Bluetooth®

Remote IOP Participant Guide

Guide Contents

This guide is intended to help the IOP participant to understand and prepare for the different types of remote testing methods currently available.

For any questions contact IOP@bluetooth.com

Remote Testing Methods

There are currently two different types of remote testing methods: **Co-Located Hardware** and **Remote with PTS**.

Co-Located Hardware (CLH)

In this method, participants ship their hardware to the SIG to be set up in a testing lab. They are given remote access to control their hardware, through a SIG provided laptop or a laptop provided by the participant. Participants then test with other participants also using this method.

PTS also participates in this method and is available as a testing pair option.

This is the preferred method of remote testing as it is the most like face-to-face testing and considered acceptable to fulfill most formal IOP requirements.

Remote with PTS (PTS)

In this method, participants will be scheduled for testing sessions, where they will use the latest PTS binary to test in real-time with PTS.

This setup is limited to testing with PTS only, and participants will not be able to test with any other member implementations.

Getting Started

Event Registration

1 The first step is always to register as a participant on the event registration site. Everyone participating in the event must register as a participant.

Events abbreviated with **CLH** are used to indicate Co-Located Hardware and **PTS** is used to indicate remote testing with PTS.

2 After completing the participant registration the next step is to register the prototype and select the features that you support. Multiple participants can support the same prototype, but all must register as a participant

To edit your prototype information after registering click on the "event overview" link of the event. This will bring you to a page where you should see your platform name listed with an "edit" link next to it.

Please use the same prototype name across multiple IOPs for the same features. This helps to improve the accuracy of results.

IOP Documentation

After the participant and prototype registration is complete, additional documentation regarding the IOP will be sent to your email in the weeks leading up to the IOP.

The following documents will be sent:

IOP Test Plan

Contains information about:

- Purpose of Formal IOP Testing
- Coverage Requirements
- Test Cases
- Temporary Assigned Numbers
- Recording Results

IOP Participants Information

Contains information about:

- The correct versions of the specification, test suite, and IOP test plan to be used at the current IOP.
- Any changes that have taken place in the specifications and test suites since the previous IOP.

Preparing for remote IOP testing

1. Setup Questionnaire	2. Shipping	3. Remote Access	4. Slack	5. Execute IOP	6. Conclude IOP
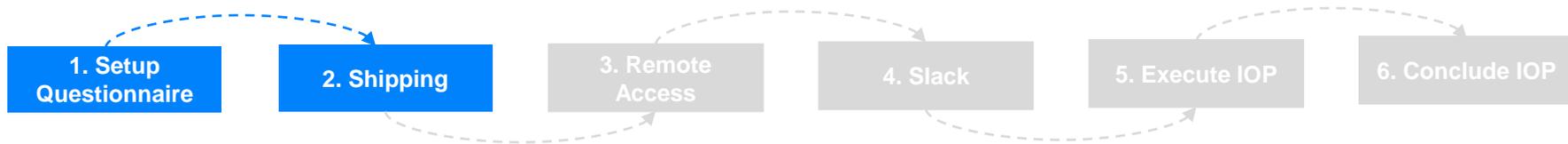
1. Setup Questionnaire

After completing registration for the event you will receive an email with instructions to fill out a setup questionnaire and inventory sheet.

The first tab contains a few questions on how you would like your remote connection configured. The second tab is to inform us of the contents of your shipment.

Send the completed form back to IOP@bluetooth.com.

2. Shipping

Items should be sent to the following address:

To:
Bluetooth SIG
C/O Specification Validation Team
5209 Lake Washington Blvd NE
Suite 350
Kirkland, WA 98033
USA

Please provide the shipping tracking number to IOP@bluetooth.com so we can track your package to make sure it arrives.

Providing your own laptop (optional) - guidelines

1. Computer set to never sleep or hibernate.
2. RDP/SSH enabled and ready to receive connections.
3. Setup with an account that has permissions to connect via RDP or SSH. *(Without your corporate domain being available)*
4. US power cord (NEMA standard) or adapter required.
5. Physical network RJ45 port required.
6. Network adapter set to automatically configure IP address via DHCP.

