Platform: Stereo Headphone

How to Implement ShareMe in ADK 3.0

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Prepared for James Tsao - apachecomm.com.cn, Tuesday, June 24, 2014

ShareMe Overview

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ShareMe Enabled Headset

- Play and transmit music at the same time
- Audio not synchronized
- Supported on CSR8670 only

Prepared for james.chen@apachecomm.com.cn - Tuesday, June 24, 2014

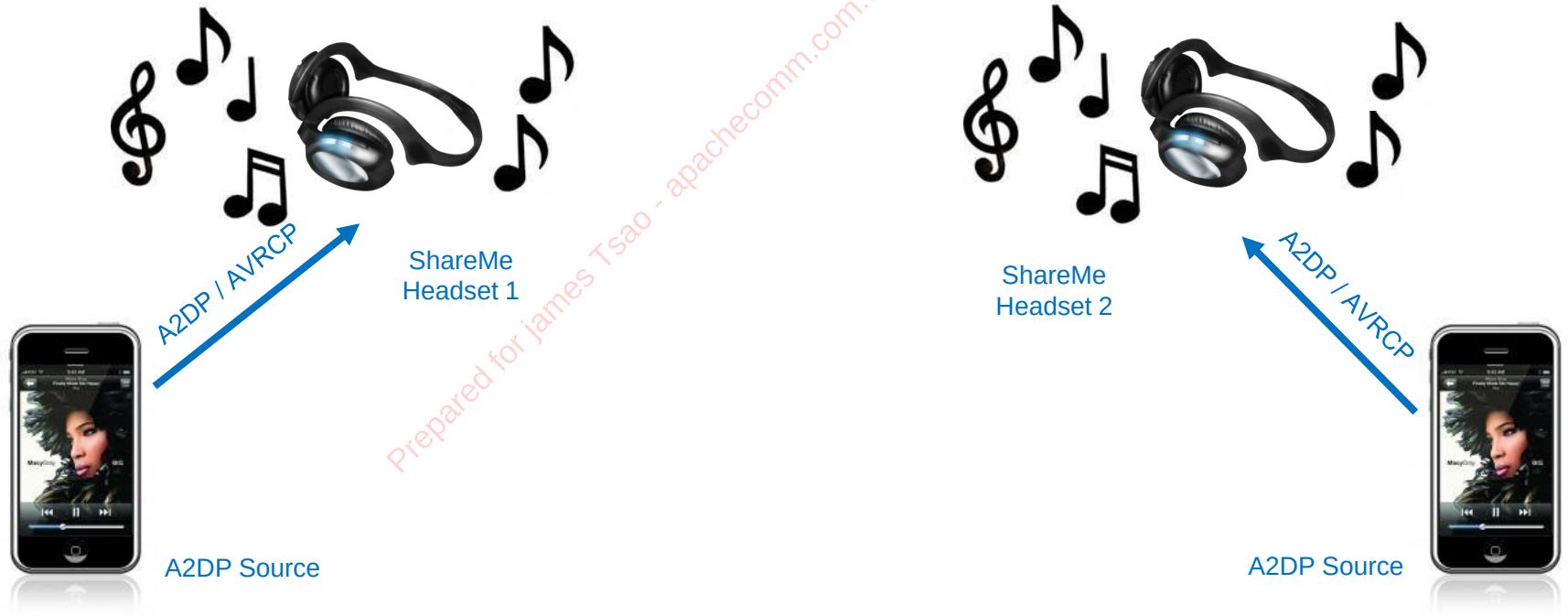
ShareMe Session Easy to Setup

- Only three commands required:
  - “Peer Session Connection Discovery”- start listening for incoming connection
  - “Peer Session Inquire” - find nearby devices that are in pairing mode
  - “Peer Session End” - close ShareMe session

Prepared for james.miao - apachecom@.com.cn - Tuesday, June 24, 2014

Prerequisites

- ShareMe and Multipoint features enabled on both headsets



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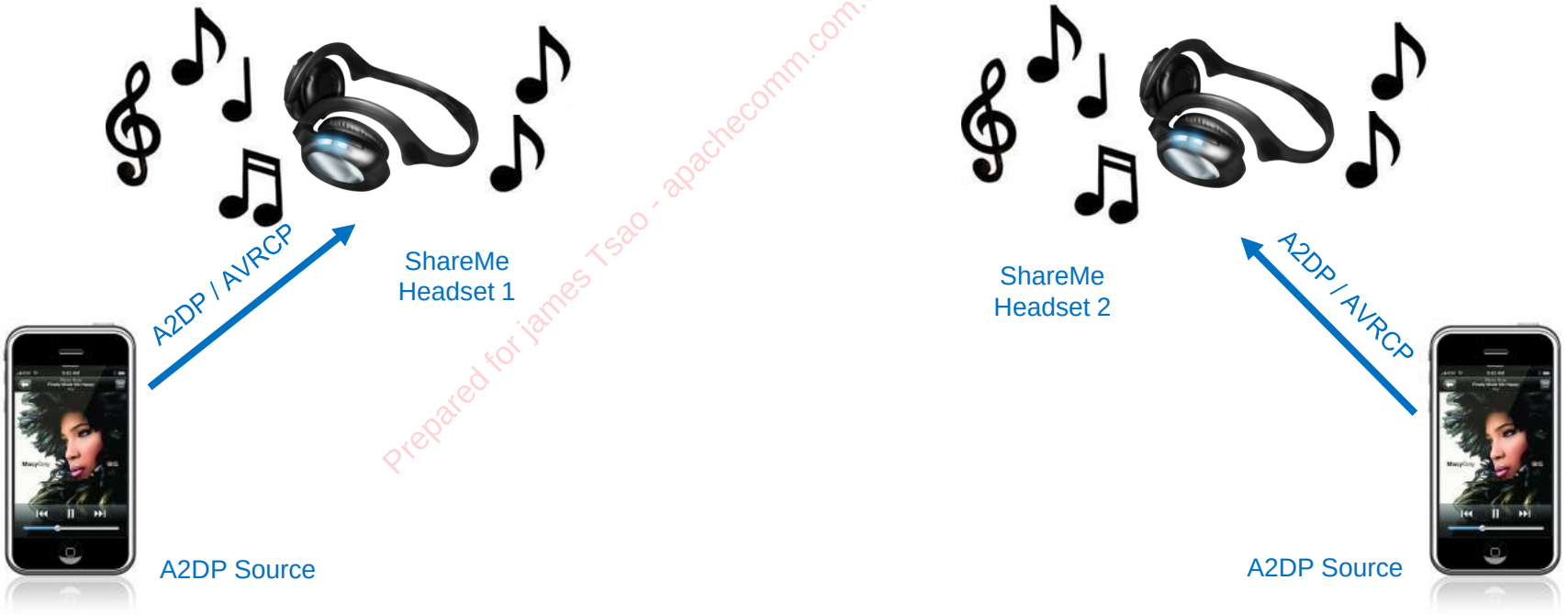
Prepare Headsets For Connection

- It is recommended that audio streaming is stopped to:
  - Connect faster
  - Avoid interoperability issues



