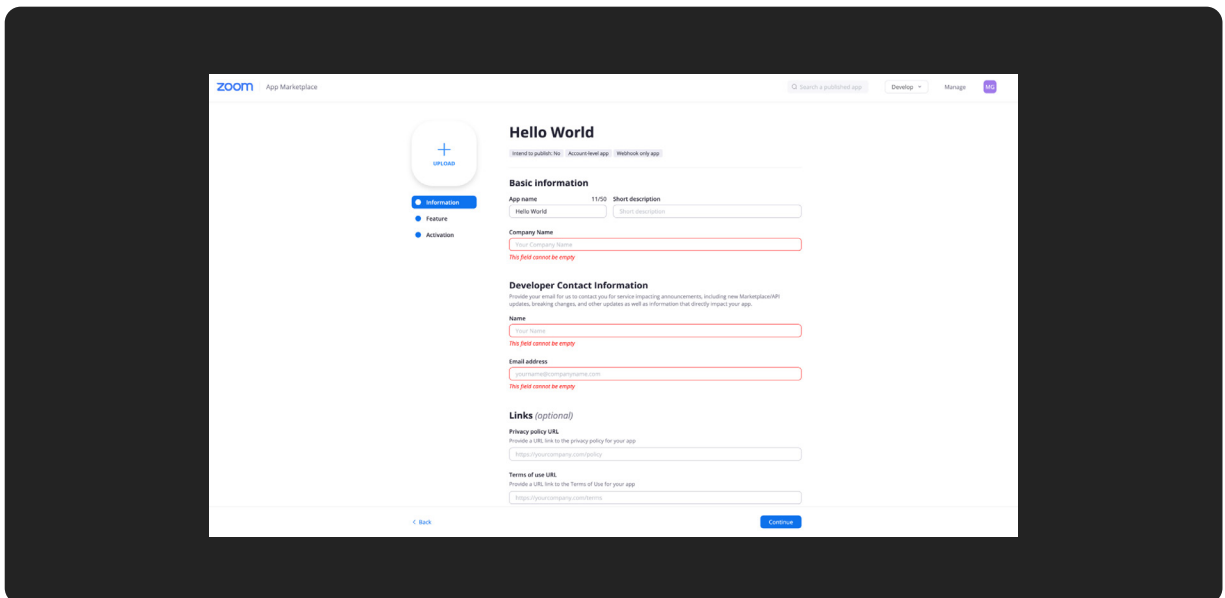
Before you can subscribe to QSS events, you will need to set up an application that can receive Webhook events. Later, you will enter your application's encrypted destination URL (where you expect Zoom to dispatch requests containing your QSS event data), so it's critical to set up your app first.

## 3. Create & Activate Zoom Webhook App

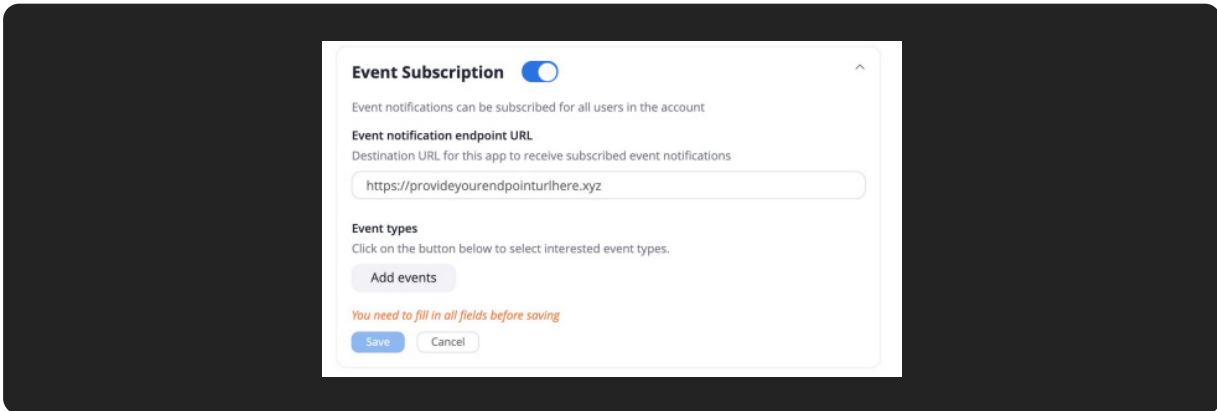
- a. Log into [Zoom App Marketplace](#) with a Zoom user with the Webhook app developer permissions. Click the Develop button on the main navigation and click Build App. Select the Webhook App.



