The Dutch National Opera and Ballet Integrates Future-Proof, Low-Latency Technology with the SDVoE Alliance

Nestled in the heart of Amsterdam, at a bend of the Amstel River, a historic theater complex is home to the city hall of Amsterdam and the Dutch National Opera and Ballet, the largest theater production house in the Netherlands. The theater, which opened in September 1986, features various rooms, including an auditorium with 1,600 seats across three levels, a foyer boasting a panoramic view over the Amstel River, and additional smaller private rooms and studios for private events and rehearsals.

The Dutch National Opera and Ballet offers a vast repertoire combining the Dutch National Opera, Dutch National Ballet and the Holland Symfonia. Together, the Dutch National Opera and Ballet creates, produces and presents national and international performances in opera, ballet and related musical and dramatic arts. The Dutch National Opera and Ballet combines song, dance, music, acting, language, technique and design to create a captivating live interpretation of human emotions. Over the past 60 years, the Dutch National Opera and Ballet has evolved into one of the world's most critically acclaimed performance companies.

Challenge

The Dutch National Opera and Ballet harnesses advanced audiovisual equipment to create a magical, immersive experience. The existing audiovisual equipment, which included a composite video analog system, was initially installed in 1986. Rutger Flierman, video engineer and programmer for the Dutch National Opera and Ballet, explained, "In 1986, analog video technology was the preferred and only route for audiovisual systems. We're leveraging real-time video transmission of the conductor camera to the theatre including stage management, fly-bar operators and off-stage singers and orchestras. Over the years, the Dutch National Opera and Ballet introduced new components to enhance the video quality, but, unfortunately, the new devices introduced latency. Additionally, the user experience became increasingly complex as new components were added to the audiovisual system.

Flierman added, "Unfortunately, the cabling in the theater became too old to transport high-definition images across long distances throughout the theater. As a result, the image quality declined, and the stage managers and performers could not view the conductor in a high-quality, latency-free live video feed."

Ultimately, the Dutch National Opera and Ballet determined that many of the components had reached the end of their lifecycle; therefore, a new, future-proof audiovisual system would meet the necessary system requirements.
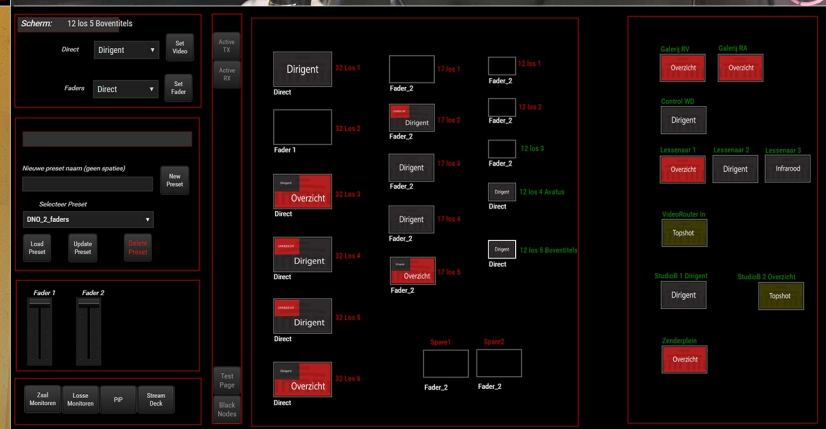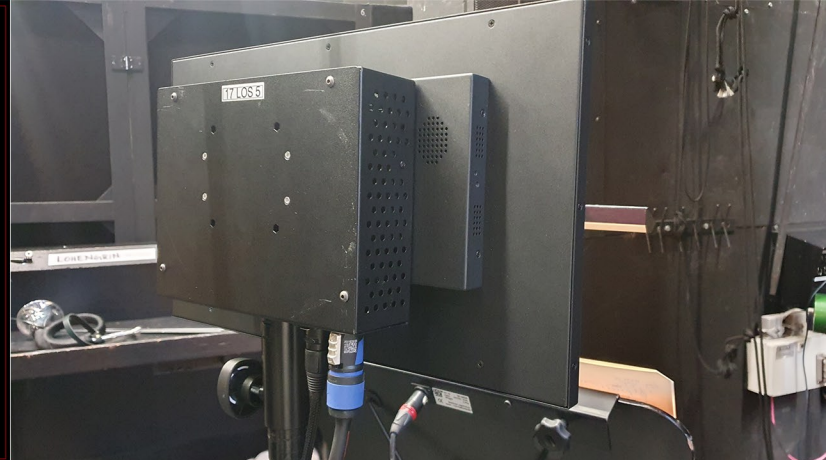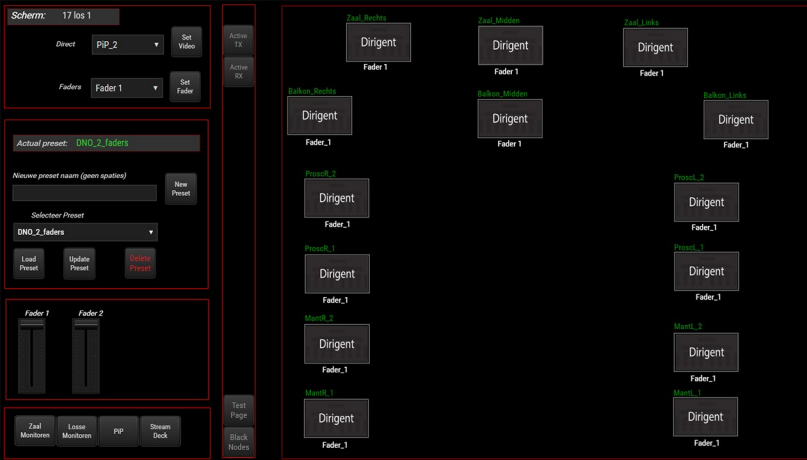
SDVoE ALLIANCE®