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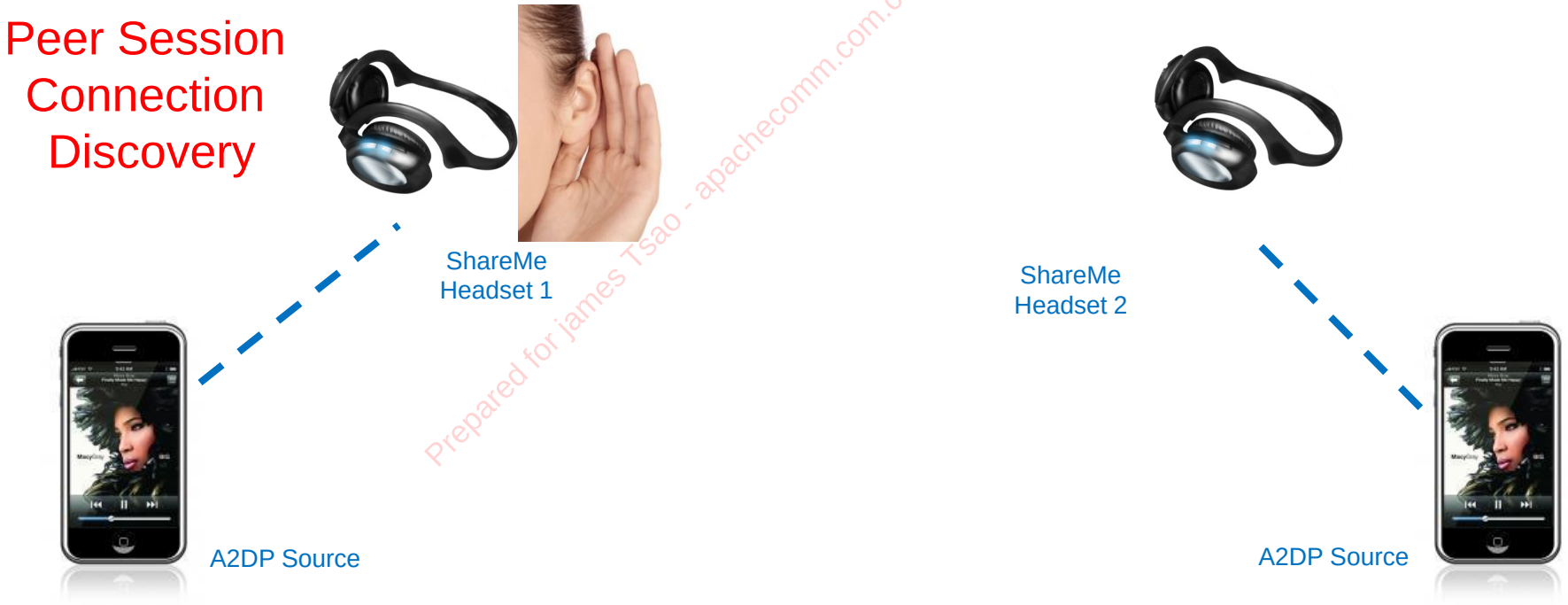
Peer Session Connection Discovery

- Peer Session Connection Discovery
  - Puts headset into pairing
  - Headset is waiting for inquiry requests



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Peer Session Inquiry

- Peer Session Inquiry
  - Starts sending inquiry requests to devices listening for incoming connections (devices in pairing)

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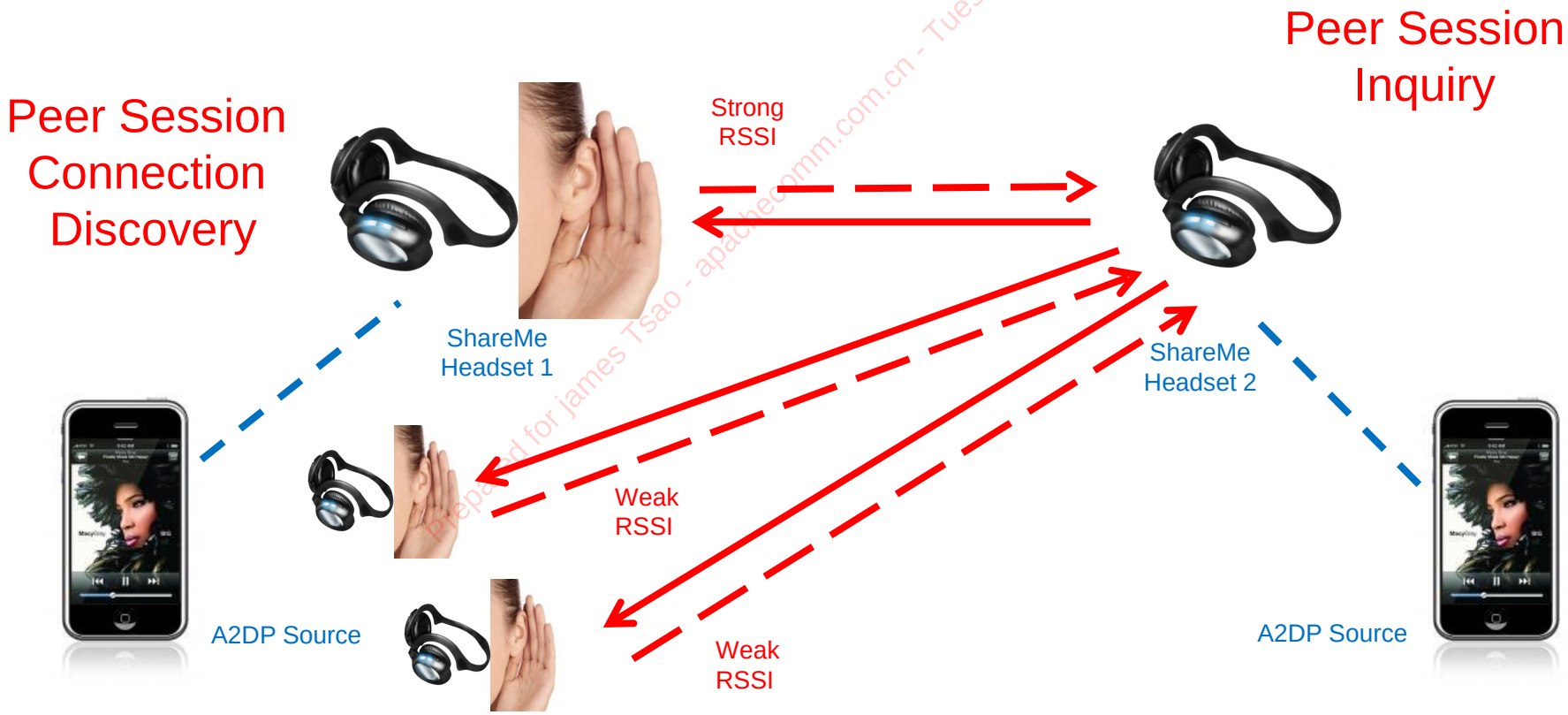
Inquiry Responses

- Multiple inquiry responses can be received
- RSSI used to determine closest ShareMe device



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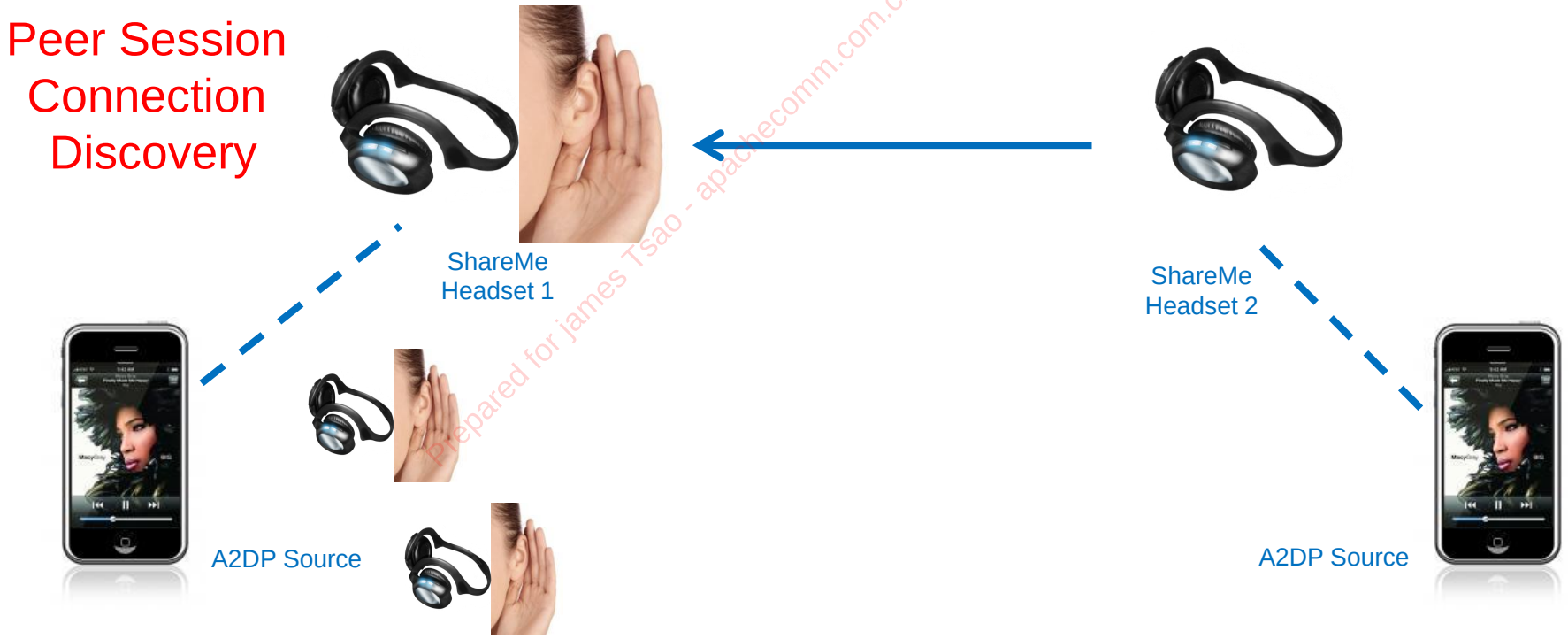
Connection Request