Preparing for remote IOP testing

1. Setup Questionnaire	2. Shipping	3. Remote Access	4. Slack	5. Execute IOP	6. Conclude IOP
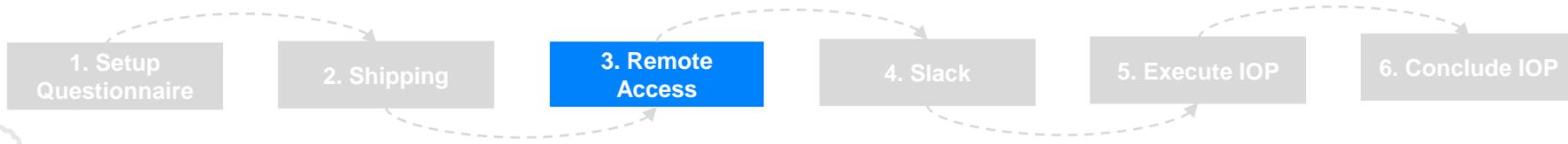
3. Remote Access: Remote IOP Portal

Participants will be able to access their device through the remote IOP portal at **https://remoteiop.bluetooth.com/**

This is a browser-based RDP portal built on Apache Guacamole which enables SSH and P&P.

Once the setup questionnaire and inventory sheet has been received accounts will be created to access the portal for all who require access.

Remote Access: Creating your Remote Portal Account for the first time

1 After registering for an IOP, you will receive an email with your username and a password link from the Bluetooth SIG Staff.

2 Go to https://remoteiop.bluetooth.com/ and log in with the credentials provided to you.

3 In your preferred TOTP compatible 2nd factor authentication app, such as Google Authenticator, scan the QR code on the next screen and enter the code generated by the app and click continue. 2nd factor is required for each time you log in. You will need to **keep this App** for logging in later.

4 You will now be logged into the Bluetooth Remote IOP portal and presented with the connections to the computers you have been assigned.

- Click on the connection name e.g. "remote IOP Host 1" to get logged into the host.
- Reset your password under your username and settings.
- When you are in a host session you can view the guacamole menu by pressing **Ctrl+Alt+Shift.**
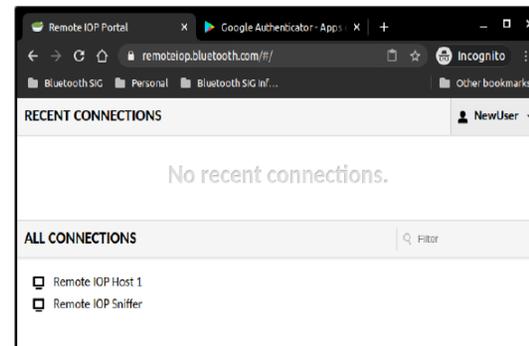
5 When finished with your session click the start menu button and sign out of the remote computer as if using a local computer.

Preparing for remote IOP testing

1. Setup Questionnaire → 2. Shipping → **3. Remote Access** → 4. Slack → 5. Execute IOP → 6. Conclude IOP

Remote Access: Remote Power Control

There are two options available to control the power remotely:

Outlet Power

If your device is powered by a wall outlet you can request the use of a [Wattbox](#) for your remote setup.

The Wattbox has two outlets, however, they are not separate it is either all off or all on.

If using a SIG provided laptop, you'll be able to control the wall outlet power from the desktop app.

If you are providing your own laptop, you'll be able to control the wall outlet power from a link that will be provided to you.
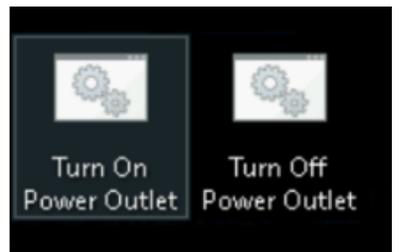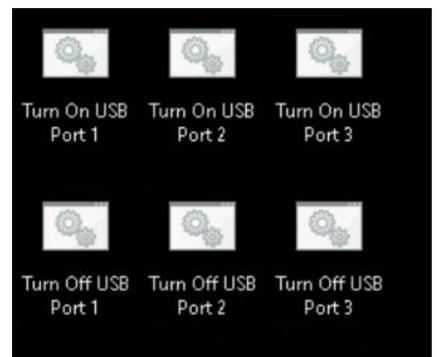

Wattbox desktop app example

USB Power

If your device is powered by the USB port you can request the use of a [YEPKIT USB](#) hub to power cycle the ports.

The USB hub has three ports that can be controlled individually.