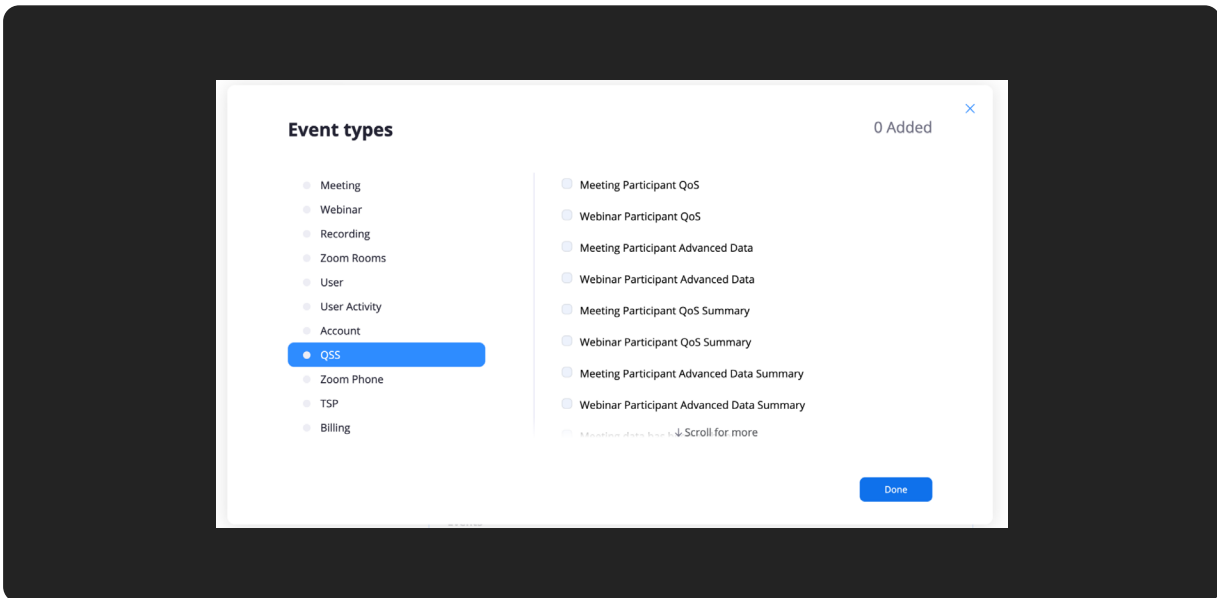
- b. Before the app is activated, the Webhook Only app requires that you provide a contact name, email, company names, and the events to be added.



- c. In the Feature page, enable Event Subscription and enter your app's URL (this is the encrypted destination URL where you expect Zoom to dispatch requests containing your QSS event data as JSON). The notifications will be sent in the form of an HTTP POST request over SSL/TLSv1.2+ in the endpoint URL.

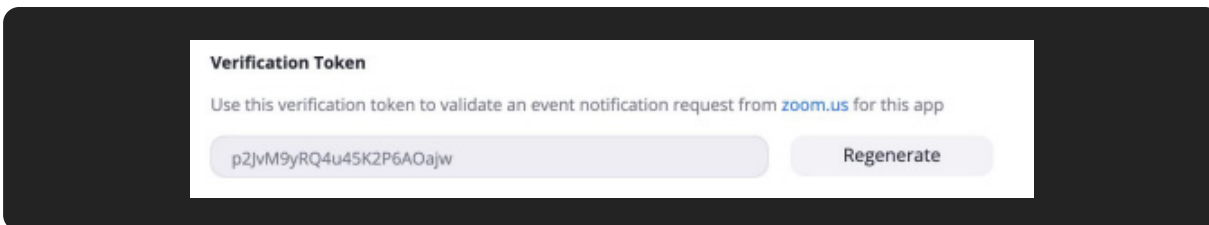


- d. Click on Add events and select QSS. Select the QSS events you wish to subscribe to receive at your Event Consumer URL.

