

DMC Production Unleashes Revolutionary Live AMPP-based Remote Production to Stream 2024 RallyX Championship Events from Racetracks Across Europe



With its live remote streaming of the 2024 RallyX Championship – an exciting, high-value motorsports race now in its 10th year – Scandinavian remote video production powerhouse DMC Production employed Grass Valley® AMPP®, a revolutionary, new approach that solved longstanding technical and logistical challenges with impressive results.

After successfully taking live remote IP-based video production to a whole new level, DMC is committed to using this new operational workflow on future productions, as well as on upcoming remote productions like the upcoming CEV Eurobeach Volley in the Netherlands where the AMPP solution will produce one court, the Swedish Championship in Padel and the PBA Bowling Tournament in Sweden. In fact, DMC believes that it offers tremendous potential to anyone who produces live remote sports, media and entertainment events, especially from locations where internet bandwidth is limited.

Challenges Unique to RallyX

DMC Production is not new to live remote production, nor is it new to covering RallyX Championships, presented by RX Promotion AB. From its many centralized broadcast centers – including hubs in Stockholm, Oslo, and Amsterdam – DMC has produced thousands of live sports remotes. They have been delivering 600 to 800 productions from Norway, and roughly 2,000 more from Finland annually for sports like ice hockey, football and horse racing.

The 2024 RallyX Championship races, which streamed live on [RallyX's YouTube channel](#) to a global audience, featured drivers from many nations, including Germany, Sweden, Norway, Denmark, France, Great Britain, Latvia and Estonia. RallyX involves passenger cars that have been modified with 600 horsepower engines, four-wheel drive and other performance enhancers.

Unlike other sporting events held at major stadiums or other metropolitan venues, RallyX races tend to take place on circuits in the middle

of nowhere. Examples of RallyX locations include Nysum, which is 40 kilometers south of Aalborg in Denmark; and the Höghedens Motorstadion in Älvsbyn, 1,777 km from Stockholm and only 132 km south of the Polar circle.

“Since RallyX only occurs once a year at each venue, it’s not cost-effective to install permanent broadcast connections [or facilities],” said Jens Envall, CTO of DMC Sweden. “We need to rely on existing internet connectivity for these tracks. Some of them have good connectivity but others are really poor, so we decided our remote setup would need around 100 Mb/s.”

The Race to a New Solution

The limitations posed by the 100 Mb/s internet constraint motivated DMC Production to find a new approach to RallyX that would reduce the need for bandwidth while maximizing available capacity. In previous years, DMC had sent two large Outside Broadcast (OB) vans to each championship location, traveling many miles between Finland, Sweden, Norway, Denmark and other participating nations.



These big trucks typically carry large camera and production control room kits, such as switchers and large multiviewer displays, which need to be manned by many on-site operators. Camera signals can be switched on the OB trucks, but these massive vehicles are costly to operate and not environmentally sustainable.

Another option would be to send smaller vans but backhaul the 1080/50p HD camera signals from eight to 10 cameras to a DMC broadcast center. There, skilled personnel, such as technical directors, camera shaders, graphics operators and audio engineers, could work remotely to mix and deliver the finished show for distribution.

The problem with this approach is that it requires large, high-performance IP networks to carry the eight to 10 broadcast-quality camera signals back to the centralized hub for switching. And live broadcasts also depend upon reliable network connections for contribution. Most remote RallyX racing venues couldn't guarantee this level of internet service.

AMPP's value proposition is that it allowed multiple cameras to be switched right on AMPP servers on the vans. With AMPP, the cameras could be controlled and switched remotely from DMC's production center over a mere 100 Mb/s public internet connection. On-site switching of these multiple HD cameras meant that only a single high-quality camera feed or program output, and a multiview feed of all available sources, needed be sent back to the control room via the internet. In this case, it could be two low-bandwidth SRT or RTMP streams that didn't tax the limited internet bandwidth. This approach greatly reduced the cost of production in a more environmentally sustainable way.