If using a SIG provided laptop, you'll be able to control the USB power from the desktop app.
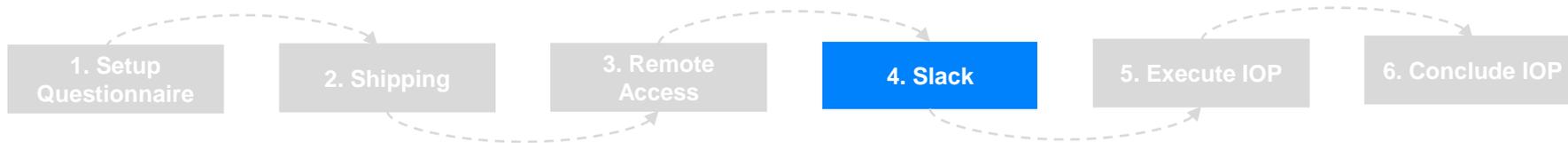
If you are providing your own laptop, you'll have to download the software to your laptop. You can find the software [download here](#).

YEPKIT hub desktop app example

Preparing for remote IOP testing

| 1. Setup Questionnaire | 2. Shipping | 3. Remote Access | **4. Slack** | 5. Execute IOP | 6. Conclude IOP |

4. Slack: Setup

The Bluetooth SIG has a dedicated Slack workspace that includes the standard plan features of Slack. Communication for IOP events will take place within this Slack workspace. **bluetoothsigworkspace**.slack.com

A dedicated private channel within the Slack workspace will be created for each IOP event to facilitate scheduling and communication amongst participants.

After registering for the IOP, participants will receive an invite to join the IOP slack workspace and dedicated channels for the event. The invite will be sent from feedback@slack.com to the email address used during registration. Only registered participants have access to the Slack Channels.

SIG staff will assign an anonymous platform name to your slack account (e.g. Participant 1_A). Anonymous names are assigned as follows:

Platform Name: Alphabetical order e.g. Platform A, Platform B, etc..

Participant Name: Sequential order plus the letter of the platform they are supporting e.g. Participant 1_A, Participant 2_A, Participant 3_B.

Example: Participant 1_A and Participant 2_A are both supporting Platform A and Participant 3_B is support Platform B.

You do not have to stay anonymous. There are instructions to update your display name in the general-information slack channel.

After the IOP has concluded, the event-specific channel will be deleted and a new private dedicated channel will be created for the next event.

If participating in the next event, you'll be added to the new channels. If you do not plan to participate in the following IOP your account will be temporarily removed until registration is complete for the next event that you participate in.

Example Invite

slack

randrews started a conversation with you in Slack

To be a part of the conversation, join randrews@bluetooth.com and the rest of the **Bluetooth SIG** team on Slack.
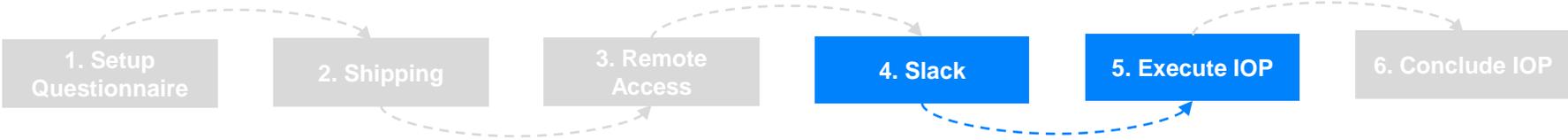
Join the Conversation

What is Slack?

Slack is a messaging app for teams, a place you can collaborate on projects and organize conversations — so you can work together, no matter where you are. Learn more about Slack
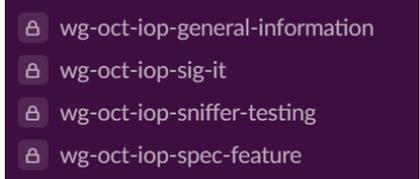
Executing the IOP

Slack: Channels

Once you have joined Slack you will see that there are several channels that are available to you on the left-hand side. All channels that are created for the IOP event will be private and only visible to invited users.

Channels open to all IOP participants

All IOP participants will be automatically added to the following channels:

Example of IOP channels

- 🔒 wg-oct-iop-general-information
- 🔒 wg-oct-iop-sig-it
- 🔒 wg-oct-iop-sniffer-testing
- 🔒 wg-oct-iop-spec-feature

1 General Information

#general-information channel is for workspace-wide communication and announcements.

2 Spec Specific Channels

There is a channel for each spec that can be used for questions or announcements related specifically for that feature.

3 IT Support

#sig-it channel is available for those who are utilizing the co-located hardware method of testing and have a specific question or issue related to their setup at the SIG.

