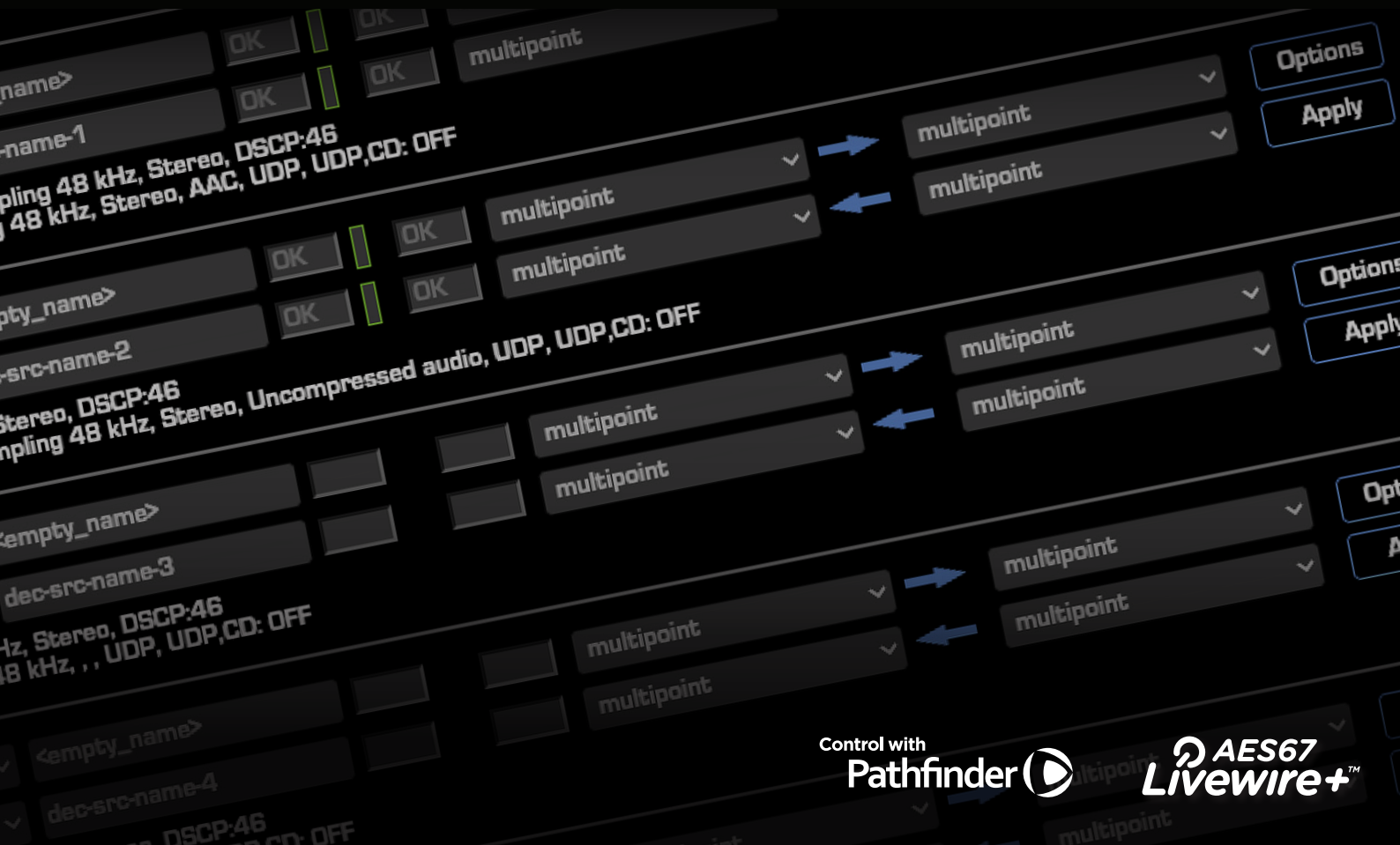
Telos® Zephyr Connect

Getting great-sounding audio from here to there has never been easier.

Telos Alliance®

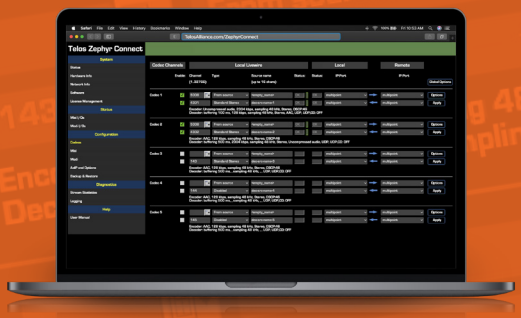
Telos® Zephyr Connect

All the power of Telos® iPort HD in a more scalable, virtual package.