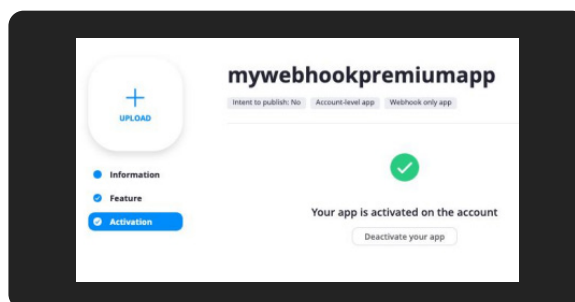


- e. Click on Done and then Save.

- f. A verification token will be generated and displayed. The header of the POST response will contain a property called Authorization which stores your app's verification token. You can compare the verification token generated for your app in the Marketplace with that of the token stored in the "Authorization" header of HTTP POST requests sent in your notification endpoint URL to identify Zoom as the source of the request and to prevent request-spoofing.



- g. Click on Continue, and you will see a message confirming your app's activation.



## 4. Verify Event Payloads

meeting.participant\_qos

```
{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string",
      "participant": {
        "user_id": "string",
        "qos": [{
          "date_time": "string [date-time]",
          "type": "string", // "audio_input", "audio_output", "video_input", "video_output", "as_input",
          "as_output", "cpu_usage", "audio_device_from_crc", "audio_device_to_crc", "video_device_
          from_crc", "video_device_to_crc", "as_device_from_crc", "as_device_to_crc"
          "details": {
            "bitrate": "string",
            "latency": "string",
            "jitter": "string",
            "avg_loss": "string",
            "max_loss": "string",
            "resolution": "string", // for video_input/video_output/as_input/as_output
            "frame_rate": "string", // for video_input/video_output/as_input/as_output
            "zoom_min_cpu_usage": "string", // for cpu_usage
            "zoom_avg_cpu_usage": "string", // for cpu_usage
            "zoom_max_cpu_usage": "string", // for cpu_usage
            "system_max_cpu_usage": "string" // for cpu_usage
          }
        }
      ]
    }
  }
}
```

## Webinar Participant

```
{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string",
      "participant": {
        "user_id": "string",
        "qos": [{
          "date_time": "string [date-time]",
          "type": "string", // "audio_input", "audio_output", "video_input", "video_output", "as_input",
          "as_output", "cpu_usage", "audio_device_from_crc", "audio_device_to_crc", "video_device_from_crc",
          "video_device_to_crc", "as_device_from_crc", "as_device_to_crc"
          "details": {
            "bitrate": "string",
            "latency": "string",
            "jitter": "string",
            "avg_loss": "string",
            "max_loss": "string",
            "resolution": "string", // for video_input/video_output/as_input/as_output
            "frame_rate": "string", // for video_input/video_output/as_input/as_output
            "zoom_min_cpu_usage": "string", // for cpu_usage
            "zoom_avg_cpu_usage": "string", // for cpu_usage
            "zoom_max_cpu_usage": "string", // for cpu_usage
            "system_max_cpu_usage": "string" // for cpu_usage
          }
        }
      ]
    }
  }
}
```



```

{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string",
      "participant": {
        "participant_id": "string",
        "data": [
          {
            "device": "string", // Windows, Mac, Phone
            "location": "string", // Participant's location, format as "city (country code)", such as
            "Sunnyvale (US)"
            "network_type": "string", // Wired, Wifi, PPP, 3G, Others
            "microphone": "string", // microphone, such as "External Microphone (External
            Microphone)"
            "speaker": "string", // Headphones, such as "External Headphones (External
            Headphones)"
            "camera": "string", // camera, such as "Integrated Camera"
            "data_center": "string", // data center, such as "SC (Sub)"
            "connection_type": "string", // connection type, such as "UDP"
            "pc_name": "string",
            "domain": "string",
            "mac_addr": "string", // mac address, only available for windows client.
            "harddisk_id": "string", // harddisk ID
            "version": "string", // for example: 5.1.6158.0425
            "signaling_internal_ip_address": "string", // signaling internal ip address
            "signaling_internal_ip_port": "string", // signaling internal ip port
            "audio_internal_ip_address": "string", // audio internal ip address
            "audio_internal_ip_port": "string", // audio internal ip port
            "video_internal_ip_address": "string", // video internal ip address
            "video_internal_ip_port": "string", // video internal ip port
            "as_internal_ip_address": "string", // sharing internal ip address
            "as_internal_ip_port": "string", // sharing internal ip port
            "destination_ip_domain": "string", // destination internal ip domain
            "destination_ip_port": "string" // destination internal ip port
          }
        ]
      }
    }
  }
}