Monitored during SIG working hours M-F 8:00-17:00

4 Sniffer Testing

We currently have one Teledyne sniffer that will be shared among those that request it. There will be a **#sniffer-scheduling** channel to keep track of booking requests.

View the sniffer testing page for additional information on how to access and reserve the sniffer.

Executing the IOP

1. Setup Questionnaire	2. Shipping	3. Remote Access	**4. Slack**	**5. Execute IOP**	6. Conclude IOP
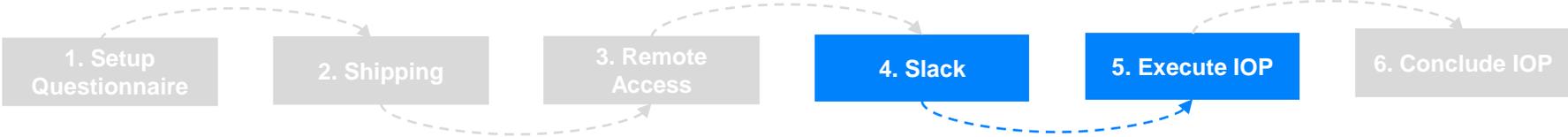
Slack: Scheduling + Locked Channels

Co-Located Hardware

An anonymized list of registered prototype platforms will be posted to the general information channel in Slack. This list will include details of spec and role support, the time zone of the participant, and the platform leader contact name in Slack.
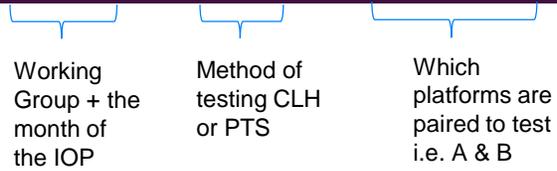
Platform Name in Slack	Platform Leader Name in Slack	Time Zone	Note	Feature A_Client	Feature A_Server
Platform A	Participant 1_A	CEST		1	1
Platform B	Participant 4_B	PST			
Platform C	Participant 5_C	PST		1	1
Platfrom D	Participant 6_D	PST		1	1

To schedule a testing session, review the list and decide which other platforms you'd like to test with. You can either direct message the platform leader in Slack to check availability or you can reach out to SIG staff to help facilitate the communication.

Once you have found a testing partner please **let SIG staff know** and we will then setup a private "locked" channel that only you and your testing partner (and SIG staff) will have access to. Once created, the private channel will appear on the left-hand side.

It will then **be the responsibility of each testing partner** to communicate with each other to agree on a common time and duration for testing.
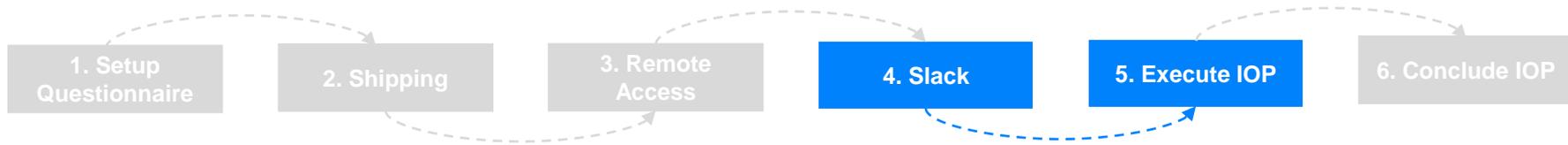
Private Testing Pair Channel Example

🔒 wg-oct-iop-colocated-plat-a-and-plat-b

Working Group + the month of the IOP

Method of testing CLH or PTS

Which platforms are paired to test i.e. A & B

🔔 Please make sure to keep your notifications on and regularly check your channels so you don't miss any messages.

Executing the IOP

| 1. Setup Questionnaire | 2. Shipping | 3. Remote Access | **4. Slack** | **5. Execute IOP** | 6. Conclude IOP |

Remote with PTS

1 SIG staff will work to coordinate a testing time with a member from PTS.

2 The participant will be sent the updated PTS Binary, in the Slack channel, approximately one hour before the start of the test session.

3 SIG staff will open a video conference session with the participant.

4 The participant tests with PTS during the agreed timeframe. The PTS engineer observes 100% of the testing using the video conference tool.

5 The participant and the PTS engineer discuss failures, issues, and general spec/test spec interpretation as per usual. They log results and record any issues per the usual process.

