



# Quality of Service Subscription (QSS) Beta Plan

## 03

Enable Zoom's Developer Permissions

Setup Your App's Secure Endpoints

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### Test Plan

#### **1. Enable Zoom's Developer Permissions**

- a. 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.
- b. Begin by logging into your Zoom Account and navigating to User Management under your Admin dashboard.
- c. Ensure you have the Webhook developer permissions enabled for the user role that will be creating the application.

zoom	SOLUTIONS +	PLANS & PRK	CING CONTACT SALES	RESOURCE	ES Ser activity reports		D			SCHEDULE A MEETING	JOIN A MEETING	HOST A MEETING +	
			Jser and Permission		view detailed user activity reports that	can be used for audits.							
		,	Aanagement Account Management		Chat history View or manage archived chat mes	ssages in the account.							
		ſ	Device Management		Operation Lass								
		2	Zoom Rooms Management		Audit admin's operation within up	to a month							
			Chat Management		Size la /Size Out								
			Billing		Audit user activities of sign-in and	sign-out							
			Dashboard		Diselsiment								
			Reports		View information about disclaimer	s shown when users sign in, join							
			Advanced Features		meetings/webinars, and start reco	rdings							
		2	Zoom Phone		Reported participants By selecting this, besides view owr participants from your account.	n report, users can also view all reported							
					Requests of accessing content View the requests of accessing you	t ur Zoom content							
					Scheduling tracking fields View or edit fields that can be used to a	nalyze meeting usage.							
					Advanced Features								
							View	Edit	Scope				
					Zoom for developers								
					Enable view permissions for developers enable edit permission for developers to	to contribute to app development and p publish apps for distribution							
					JWT Enable users view and edit permiss	sion to contribute and publish server-to-							
					server apps								
					OAuth Enable users view and edit permise authenticated apps	sion to contribute and publish user-							
					Chatbot Enable users view and edit permiss installed in the Zoom Chat Client	sion to contribute and publish apps that get							
					SDK Enable users view and edit permiss that integrated Zoom Client functi	sion to contribute and publish hybrid apps onalities	0						
					Webhook Enable users view and edit permiss receive event-based notifications	sion to contribute and publish apps that	۵		Entire Account				
					Hybrid Setup taken and list provy Zone Control	llar							
					accept content and max proxy actile Control								
					Device Policy Management Setup Device Policy								
					Skype for Business (Lync) connector View help or setup token for the virtual	connector							
					Branding View or edit customized pages or email	templates							
					Security View or edit user password requirement	ts and other security settings							
					Single Sign-On View or edit SSO configurations for Zoo	m account							
					Integration Integrations are moving to App Marketp	place							
					Marketplace Manage and install Marketplace apps fo	r the Zoom account							
					Save Changes Cancel								9



#### 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.



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.

Image: Provide the state of the	Image: Provide the second	ZOOM App Marketplace			Q. Search a published app	Develop + Manaj	se MG
Links (optional) They value of the set of th	Links (optional) They and stars They are stars They		e Information e Information e Activation	State			
C BOX	N BOA		< Back	Links (sptional) Files (sptional) Measure (sptional			



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.

Event Subscription	^
Event notifications can be subscribed for all users in the account	
Event notification endpoint URL Destination URL for this app to receive subscribed event notifications	
https://provideyourendpointurlhere.xyz	
Event types Click on the button below to select interested event types. Add events	
You need to fill in all fields before saving Save Cancel	

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

Event types	0 Added	×
Meeting     Meeting Participant QoS     Webinar     Zoom Rooms     User     User     User     User     Webinar Participant Advanced Data     User     Webinar Participant QoS Summary     Account     QSS     Zoom Phone     TSP     Webinar Participant Advanced Data Summary     Billing     Meeting Participant Advanced Data Summary		

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.

Use this verification token to validate an event notification request from zoom.us for this app p2JvM9yRQ4u45K2P6AOajw Regenerate	Verification Token	
p2JvM9yRQ4u45K2P6AOajw Regenerate	Use this verification token to validate an event notifi	ication request from <mark>zoom.us</mark> for this app
	p2JvM9yRQ4u45K2P6AOajw	Regenerate

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"
           "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
         }
      }]
```



Meeting Participant Advanced Data / Meeting Participant Advanced-Data Summary

```
"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
         }
 }
```

Webinar Participant Advanced Data / Webinar Participant Advanced-Data Summary

```
"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
         }
 }
```

zoom

#### 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 "gos": [{

"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", "as\_device\_from\_crc", "as\_device\_to\_crc", "as\_device

#### "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", "as\_device\_from\_crc", "as\_device\_to\_crc", "as\_device

#### "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:

Pa	st Meetings > 84!	5-								
	Participant	Device	Location	Remote Address	Version	Microphone	Speaker	Camera	Data Center	Connection Type
	Shvijana Ghimine	Mac	San Jose (US)			MacBook Pro Microphone (MacBook Pro Microphene)	MacBook Pro Speakers (MacBook Pro Speakers)	Facilitine HD Camera	SC (Topi	UDP
				Audo	Video	Screen Sharing CPU Usage			Export	details to CSV

- 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.