- Peer connects to the closest ShareMe device



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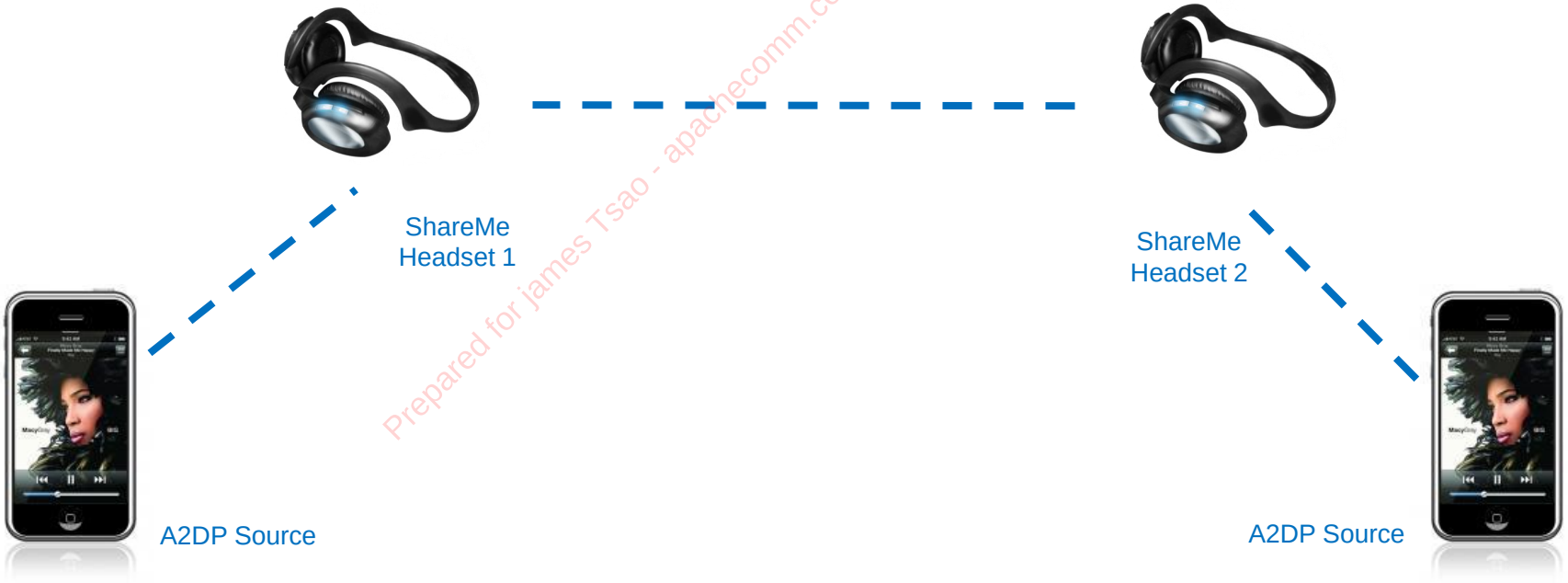
ShareMe Session Open

- Either peer may start relaying audio



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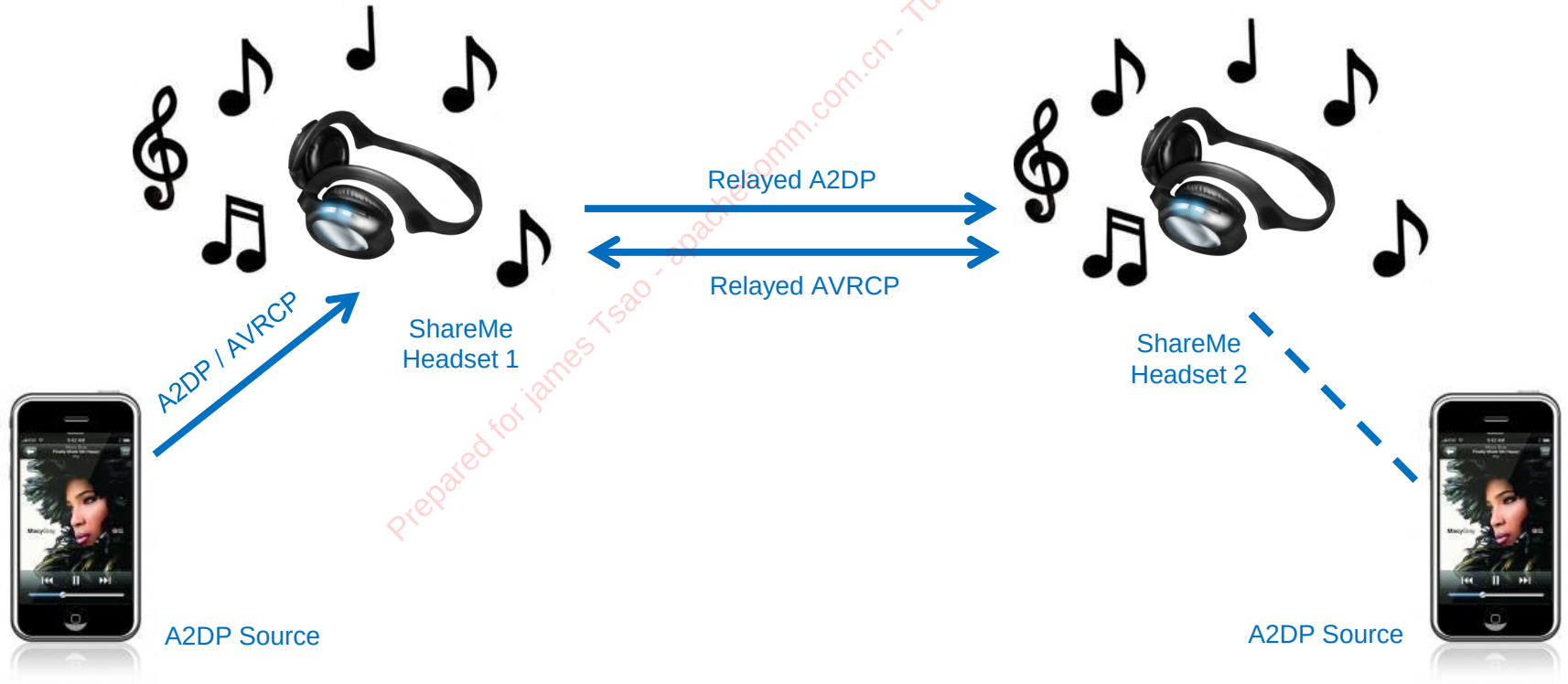
ShareMe Session Music Relay