6 After testing, the participant sends PTS all the generated logs for analysis and uninstalls and discards the binary.

7 There will be a dedicated channel in slack setup for each testing pair where discussion/questions (e.g. scheduling another test session) can continue after the testing session ends.

Executing the IOP

Using a sniffer to facilitate testing

There is one Sodera sniffer that is available for shared use amongst participants.

Each person with a remote access account will be given access to the IOP Sniffer Host in their Guacamole connections list. Only **one person** can use the host at a time.

Shared use of the sniffer will be managed as follows:

To reserve the sniffer first book a time slot on sniffer booking site **https://calendly.com/remote-iop-sniffer-sodera**. An email confirmation will be sent to you with links to cancel or reschedule if needed. This will let others know that you have reserved time with the sniffer.
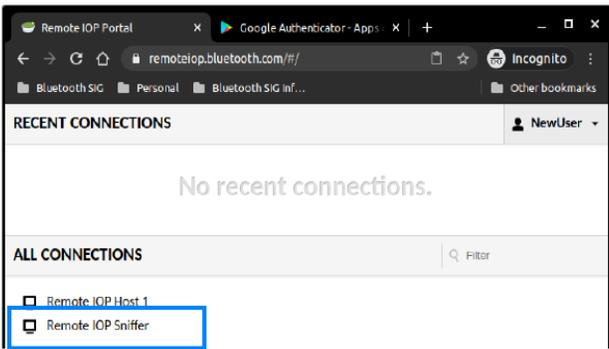
Once a session is booked it will be automatically added to a shared calendar that participants can view to see when it is in use and a notification will also be sent to the #sniffer-scheduling channel in Slack.

The link to the shared calendar will be posted in the Slack channel #sniffer-scheduling.

Conduct your testing session with the sniffer as planned. If you need additional time book another timeslot through the booking link.

Once you have finished remember to delete and data that you do not want shared with others.

End the sniffer testing session by clicking the start menu button on the remote laptop and sign out as if using a normal computer.

This is a **shared connection** amongst all participants. Please be mindful of others by keeping an eye on your reserved time, booking more time if needed, and deleting your data after each testing session.

Executing the IOP
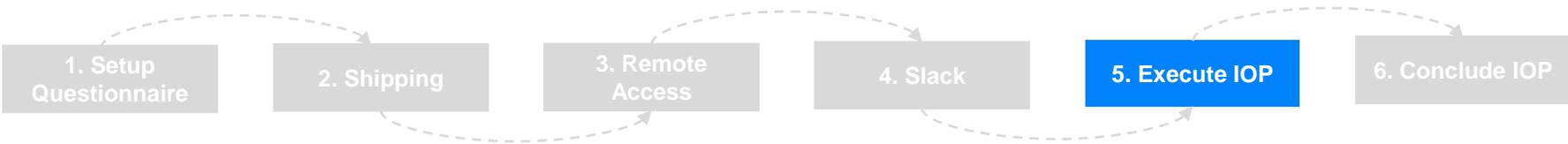
Results Entry

Since there may be two different types of remote testing methods taking place concurrently, it is important to make sure you log results **under the correct event** to indicate which method of testing you used. This is to help us track and report the progress back to the working group and committees.

Co-Located Hardware
If using the Co-Located Hardware (CLH) method (e.g. you sent hardware to the SIG) then please make sure to register under the event with **CLH** in the title and log your results under that same event.

Remote with PTS
If using the remote with PTS method (e.g. you did not send hardware to the SIG) then please make sure to register under the event with **Remote with PTS** in the title and log your results under that same event.
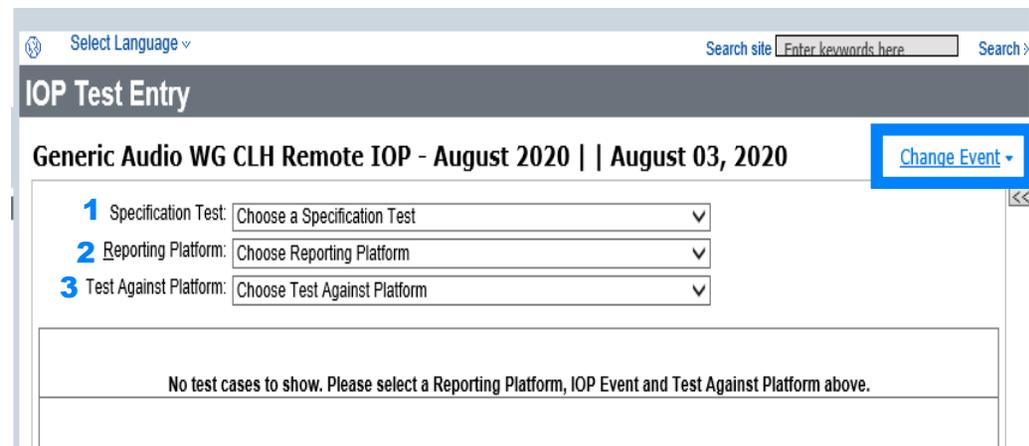
Results Entry Tool