"AMPP is a game-changer that is dramatically transforming our live remote video production of RallyX and ultimately other media and entertainment events globally" said Jens Envall, CTO of DMC Production Sweden. "AMPP's scalability and agility are remarkable. We can easily scale up the number of cameras, add production sites and stream program outputs to any of our remote production centers if needed. AMPP is saving us valuable time, reducing

travel time and costs, and allowing us to use our resources, skilled operators and talent how and where it benefits us most."

Crossing the Finish Line

The 2024 RallyX Championship was the first time DMC used AMPP for fully remote production. The new AMPP approach resulted in exceptional quality, and greatly benefited DMC while boosting production value for the rightsholder, RallyX. Based on this success, DMC intends to use it again to elevate the efficiency and profitability of a wider array of future events.

Going entirely remote with AMPP for RallyX reduced fuel consumption, people's travel time, hotel costs, equipment loads, and the adverse effects of CO₂ on the environment. This is because instead of two huge OB vans, DMC only needed to send two smaller conventional vans with only one or two operators. Since the cameras are remotely controlled from the broadcast center, the same technical director, camera shader or other control room person can work remotely on multiple events.

The Winning RallyX Strategy

Calling RallyX “a small revolution and a totally new workflow approach,” Mats Berggren, COO of DMC Norway, explains that, “So far, the biggest limitation for proper remote production has been the need for large bandwidth connectivity to get all the camera signals to your remote center. With a remote vehicle installed with AMPP servers, it is a totally new ballgame. You can do high-quality TV coverage over a regular internet line as long as there’s enough bandwidth for the PGM output, a multiview feed and some control signals. It is a revolution in a way.”

According to Klaus Weber, Grass Valley Product Marketing Director, the RallyX workflow was very streamlined, with two AMPP Edge XL5000 servers, one for each van. AMPP applications running on those servers include: Maverik X, Audio Mix X, Kaleido IP X and Flow Monitor, LiveTouch X, VideoScope HD and Creative Grading Hub. Input/Output (IO) formats used for RallyX were SMPTE ST 2110, SMPTE ST 2022-7, NDI, RTMP and SRT.

The camera package included four Grass Valley LDX® 98 cameras, with Fujinon 14x to 107x lenses, capable of 3-times super slomo speeds. Also in the camera kit were Grass Valley XCU camera control units, CCS-One camera control servers, PTZs and a wireless Vislink RF link. Essentially, any type or number of cameras could have been used or added because the AMPP SaaS workflow is readily scalable without increasing the need for bandwidth.

