FERNCAST
- any live audio -

aixtream

Case Study Collection

Successful Implementations of Ferncast Products

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Case Study IV — From Online Audio to In-House RTP

The Situation

Audio media Service Produktionsges. mbH & CoKG (ams) required a solution to handle audio traffic within a "Demilitarized Zone" (DMZ) of their network. They needed a way to securely receive public internet audio in a way that would not expose their internal systems to any attacks or other dangers, and would also allow input of local audio sources via AES67. This audio would then be used for monitoring and internal reuse.

The Requirements

ams needed a solution that:

- Can be deployed on a virtual machine — specifically their Xen servers, set up for redundancy and load balancing.
- Can use audio streams published on the public internet as input (via their URL).
- Can use AES67 inputs.
- Can transcode formats if necessary (into Opus especially).
- Can output RTP streams.

Additional desired features were:

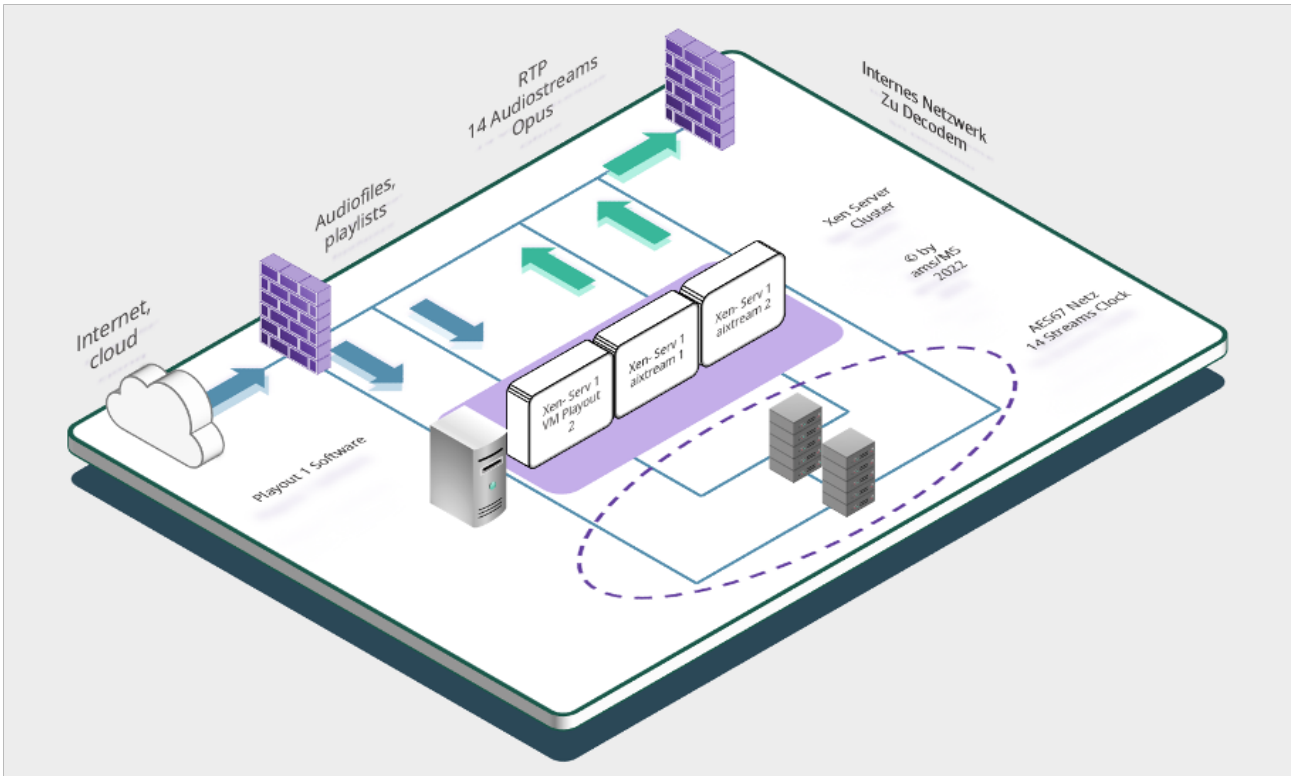
- An affordable backup solution.
- Extensive security and network configuration options.
- Avoiding additional hardware installations.
- Easy integration into their management solutions (API or otherwise).

The Solution — aixtream

Ferncast's software solution **aixtream** turned out to be the answer to all their requirements and wishes. It is a highly scalable software solution, runs on almost any hardware platform, from Raspberry Pis to rack servers, and can be installed on bare metal (as operating system) or in a virtualized environment. It is a highly customizable, modern, intuitive and user-friendly answer to their requirements. This flexibility is also expressed in the support of many different kinds of audio interfaces, codec algorithms and formats. It is possible to use any input with any other output in the same connection, and aixtream supports all possible combinations, including online audio streams to RTP.

It guarantees absolute 24/7 reliability thanks to Ferncast's expertise in broadcasting and processing and also supports embedding metadata in the audio.

Now two aixtream systems — one main and one backup system — are running in ams' network DMZ on virtual machines of type XenServer. These systems use internet and cloud sources as well as AES67 sources and processes these into 14 Opus-encoded RTP streams, which are then transmitted to ams' internal network for final decoding. The final workflow includes a fully redundant setup, with both aixtream systems being complete mirrors of each other and the backup system thus delivering a full set of redundant streams. Virtualized installations on existing XenServers kept the implementation simple, whereas the addition of conventional hardware products would have increased the complexity of the network.



The Benefits

For ams the main reasons for choosing aixtream as a solution were:

- The possibility of installing aixtream on the existing XenServer infrastructure in their DMZ. No additional hardware was required.
- The ability to use internet audio as input for RTP and AES67 streams — no solution offered such a specific functionality as straightforwardly as aixtream.
- Support for various codec algorithms and inputs/outputs.
- ams' extremely positive experiences with Ferncast's Development and Support teams during the initial testing of aixtream. Ferncast reacted swiftly to requests and gave extensive assistance during setup.

- Competitive pricing of the backup system which was made possible thanks to the flexibility of a software-only solution.
- aixtream's modern UI, which was suited perfectly to the setup and monitoring of their specific application.
- The ability to manage and monitor the systems via API.

The use of aixtream in a DMZ also benefits from its extensive security and network configuration features. Running a complex network is often a difficult task, but aixtream helps the user with exhaustive options for configuration and analysis of network traffic and handling.

Since this project, Ferncast and ams have spent a lot of time in close cooperation on multiple tests of other potential applications for aixtream, for example in the area of SIP communication for reporting. Both companies look forward to the results of these tests and many more projects together.