- First peer relays audio and AVRCP commands



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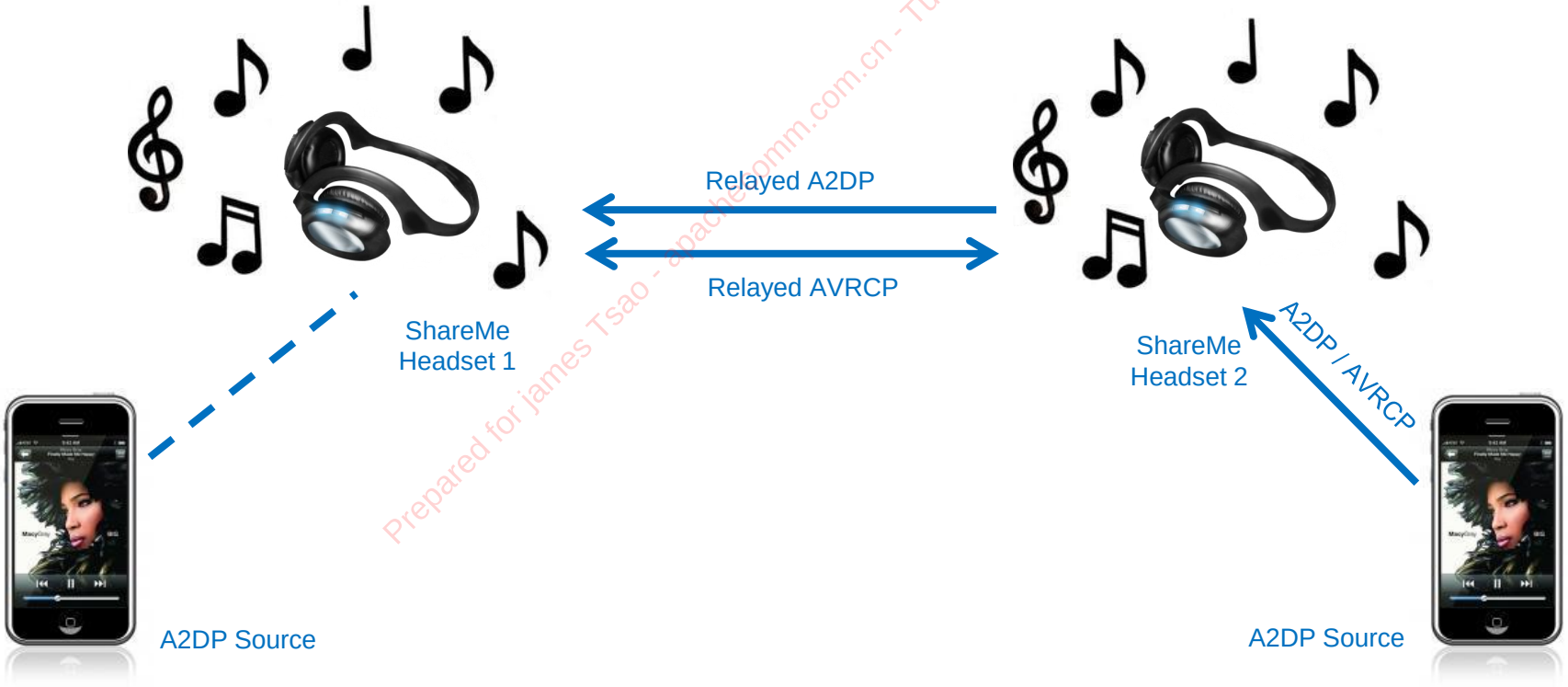
ShareMe Session Music Relay

- Second peer can start relaying audio if the first peer has stopped relaying audio



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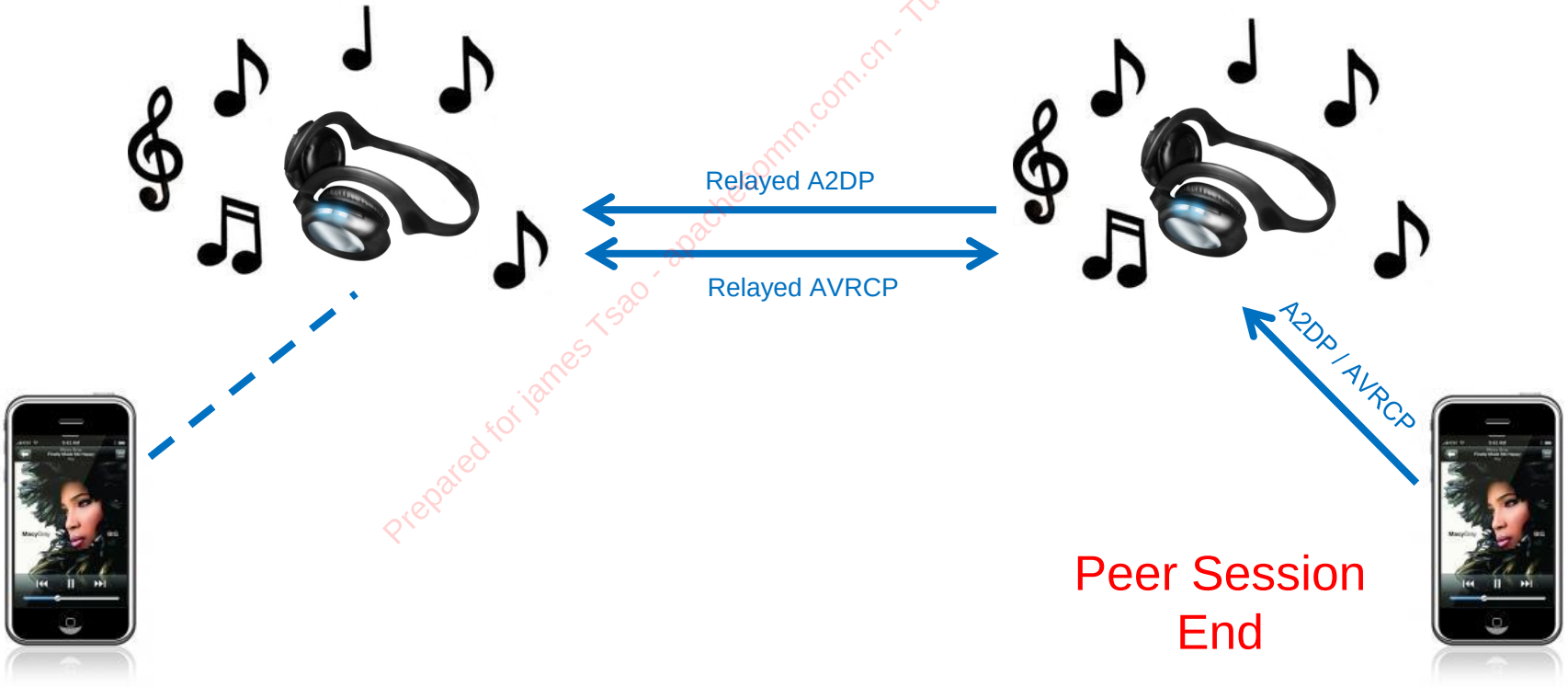
Peer Session End

- ShareMe session can be terminated at any time using the “Peer Session End” command



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ShareMe Session Closed

- ShareMe headsets are no longer connected and can be used as ordinary headsets
- New peer session has to be opened before audio can be relayed again

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Audio Control

- No volume control synchronization
- ShareMe source peer controls audio source via AVRCP:
  - Volume
  - Mute
  - Skip track
- If AVRCP relay enabled sink peer will also be able to control the audio source

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Supported Codecs

- ShareMe audio streamed over SBC, MP3 and aptX
- AAC stream relay not supported
- AAC connections renegotiated to SBC before the start of ShareMe streaming

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ShareMe Pairing Mode

- Pairings are either temporary or standard.
- Temporary Pairing
  - Pairing deleted from Paired Device List when session is closed
  - Headset attempts to recover from link loss
- Standard Pairing
  - Pairing stored permanently in Pair Device List
  - ShareMe Pairing treated as any other pairing