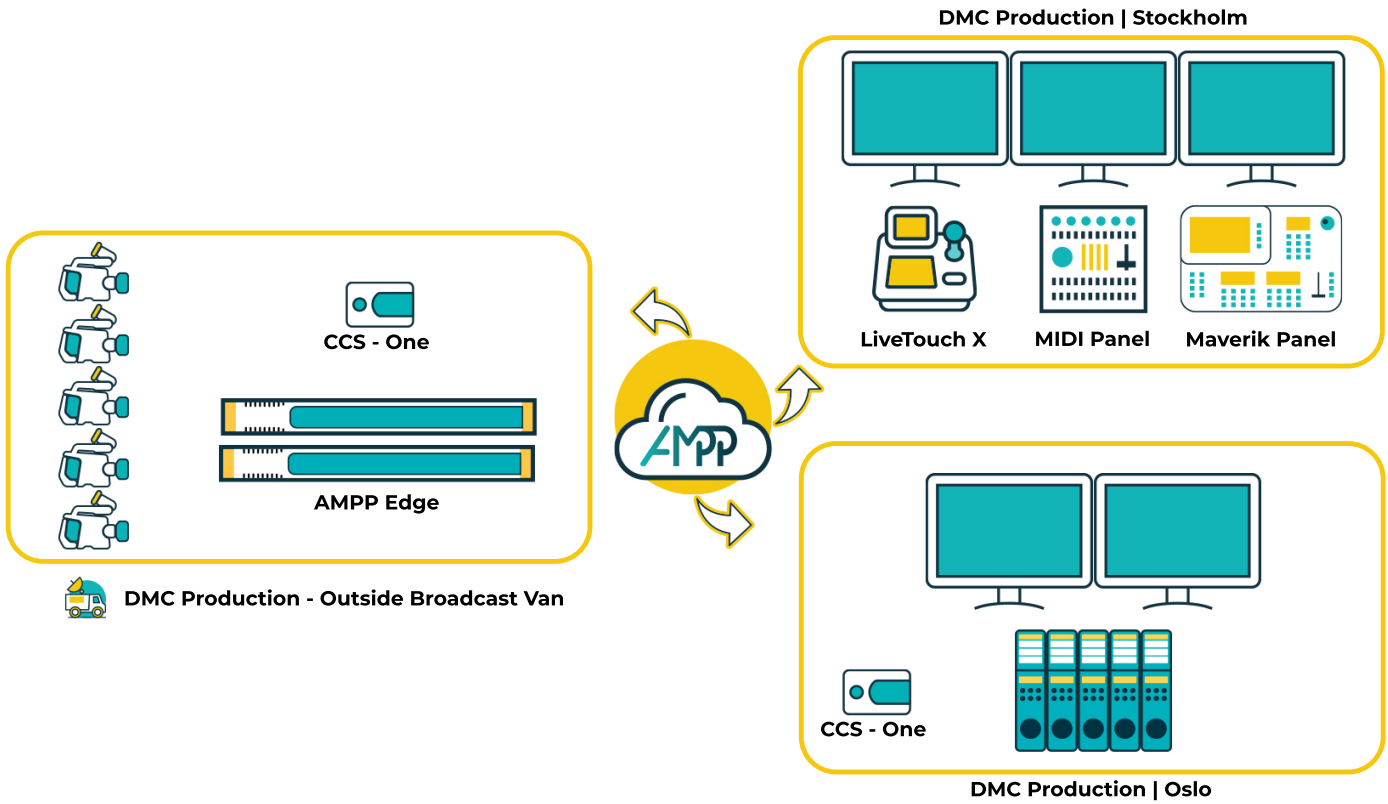
DMC’s personnel and their clients are now able to collaborate remotely on multiple productions – even events taking place simultaneously in different places – because time or money do not have to be spent traveling.

“We’re utilizing the crew we already have at the broadcast centers. Since we already have vision engineers (shaders) in Oslo working on 800 productions a year, we’re just adding RallyX production on top,” Berggren said, “It also means that RallyX maintains editorial consistency by using the same director for each race – saving that director the task of flying to each location, too.” Minimizing travel and using small vans instead of trailer trucks promotes a lower carbon footprint benefiting the planet. This eco-friendly approach aligns with DMC’s and RallyX’s own commitments to environmental sustainability.



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CTO, DMC Production Sweden



Peter Hellman Strand, Head of Broadcast and Media for RallyX, adds, “At the core of our efforts is a dedication to sustainable production methods, ensuring that our operations remain environmentally conscious. By adopting this remote solution, we’re proactively addressing our ecological footprint while maintaining RallyX’s renowned standard of excellence.”

Several DMC colleagues worked closely together to make the 2024 RallyX event successful. Johan Hedblom, Managing Director of DMC Sweden, helped pioneer the revolutionary approach that used AMPP technology to decentralize production infrastructure. Adrian

Falck, DMC Production’s Head of Networks, helped configure and plan the technical setup ensuring a seamless implementation of the AMPP solution.

“RallyX has long been known for its exceptional TV broadcasts of rallycross events and this year is no exception,” said RallyX’s Peter Hellman Strand, “We’re proud to continue offering our top-tier coverage via YouTube, allowing fans worldwide to enjoy the thrilling races from anywhere. This commitment to accessibility underscores our goal of uniting rallycross fans worldwide in their passion for motorsport.”

DMC’s Hedblom summarizes the significance of the 2024 RallyX technological shift compared with previous years’ coverage: “The difference this year is remarkable. The reduced need for high-bandwidth connectivity and the simplified logistics have not only made the production process much smoother, but also more cost-effective. This new approach is enabling DMC to have a new revenue stream by undertaking events such as a Beach Volleyball tournament for the first time. We are eager to apply these learnings to other events and continue improving our workflows.”

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