

# Solutions

## Technologies for Performing Arts

SOLUTIONS:	LoLa	Zoom w/ High Fidelity Audio	JackTrip	Cleanfeed	Jamulus	UltraGrid	eduMEET
VARIABLES:							
Requires access to R&E network or Symmetric metro/regional 1 Gigabit network	X					X	
Works over standard asymmetric Home Networks (min 3 Megabit upload)		X	X	X	X		X
Point to Point	X	X	X	X	X	X	X
Multiple Sites	X (max 3)	X	X	X	X	X	X
Allows simultaneous video	X		X (some limitations)		X (some limitations)		
Call and Response Instruction		X					X
Works in audio only mode			X	X	X		
Quality video is most important		X	No video (can be combined with video solutions)	No video (can be combined with video solutions)	No video (can be combined with video solutions)	X	
Has High Quality Audio	X		X	X	X	X	Work in progress

### LoLa

A low latency, high quality audio/video transmission system for network musical performances and interaction developed by Conservatorio di Musica "Giuseppe Tartini" from Trieste (Italy) in collaboration with GARR, the Italian Research and Academic Network.

### Zoom with High-Fidelity Audio

Zoom [High-Fidelity Music Mode](#), designed to provide professional-grade audio and optimize all kinds of sound and music use cases happening in your Zoom Meetings. High-Fidelity Music Mode delivers professional audio from a single Zoom client, streaming to one or more listeners, for performing arts and music teachers, songwriters, and anyone else looking for rich, professional-grade sound over Zoom.

### JackTrip

JackTrip is a free, open source program authored by Chris Chafe and Juan Pablo Caceres at Stanford University. It is intended for multi-site audio – a low latency audio-only application. Many musicians use JackTrip because it was made for professional-quality sound and low latency, because it works with existing hardware and does not require any financial investment, and because its developers and others have created a supportive community around it.

### Cleanfeed

A multitrack, multi-party live audio and recording, using only a browser.

### Jamulus

Jamulus is for playing, rehearsing, or just jamming with your friends, your band or just anyone you find online. Use your Windows, macOS or Linux machine to connect to Jamulus servers worldwide, for free over a normal broadband connection. Or host your own private server. Jamulus is designed for high quality, low-latency sound, making it easy to play together remotely and in time.

### UltraGrid

Software for low latency and high-quality video network transmissions. Ultra-high definition video streaming. End-to-end latency as low as 50ms. Transmissions using PC and Mac HW.

### eduMEET

eduMEET is a WebRTC web-conferencing platform, designed and developed within the GÉANT project. It is an interactive, web-based videoconferencing platform, supporting distance learning. A comprehensive and transverse approach resulted in a set of services, that are supporting each other in order to offer a full value product, in particular: WebRTC video conferencing service; distributed STUN/TURN infrastructure to overcome firewall and NAT obstacles; and monitoring, statistics and testing modules to assess the performance of the aforementioned components.