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Metro System Uses Network-Based Signage to Attract Attention of 80 Million Riders

Clear Channel advertising agency streams high-quality digital signage at low bitrates to subway stations with Matrox Maevex H.264 encoders & decoders

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Images courtesy of Clear Channel Norway

Clear Channel Norway uses Matrox Maevex H.264 encoders and decoders to deliver advertising content onto 176 screens in 3 stations within the Oslo metro system.

Matrox Maevex
H.264 encoder and decoder

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Jonas Michael
Head of Digital Development and Operations, Clear Channel Norway

Executive Summary

Clear Channel Norway installed Matrox Maevex™ H.264 encoders and decoders to deliver advertising content on 176 digital screens in 3 stations within the Oslo metro system. The distributed digital signage is no longer impacted by metro-run system tests that abruptly shut off the power. Consequently, screens, along with Matrox AV-over-IP devices, are now controlled remotely via Matrox Maevex PowerStream™ software.

Challenge

Composed of 6 lines and 100 stations, the Oslo metro system features an annual ridership of over 80 million. While considered prime advertising real estate, the metro system presented several challenges for integrator Clear Channel Norway to deliver digital signage in three metro stations.
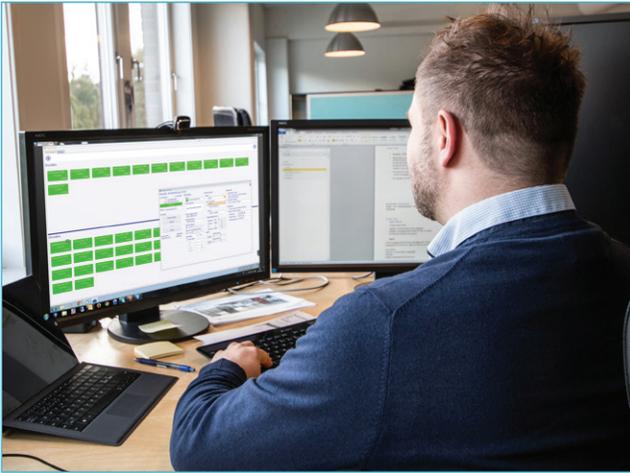
Clear Channel Norway was tasked with setting up a network to provide the content to one hundred and seventy-six 65-inch screens already installed in the digital stations across the Oslo metro system. The original set-up had the screens connected to PC players housed in machine rooms. Signals would be transmitted via HDMI extenders, but emergency power shutdowns for system tests would leave the screens blank even after the connections had been re-established, leading to lost advertising revenue.

"The environment and the operations were quite difficult for us to handle. We needed to find a different solution to transmit the signal from the player to the screens," said Jonas Michael, Head of Digital Development and Operations at Clear Channel Norway.
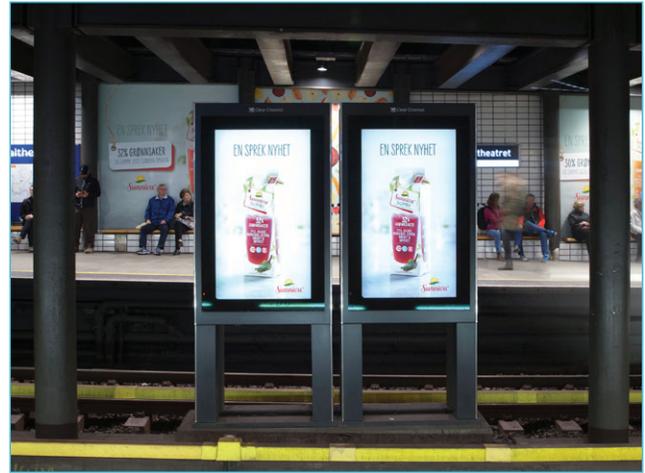
A temporary fix involved having to regularly access the screens to reconfigure the HDMI extenders—a nearly impossible undertaking given the screens were located in between tracks. As a result, Clear Channel Norway sought a stable, cost-effective solution that would not be impacted by abrupt disconnections, require on-site maintenance, or interfere with passengers and metro workers.

Solution

Maevex was the first choice for Clear Channel Norway, as the product specifications fit their AV-over-IP requirements to distribute high-quality, up-to-1080p60 video and audio over IP at low, user-defined bitrates. However, also at the heart of the new installation is the operations center located at Clear Channel's Oslo office, which oversees all operations across the entire network.

The operations center, located at Clear Channel Norway's own Oslo office, oversees all operations across the entire network with Maevex PowerStream.

Digital screens and Matrox AV-over-IP devices at each station are now controlled remotely via Matrox Maevex PowerStream software, so metro-run system tests no longer impact the display.

Connecting via a VPN, Clear Channel Norway uses Maevex PowerStream software to oversee and manage every Maevex encoder and decoder. The firm has also integrated two encoders at each station as a redundancy and can remotely switch to the second should any problems arise.

Content is created using Mermaid digital signage software and placed onto a PC media player in the Clear Channel operations center. The Maevex AV-over-IP platform captures, encodes, and streams the signal for display onto remote digital signage screens within each metro location.

The Maevex decoder's built-in switch also meant a separate switch—to find the PC players at each station and communicate with and control the monitors—was no longer required. As such, Maevex has dramatically reduced the number of players needed and, more importantly, the cost, both of which were huge benefits.

Results

Now, when the power comes back on following a system test, the screens work right away without any issues, which is key for an outdoor advertising company where display problems result in lost revenue. At the moment, the set up is located in three stations, but they are currently working on expanding the network to an additional seven stations. According to Michael, the success of Maevex here is a huge accomplishment, but not a big surprise.

"We feel very strongly that the solutions Matrox produces cannot be compared to home office or consumer products and meet a high grade of industrial standard. Matrox products are built to last," he said. "It was a no-brainer for us to select Matrox."

Clear Channel Norway was so pleased with the results that Maevex, in a similar set-up, has already been integrated by the company on three Oslo Ferries ferry boats and is in the process of being installed in six airports across the country.

"The airport IT staff have already reported back saying, 'Yes, this is what we have been waiting for,' relayed Michael. "In every digital signage setup it is a standard to have the PC just behind the screen. That is the normal way to do it. And Maevex is really a revolution, enabling us to remove it and place it elsewhere in our operations center, away from the public. So, it's a fantastic solution that we foresee using again in the future."

About Maevex AV-over-IP H.264 Encoders/Decoders

Matrox Maevex delivers excellent streaming quality at a fraction of the price of traditional encode/decode systems. Maevex AV-over-IP solutions enable the extension of Full HD quality 1080p60 video & audio over standard IP networks with unicast and multicast support for digital signage, collaborative video walls, and many other applications. Bit rates are user-definable between 100Kbps and 25Mbps, enabling multiple streams on both 100Mb and 1000Mb standard networks. Maevex H.264 encoders even allow for software-based decoding on non-Maevex devices. Maevex encoders can also function in record mode, allowing Full 1080p60 MP4 files to record to NAS or network-shared drives for storage of sensitive and important AV data. Maevex units come bundled with Matrox PowerStream™ software, for easy remote management of Maevex devices and functionality Contact Matrox Graphics to learn more.

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