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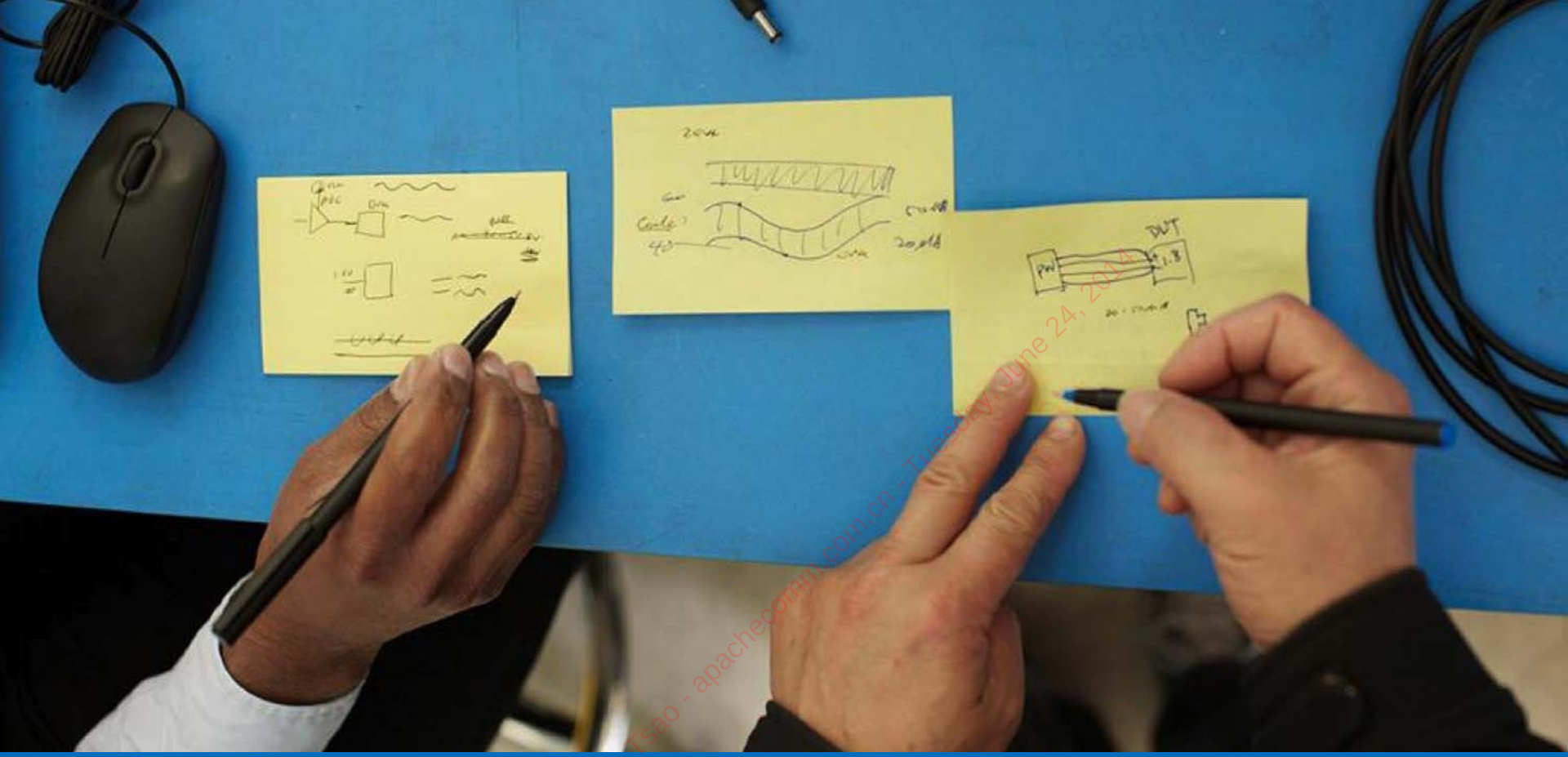

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Building ShareMe

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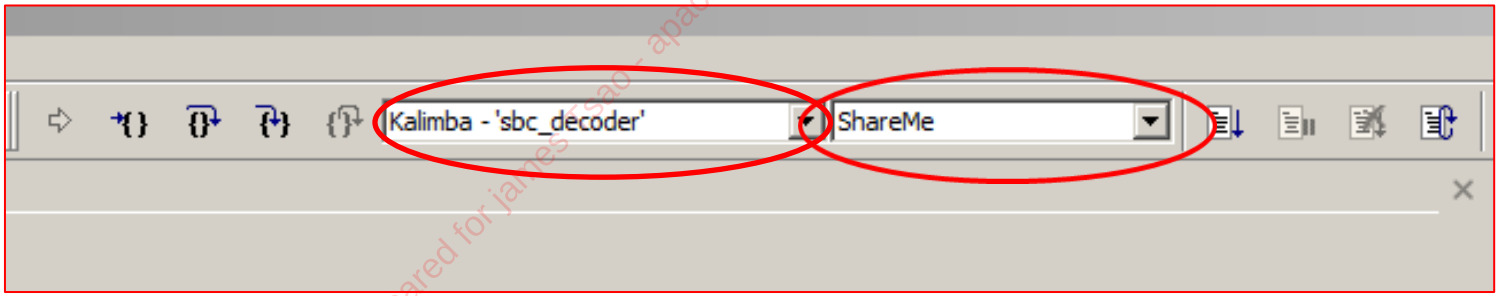
Enable ShareMe in DSP application

- Select ShareMe Configuration for the DSP project in xIDE toolbar

- Recompile sbc_decoder project



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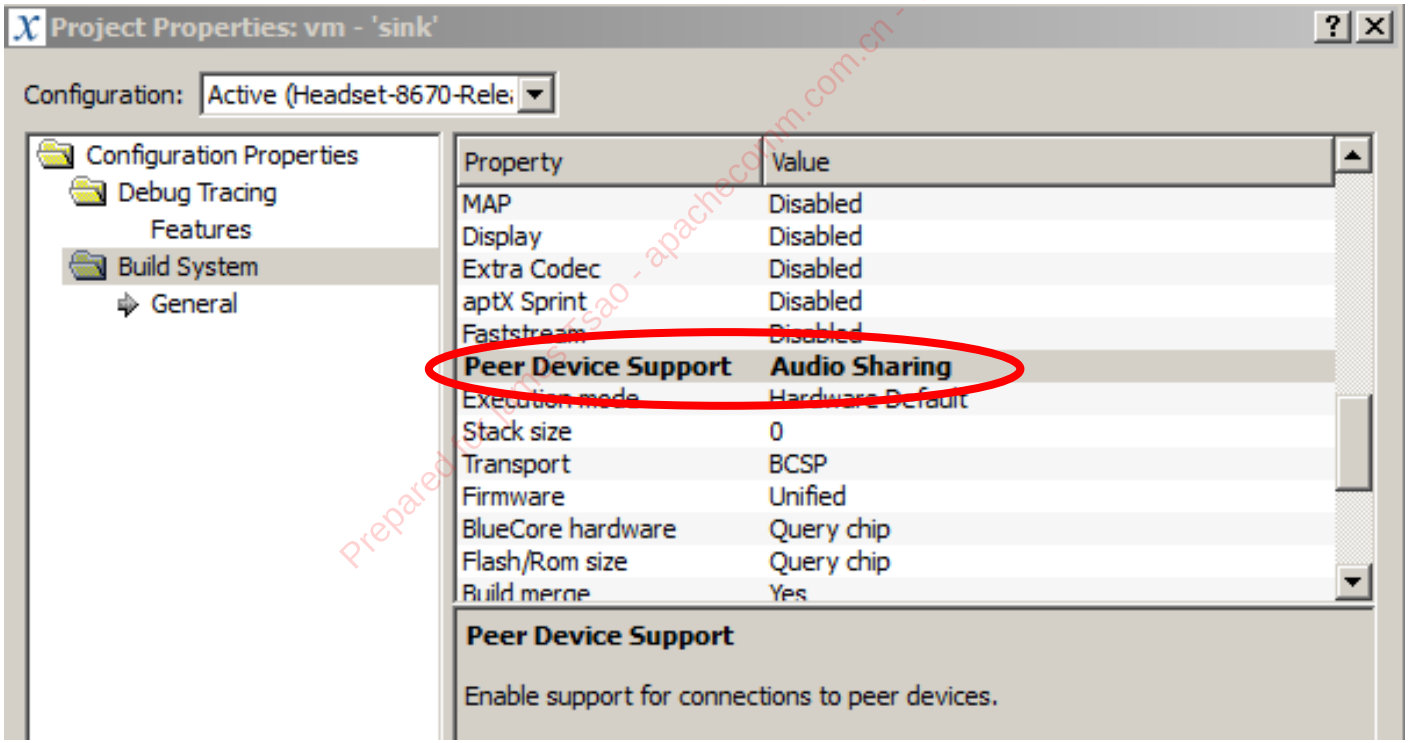
Enable ShareMe in Headset

- Configure VM application for ShareMe
  - Set “Peer Device Support” property to “Audio Sharing”
- Recompile VM application