```

```

{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string",
      "participant": {
        "participant_id": "string",
        "data": [
          {
            "device": "string", // Windows, Mac, Phone
            "location": "string", // Participant's location, format as "city (country code)", such as
            "Sunnyvale (US)"
            "network_type": "string", // Wired, Wifi, PPP, 3G, Others
            "microphone": "string", // microphone, such as "External Microphone (External
            Microphone)"
            "speaker": "string", // Headphones, such as "External Headphones (External
            Headphones)"
            "camera": "string", // camera, such as "Integrated Camera"
            "data_center": "string", // data center, such as "SC (Sub)"
            "connection_type": "string", // connection type, such as "UDP"
            "pc_name": "string",
            "domain": "string",
            "mac_addr": "string", // mac address, only available for windows client.
            "harddisk_id": "string", // harddisk ID
            "version": "string", // for example: 5.1.6158.0425
            "signaling_internal_ip_address": "string", // signaling internal ip address
            "signaling_internal_ip_port": "string", // signaling internal ip port
            "audio_internal_ip_address": "string", // audio internal ip address
            "audio_internal_ip_port": "string", // audio internal ip port
            "video_internal_ip_address": "string", // video internal ip address
            "video_internal_ip_port": "string", // video internal ip port
            "as_internal_ip_address": "string", // sharing internal ip address
            "as_internal_ip_port": "string", // sharing internal ip port
            "destination_ip_domain": "string", // destination internal ip domain
            "destination_ip_port": "string" // destination internal ip port
          }
        ]
      }
    }
  }
}

```

## Meeting Participant Qos Summary

```
{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string", //meetingId
      "id": "string", //meetingNumber
      "participant": {
        "participant_id": "string", //participant id
        "user_name": "string",
        "id": "string", //user id
        "email": "string", //user email
        "qos": [{
          "type": "string", // "audio_input", "audio_output", "video_input", "video_output", "as_input",
          "as_output", "cpu_usage", "audio_device_from_crc", "audio_device_to_crc", "video_device_from_crc",
          "video_device_to_crc", "as_device_from_crc", "as_device_to_crc"
          "details": {
            "min_bitrate": "string",
            "avg_bitrate": "string",
            "max_bitrate": "string",
            "min_latency": "string",
            "avg_latency": "string",
            "max_latency": "string",
            "min_jitter": "string",
            "avg_jitter": "string",
            "max_jitter": "string",
            "min_loss": "string",
            "avg_loss": "string",
            "max_loss": "string",
            "resolution": "string", // for video_input/video_output/as_input/as_output
            "min_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "avg_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "max_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "zoom_min_cpu_usage": "string", // for cpu_usage
            "zoom_avg_cpu_usage": "string", // for cpu_usage
            "zoom_max_cpu_usage": "string", // for cpu_usage
            "system_max_cpu_usage": "string" // for cpu_usage
          }
        }
      }
    }
  }
}
```

