Softphone meta-code for Jabra device interfacing

Reference meta-code for call-sequence between softphones and Jabra devices

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1 Introduction

This document outlines the reference API interaction sequence between a typical softphone and the Jabra-devices at the API level, as found in the Jabra core libraries supplied in the Jabra SDKs for Windows, Linux, and macOS.
It applies both to interfacing at “C” level, and the adapters provided for access from C# (Windows/DotNET) and macOS (Objective C/Swift).

With the release of Jabra core library version 1.8.7.12, there is no longer a need for the client application to manage the HID-state of the device, this is done automatically by the library.

With the release of version 1.8.8.4, an optional Call Lock functionality has been re-introduced. This functionality ensures that two softphones do not use the same Jabra device at the same time; it does so by controlling access to the call control functionality in the SDK library.

2 Interaction meta-code

2.1 Softphone init

1. Initialize SDK.
2. If you want the softphone listed in Jabra Direct, connect it via Integration Service.
3. Set “Ready for telephony”.
4. Look for the attached Jabra devices and consider setting one of them as selected Microphone/Speaker automatically.

2.2 On device attach event

1. If no Jabra device was connected before, consider setting this device as the selected Microphone/Speaker automatically.

2.3 Ongoing

1. Monitor the TranslatedButtonEvent with ButtonId=LineBusy and maintain the state for each device.
   The properties IsLineBusy and IsLineBusySupported on IDevice are not implemented by the SDK thus giving incorrect info about device capabilities (both properties are always false).

2.4 Softphone incoming call

1. Check if another softphone is in a call (the stored state of whether the device is in “LineBusy” mode).
   If a softphone is not supporting the Call Lock functionality this is the only way to find out if the device is currently being used.
   If the device is in use deal with this the way your app finds the most appropriate UI-wise.

2. Acquire the Call Lock. Do this to ensure that other softphones supporting the Call Lock functionality know that the device is in use.
3. Enable ringer on active Jabra device.

2.5 Softphone incoming call answered via a button on the headset

(Hook Switch event received from headset)

1. Send OffHook=1 back to the headset and disable ringer in one go.

2.6 Softphone incoming call answered via softphone UI

1. Send OffHook=1 to the headset and disable ringer in one go.
2. Expect (and ignore) the confirmation Hook Switch event from the headset. For more information please refer to section 6 in the Integrator's Guide.

2.7 Softphone no incoming call, but off-hook button pressed on the headset

(Hook Switch event received from headset)

1. Check if your app is "in focus" (property in the SDK set by Jabra Direct for the preferred softphone) – if not, ignore the event and skip the remaining steps as another softphone is the "preferred softphone" and should deal with the button press.
2. Move your app's main window to the foreground and do whatever you find suitable for your softphone. Example: Dial tone and keypad to enter a phone number or redial the last number, etc.

Please note: Despite this being fully supported (and permitted), we strongly recommend against reacting to unsolicited off-hook events in softphone applications.

Working with our partners has shown us that reacting to unsolicited off-hook events is very likely to cause interference with other softphones or UC clients on the client's PC, resulting in a bad end-user experience.

2.8 Softphone placing a call from softphone UI

1. Check that the headset is not in use by other softphones (stored "LineBusy" state). If in use by another softphone, consider what experience you want to present.
2. Acquire the Call Lock.
3. Send OffHook=1 to the headset.
4. Expect (and ignore) the confirmation Hook Switch event from the headset.

2.9 Active call: mute press from the headset

1. Send corresponding mute command back to the headset.

2.10 Active call: mute press in softphone app

1. Send mute command to the headset.

2.11 Active call: Call hang-up (on-hook) via a button on the headset

(off-hook:0 sent from headset)

1. Send back on-hook (OffHook=0) to the headset.
2. Release the Call Lock.

2.12 Active call: Call hang-up (on-hook) via app UI

1. Send on-hook (OffHook=0) to the headset.
2. Expect (and ignore) the confirmation Hook Switch event from the headset.
3. Release the Call Lock.

2.13 Softphone app shutdown/exit

1. Remove “Ready for telephony” state.
2. Release the Call Lock if taken.