Solution

The Dutch National Opera and Ballet required a system with low latency and a high-resolution and refresh rate. Fortunately, the SDVoE Alliance exceeded the Dutch National Opera and Ballet's requirements and, as a result, the Dutch National Opera and Ballet leveraged a network-based system to bridge audio, video and other components while promoting flexibility for future enhancements.

Flierman explained, "The future is network-based. The flexibility of a network-based system enables us to add new devices in the future if the needs or the system requirements change. I began researching network-based audiovisual systems, leading to the SDVoE Alliance. I was intrigued by the SDVoE Alliance's free online courses, so I started taking their online designer courses. It gave me access to outlines and documentation necessary to build a network-based audiovisual system. Plus, the entire course is free."

Flierman applied his knowledge from the SDVoE Academy to design a network-based audiovisual system. Together with Will Hoogervorst Engineering (WHE), the team searched for cameras, monitors and a complete audiovisual solution to switch and fade the image to completely black. This was achieved by a modification of the screens and the ability to send black video from any SDVoE-powered receiver device.

As a result, the Dutch National Opera and Ballet leveraged the SDVoE Alliance's ecosystem, including over 700 solutions designed to integrate seamlessly and flexibly to create an end-to-end hardware and software platform for audiovisual distribution. The SDVoE Alliance's network architectures are based on off-the-shelf Ethernet switches, which provided the Dutch National Opera and Ballet with substantial cost savings and greater system flexibility and scalability over traditional approaches, such as point-to-point extension and circuit-based AV matrix switching. Notably, the SDVoE Alliance's open API allowed the Dutch National Opera and Ballet to exercise their creativity to create a customizable user interface for administrators, technicians and stage managers, allowing them to access multiview, picture-in-picture content, remote camera control, audio and fade to black.

After thorough testing the new, low-latency monitor system was implemented in 2023, at the beginning of the theater season, and all users, including conductors and singers, are very pleased with the huge improvement and outstanding performance. SDVoE technology, as implemented through the SDVoE Alliance's members, provided the Dutch National Opera and Ballet with a future-proof solution for high-resolution, low-latency video distribution across the theater. The Dutch National Opera and Ballet can maintain the audiovisual system, create customized user interfaces built to the specific needs of the theater, and implement new technologies by leveraging the flexibility of SDVoE technology.

Benefits of SDVoE Technology

SDVoE reaches beyond existing standards to provide benefits no other technology can claim:

- A complete ecosystem – SDVoE Alliance members are manufacturers with expertise in signal distribution, display manufacture, IT infrastructure, chip design, and AV software. The integrator has dozens of partners to align with and products to choose from.

- A flexible yet simple software platform – the SDVoE API allows rapid development of highly specialized software, custom-tailored to the needs of a vast array of end users.

- A full OSI stack solution – only SDVoE offers the simplicity of a complete top to bottom solution, fully encompassing infrastructure, transport, processing, and a simple control layer.

For more information on the SDVoE Alliance, please visit www.sdvoe.org.
Keep up with the latest news from the SDVoE Alliance on LinkedIn, Twitter and YouTube.