## Webinar Participant Qos Summary

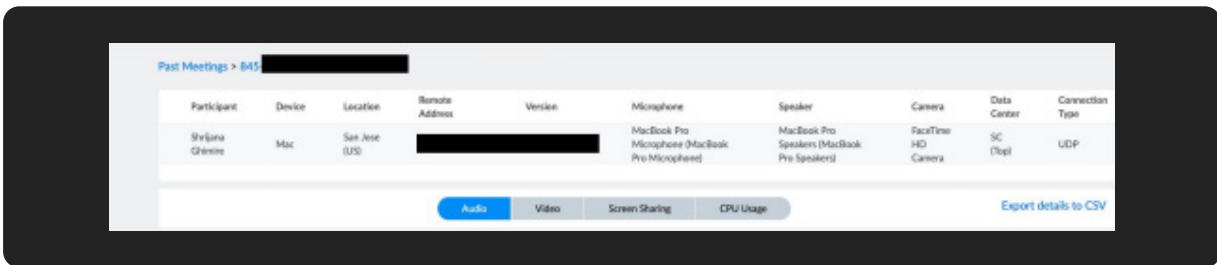
```
{
  "event": "string",
  "event_ts": "long",
  "payload": {
    "account_id": "string",
    "object": {
      "uuid": "string", //webinarId
      "id": "string", //webinarNumber
      "participant": {
        "participant_id": "string", //participant id
        "user_name": "string",
        "id": "string", //user id
        "email": "string", //user email
        "qos": [{
          "type": "string", // "audio_input", "audio_output", "video_input", "video_output", "as_input",
          "as_output", "cpu_usage", "audio_device_from_crc", "audio_device_to_crc", "video_device_from_crc",
          "video_device_to_crc", "as_device_from_crc", "as_device_to_crc"
          "details": {
            "min_bitrate": "string",
            "avg_bitrate": "string",
            "max_bitrate": "string",
            "min_latency": "string",
            "avg_latency": "string",
            "max_latency": "string",
            "min_jitter": "string",
            "avg_jitter": "string",
            "max_jitter": "string",
            "min_loss": "string",
            "avg_loss": "string",
            "max_loss": "string",
            "resolution": "string", // for video_input/video_output/as_input/as_output
            "min_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "avg_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "max_frame_rate": "string", // for video_input/video_output/as_input/as_output
            "zoom_min_cpu_usage": "string", // for cpu_usage
            "zoom_avg_cpu_usage": "string", // for cpu_usage
            "zoom_max_cpu_usage": "string", // for cpu_usage
            "system_max_cpu_usage": "string" // for cpu_usage
          }
        }
      }
    }
  }
}
```

## Phone Call QoS

```
{
  "event": "string", // Name of the event, current value is `phone.call_qos`
  "event_ts": "long",
  "payload": {
    "account_id": "string", // The Account ID of the user
    "object": {
      "call_id": "string",
      "call_start_time": "string",
      "call_end_time": "string", // only shows up if call ended
      "call_qos": {
        "type": "string", // `caller` or `callee`
        "id": "string", // user, call queue, auto receptionist, shared line group id
        "qos": {
          "date_time": "string",
          "type": "string", // `sending` or `receiving`
          "details": {
            "bitrate": "string",
            "avg_loss": "string",
            "max_loss": "string",
            "jitter": "string",
            "network_delay": "string",
            "mos": "string"
          }
        }
      }
    }
  }
}
```

Verify data against Zoom's Dashboard. Note: To view QoS Dashboard, you must have at least a business or an enterprise account with Zoom. You can also view the Quality of Service metrics for meeting and webinar participants in the Zoom web portal. Follow the steps below to view it:

- i. Log in to Zoom with your Zoom account and navigate to the Dashboard page.
- ii. Select Meetings on the top navbar.
- iii. Choose a meeting from either the Live or Past Meetings list to view its corresponding dashboard.
- iv. Click on Meeting Id > Participant name to see the QoS dashboard for a specific participant. A page similar to the one below will be displayed:



- v. You can view QoS metrics based on audio, video, screen sharing, and CPU usage.
- vi. You can also view the dashboard for Webinars by following the steps above. Instead of "Meetings," select "Webinars" from the navbar, and the dashboard for Webinar QoS will be displayed.