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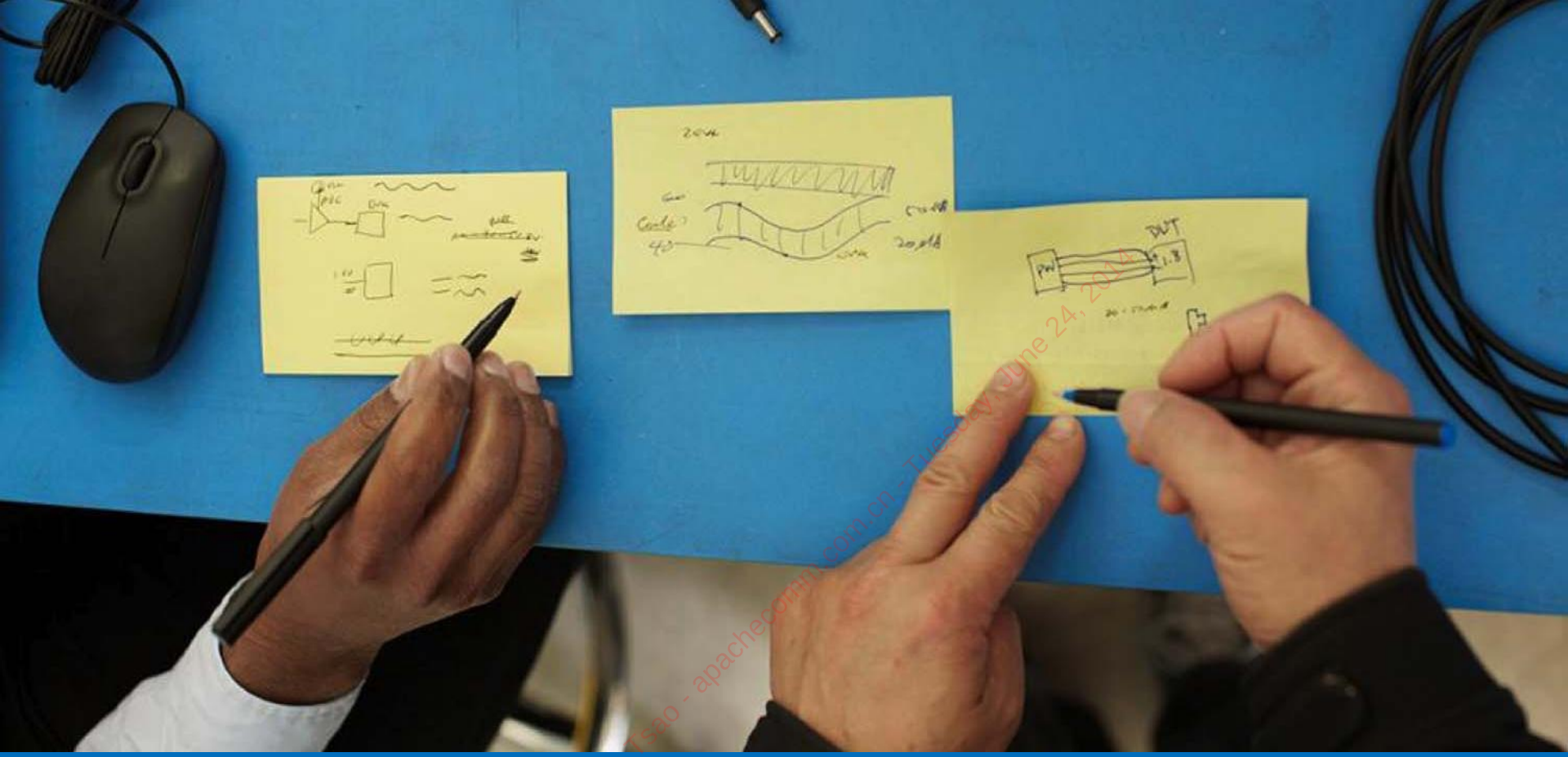

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ShareMe Configuration

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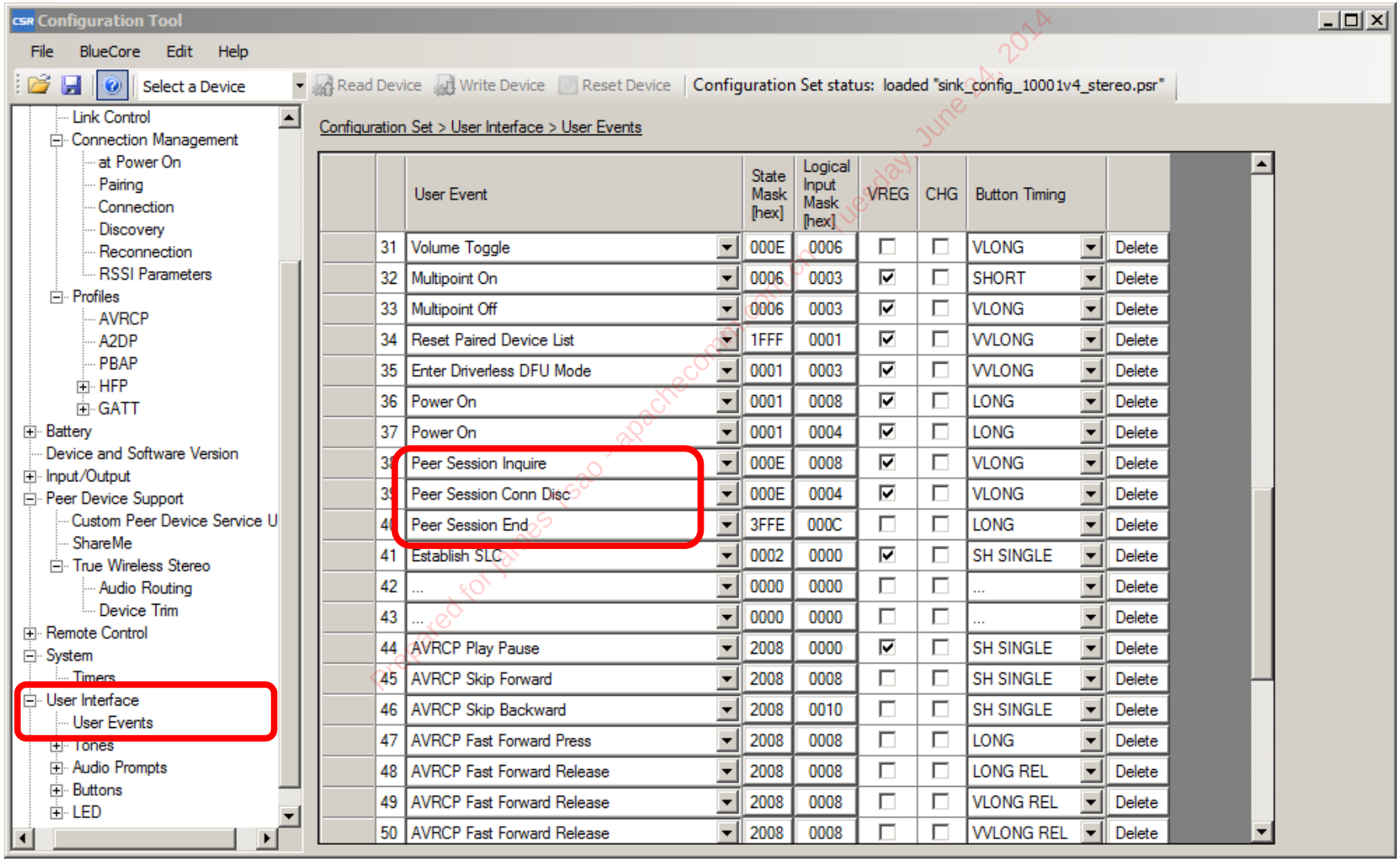
Configure ShareMe User Commands



Configure Multipoint Commands

- Multipoint mode must be enabled
- Only one phone can be connected
- Multipoint state saved in persistent store
  (preserved across reboots)

	31	Volume Toggle	000E	0006	☐	☐	VLONG	Delete
	32	Multipoint On	0006	0003	☑	☐	SHORT	Delete
	33	Multipoint Off	0006	0003	☑	☐	VLONG	Delete
	34	Reset Paired Device List	1FFF	0001	☑	☐	VVLONG	Delete