Control with Pathfinder

AES67 Livewire+™



The Telos iPort HD Multi-Codec Gateway - virtualized

Overview

Zephyr Connect is a virtual multi-codec gateway built on the legacy of the Telos iPort series of products. It performs all the same core functions as iPort HD while allowing users to flexibly scale up and down in ways not previously possible. As a software solution, Zephyr Connect is delivered via a Docker container that can be deployed on-premises on a COTS (commercial off-the-shelf) server or cloud-hosted. Need hundreds of codec channels on one server? Zephyr Connect can handle that. Need just a handful on a fanless endpoint at a transmitter site? Zephyr Connect can handle that, too.

Features

- Transports multiple channels of stereo, mono, and dual-mono audio across IP networks
- Comes with 2 bi-directional stereo codecs, licensable up to 64 codecs per instance
- Each codec is independently configurable
- Up to four redundant IP stream destinations per encoder
- Unicast UDP and TCP, or UDP Multicast stream types, independently configurable per WAN stream
- Enhanced aptX™ encoding optional
- Pair with Telos Alliance® xNodes and an adequately configured Ethernet switch for use as a standalone multi-stream codec
- Optional Content Delay feature available

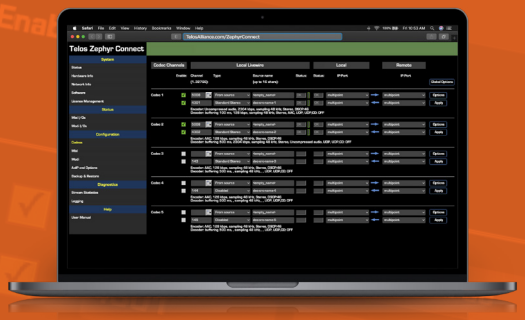
In Depth

Zephyr Connect is a virtualized version of our Telos iPort High-Density Multi-Codec Gateway hardware product, and the two products are fully compatible and interoperable with one another.

Zephyr Connect is delivered as a Docker container for on-premises hosting using a COTS server. Each Zephyr Connect instance starts with two bidirectional codec channels and is expandable via licensing up to 64 channels per instance.

A pair of Zephyr Connects operating via a QoS-controlled IP link can send and receive up to 64 channels of bi-directional stereo MPEG audio. Or, use Zephyr Connect as a one-way “push” link to encode and deliver up to 64 channels of broadcast-quality one-way audio to remote destinations. With its ability to send multiple MPEG channels over IP connections,

So many channels, so many applications



Zephyr Connect is perfect for audio transmission over VPNs, satellite links, Ethernet radio systems, and Telco or ISP-provided IP services such SD-WAN, MPLS, or more traditional (legacy) data links such as T1.

You can use Zephyr Connect for studio-to-transmitter links, network distribution systems, and multi-channel links to remote studios. Install a QoS-enabled IP link between two studios with Livewire® networks, put a Zephyr Connect or iPort HD at each end, and you can pass audio and GPIO between locations as if they were just next door. Paired with an appropriate streaming server, you can even use it to generate multiple channels of MP3- or AAC-coded audio for streaming, broadcasting to mobile phones, and audio distribution systems.

Finally, Zephyr Connect's exclusive optional Content Delay feature enables delayed playout of select received audio channels. Associated GPIO and ancillary data are likewise delayed and synchronized with audio. You can delay any or all coded audio channels; each channel's delay time is independently configurable. The amount of audio that can be stored varies by available storage, and high-end enterprise SSDs are recommended.

Of course, Zephyr Connect's streams sound fantastic thanks to our long-standing relationship with Fraunhofer IIS, the inventor of MP3 and co-inventor of AAC. The encoding algorithms inside are genuine FhG, not no-name knockoffs. A full range of state-of-the-art codec types and bitrates are supported in the highest-quality implementations possible. Choose AAC-LD for delay-sensitive applications, AAC-HE and AAC-HEv2 for low bitrate requirements, standard MPEG AAC for best quality and resilience to packet loss at higher bit rates, or MP3 and MP2 for legacy applications.

Requirements

The information below is intended to provide general operational guidance for software container deployment on a Linux server and is subject to change. For a single Zephyr Connect instance with 64 channels of bi-directional stereo coded audio, the following minimum hardware requirements must be met:

- Cores needed per instance: 4 cores (x86-64 12th generation "Alder Lake" or better, or Gen 6 Xeon server CPU)
- CPU speed requirement: 3.6 GHz
- Memory requirements: 4 GB RAM per instance
- Required Linux distribution: Ubuntu Server v20.04 or 22.04 (64-bit)

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