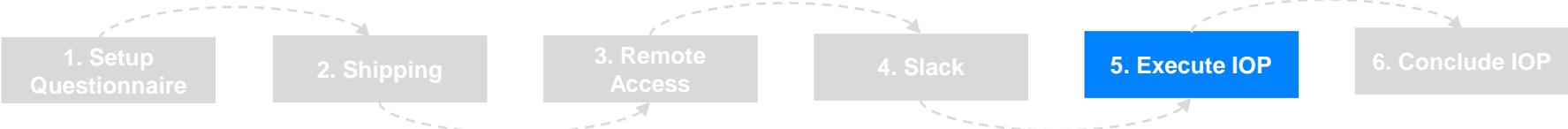To enter results go to the results entry page here.

Make sure to select the correct event by clicking the change event drop down on the right side of the page.

Next select the following:

1. The specification test
2. The reporting platform (your platform)
3. The test against platform (who you tested with)

⊗ Select Language ˅		Search site Enter keywords here	Search ›

IOP Test Entry

Generic Audio WG CLH Remote IOP - August 2020 | | August 03, 2020   [Change Event ▾]

1 Specification Test:	Choose a Specification Test	˅
2 Reporting Platform:	Choose Reporting Platform	˅
3 Test Against Platform:	Choose Test Against Platform	˅

No test cases to show. Please select a Reporting Platform, IOP Event and Test Against Platform above.

Executing the IOP

Results Entry Tool

For the selected test there are 3 options:
P – Test Passed
F – Spec Failure
I – Implementation Failure

Test results can be entered directly from the IOP Test Entry screen or by clicking on the Role link for the test.

Within the IOP Test Entry screen, For **F** or **I** results the user can add a comment.

Click on the role link, a window on the right will appear that allows the user to enter **P**, **F**, **I**, and a comment.

Comments should not have any identifying information like company or platform name.

Use IUT when referring to the platform being tested

When a selection has been made, the result has been saved but <u>not submitted</u>.

To submit results, check the checkbox next to the test(s) and select "Submit Selected Tests" at the bottom of the page.

Editing a Submitted Result

When a test result has been submitted, it is locked and unchangeable. Submitted tests can be unlocked to update the result. For example, a fail can be changed to a pass if fixes are made to a platform.

There are two ways to unlock a test:
1. Within the IOP Test Entry page, click on the lock icon. This unlocks the test and allows updates to the status.
2. Click on the Role and the sub-window will appear. Click on "ReOpen" to unlock the test.

Concluding the IOP

1. Setup Questionnaire	2. Shipping	3. Remote Access	4. Slack	5. Execute IOP	6. Conclude IOP

Hardware

After the IOP has concluded the participant has the following options that the Bluetooth SIG can accommodate:

Ship Items Back
The SIG can package up all the items sent and help to arrange shipment back to the original sender. The sender will be responsible for providing the label.

Store Items
If additional testing will be needed and another IOP will be scheduled within the next 4-8 weeks, the participant has the option to keep their items stored at the SIG. Individual secured lockers are provided or if available the hardware can remain connected to the laptop.

Slack

Access to the Slack workspace will remain for subsequent IOPs as long as the user is a registered participant for each IOP event. If a user is not participating in the next IOP event, then access to the Slack workspace will be removed.

The IOP channel is specific for each IOP event and will be deleted at the end of the IOP. Participants will receive a notification prior to the deletion.

A new private channel will be created for the next IOP event and participants will then be added to the channel once they have registered.

Guacamole Remote Access

The account created for remote access can remain active if there are future IOPs starting within the next 4-8 weeks and if the participant is planning to continue testing. If the participant is not planning to participate in further testing the account will then be deactivated.

The Bluetooth SIG Staff will confirm with each participant before removing account access.