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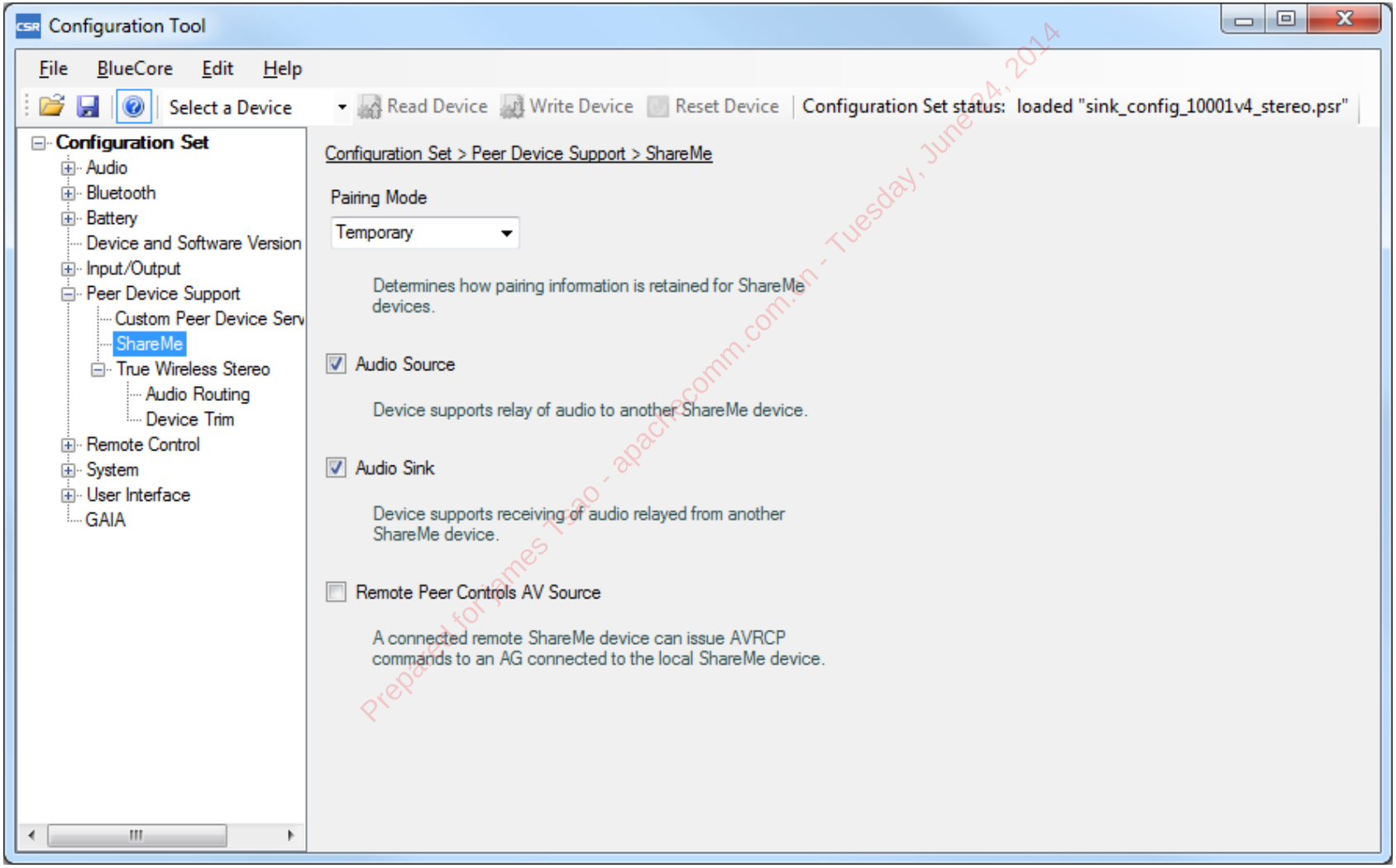
ShareMe Configuration Parameters



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ShareMe Configuration Parameters (2)

- Audio Source
  - If enabled the device can relay audio to another ShareMe device
- Audio Sink Enabled
  - If enabled the device can render audio received from another ShareMe device
- Remote Peer Controls AV Source Enabled
  - If enabled the device relays AVRCP commands received from peer to audio source

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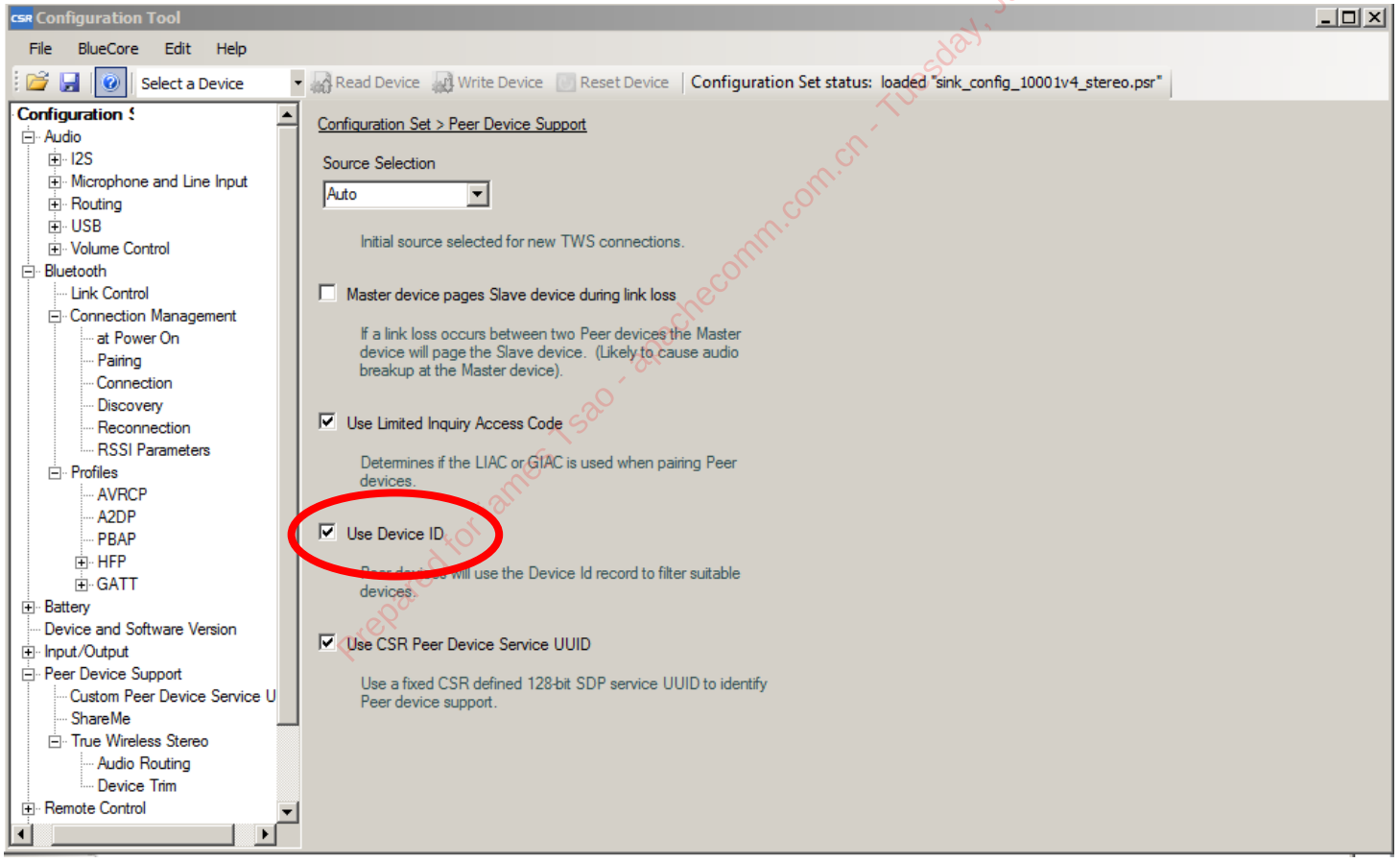
Device ID Filtering (1)

- Connection is allowed only to devices with the same Vendor ID Source, Vendor ID, Product ID



