2.3 DAW and OSC Modification

The MATLAB application sets the DAW used in audio rendering by each participant to specific configurations using OSC messages.

Each index (1, 2 or 3) used to define latency and audio conditions (as outlined in 2.1 Test Sequence Modification) is associated with an .xlsx file. These different files define OSC message lists which set the DAW to the relevant audio and latency conditions. These files are found in the directory NMP-Evaluation-Method-main\Matlab Application\. The files are named:

- "**oscSystem1Messages.xlsx**" (audio conditions index 1).
- "**oscSystem2Messages.xlsx**" (audio conditions index 2).
- "**oscSystem3Messages.xlsx**" (audio conditions index 3).
- "**oscLatency1Messages.xlsx**" (latency conditions index 1).
- "**oscLatency2Messages.xlsx**" (latency conditions index 2).
- "**oscLatency3Messages.xlsx**" (latency conditions index 3).

The DAW session is set for different conditions using a "reset/set" logic.

The DAW session is set to a default state when the system launches. This uses OSC messages defined in the file "**oscResetMessages.xlsx**". The audio and latency condition set messages apply the necessary changes to set the DAW to the set defined conditions from the default state.

The audio conditions are set by enabling and disabling VST instances on insert tracks used in audio rendering. At each endpoint the DAW session contains 1 insert track for the local participant, and 1 insert track for the remote participant.

The latency conditions are set by controlling send levels from input channels to insert channels in-DAW, and by enabling/disabling a VST instance which adds additional delay to input channels.

In order to modify audio and latency conditions both the DAW session and OSC messages must be edited.

The relevant .xlsx files for each audio and latency condition index, and the .xlsx file for reset conditions may be edited for any DAW configuration. More information on OSC messages for Reaper can be found at https://www.reaper.fm/sdk/osc/osc.php.

Two further files are used in setting DAW configuration for different audio and latency conditions. A mute command is sent before DAW is reconfigured, and an unmute command set when the DAW has been reconfigured. These mute/unmute commands are defined in the files "**oscMuteMessages.xlsx**" and "**oscUnmuteMessages.xlsx**".