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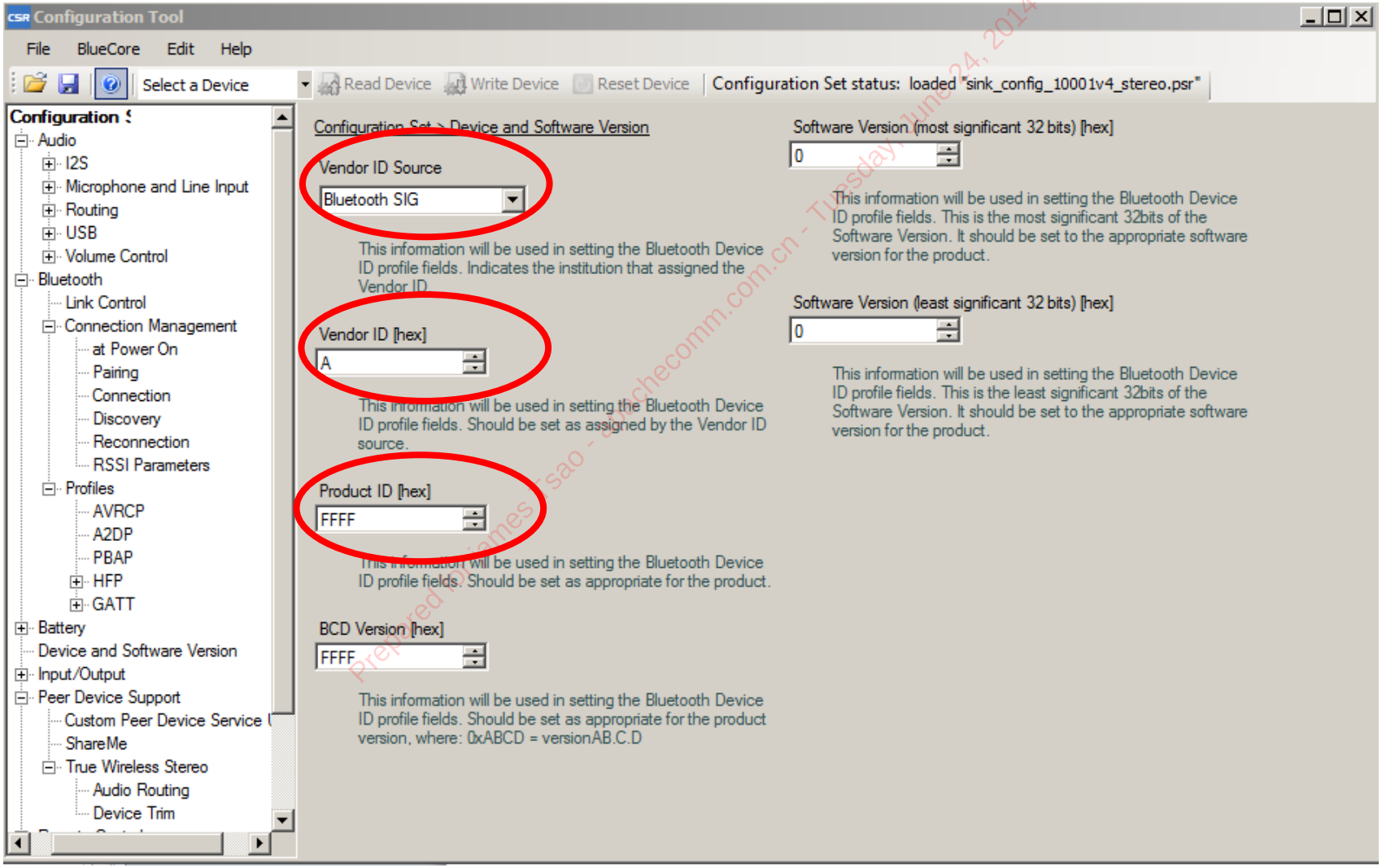
Device ID Filtering (2)



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Custom UUID Filtering

- Optional setting used when filtering devices with the same Device ID is required

- PEER_DEVICE_CUSTOM_UUID configured in PSKEY_USR42 or via configurator tool:

Configuration Set > Peer Device Support > Custom Peer Device Service UUID

		Column1	word 1 [hex]	word 2 [hex]	word 3 [hex]	word 4 [hex]	word 5 [hex]	word 6 [hex]	word 7 [hex]	word 8 [hex]
▶	0	128-bit UUID	0000	0000	0000	0000	0000	0000	0000	0000

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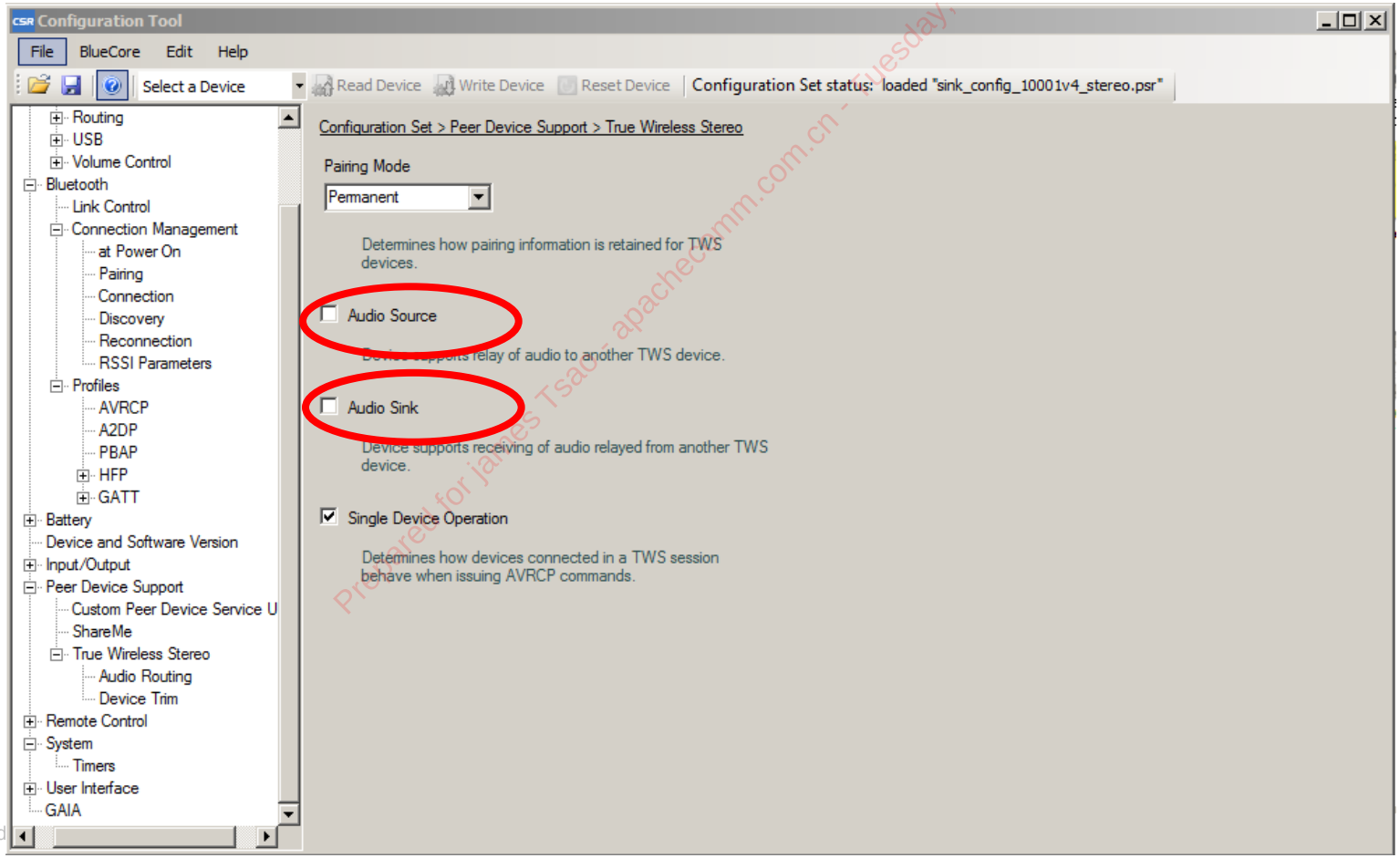
ShareMe and Other Relay Features

- True Wireless Stereo Audio Sink and Audio Source must be disabled when ShareMe is enabled



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Additional information

- Application Note
  - CS-316086-UG “ADK – Peer Device User Guide”

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