TELTONIKA RACING TEAM CONNECTIVITY IN DAKAR 2022

SUMMARY

In 2021, racing has become a big topic in Teltonika Networks. Our devices have been tested in the most extreme conditions of various races around the globe, including Sertoes rally in Brazil, Solar Car Race in Morocco, and competition of autonomous driverless vehicles across different European countries. This time our devices have traveled to probably the best world-known rally in the universe - Dakar 2022. This ultimate endurance event is known for its harsh conditions, including extreme weather, long distances, and complicated terrains. The 44th edition of Dakar invited the competitors to endure the challenges of the immense Saudi Arabian desert.

CHALLENGE

Naturally, Dakar rules do not allow any connectivity devices in race cars besides their official navigation and safety equipment. However, three of Teltonika Networks products were installed to provide connectivity in the rally assistance truck that follows the race team from one service area to another to assist the race team.

Due to their design, support trucks follow different routes than race cars and usually do not travel off-road. Yet the race still results as an ultimate two-week test of our devices traveling hundreds of kilometers each day, tested by vibration, dust, heat, and constant network changes among numerous mobile operators to provide stable internet connectivity for the team.

SOLUTION

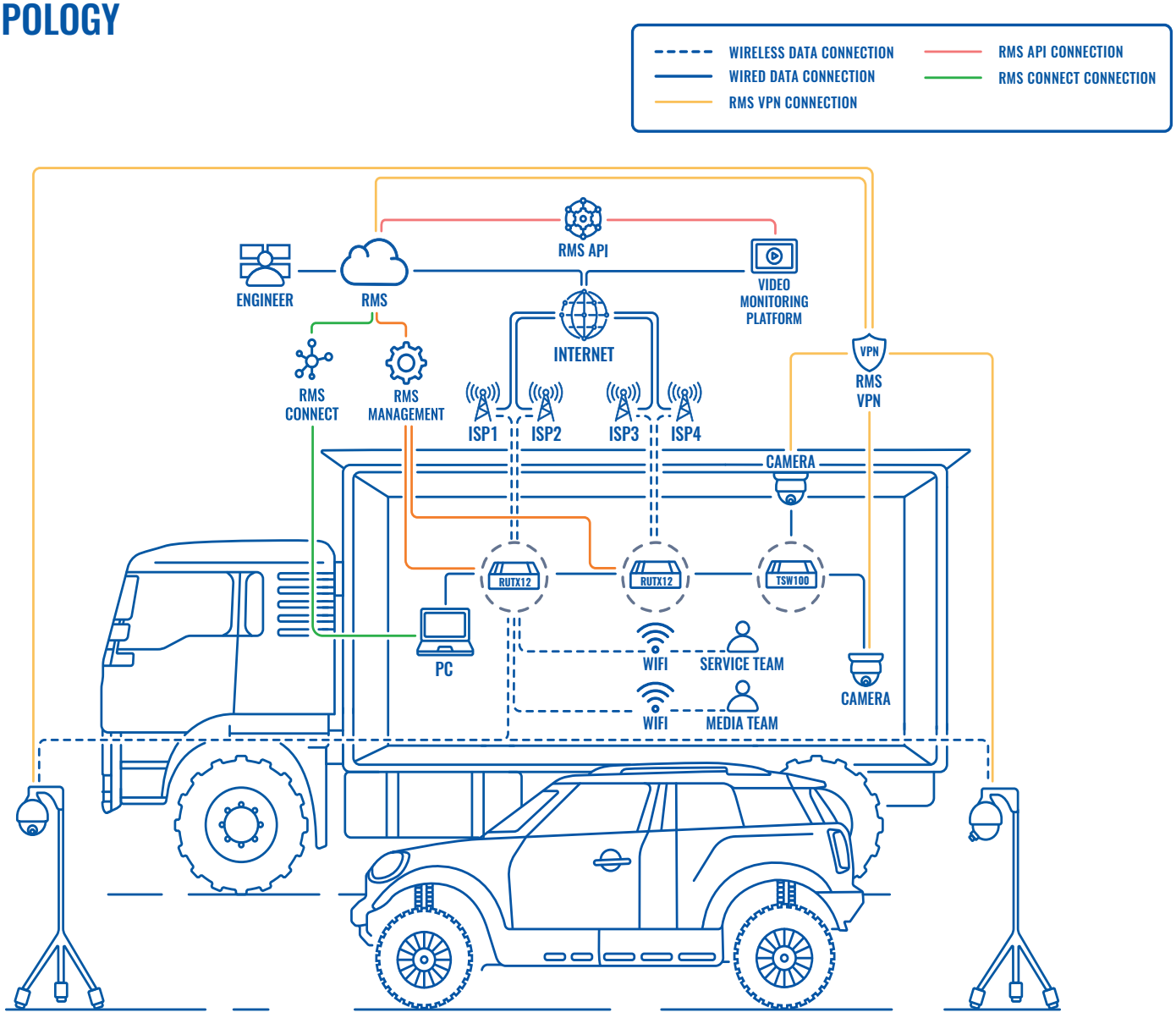
Dakar rally organizers take the security of the competitors and spectators very seriously. However, full of expensive essential equipment and mainly using different routes than the race cars, support trucks require additional security measures. Besides, the racers usually rest away from the bivouac, and remote monitoring options help them keep track of the work progress on the ground and maintain contact with the team.

For these reasons, four IP cameras have been installed on the support truck of the Teltonika racing team. They connect to two RUTX12 cellular routers via the TSW100 switch to receive reliable and uninterrupted internet connectivity using 4G. TSW100 features four PoE ports to easily connect the cameras and power them up at the same time, making the arrangement super quick and straightforward. With this setup, the cameras can be remotely reached using a secure RMS VPN connection for monitoring and support. And most importantly, the data from the cameras can be securely transferred to a remote device, like a laptop, tablet, or phone, to be accessed on demand by the team members.

The two simultaneously operating Dual-LTE Cat6 RUTX12 routers ensure stable connectivity with instant failover among four different operators, while load-balancing helps to increase throughput. Both routers are remotely reachable by an engineer through the RMS Management service for any troubleshooting, updates, and monitoring should the need arise. Using RMS Connect also allows accessing third-party devices. So, even an engineer from another country may access and configure them just like they were physically there.

Lastly, being away from home in challenging conditions, the team members need contact with their loved ones, so internet access is also of essence to them. Hotspot functionality on Teltonika Networks routers enables quickly setting up password secured access points for connecting personal devices of the staff without compromising the safety of the whole solution.

TOPOLOGY



BENEFITS

• Uninterrupted connectivity and high throughput ensured by four simultaneously active SIM cards and load balancing.
• Easy and quick setup of IP cameras due to PoE technology available in TSW100 switch.
• Secure remote access of routers and third-party devices via RMS Management, RMS Connect, and RMS VPN.
• Simple to set up Access Point with Hotspot functionality available in Teltonika Networks routers.
• The industrial design of Teltonika Networks products allows them to sustain harsh conditions, like extreme temperatures and dust in the desert, and the vibration of a moving vehicle.
• The industrial design allows Teltonika Networks products to sustain harsh conditions, like extreme temperatures (the average in January is between 12 and 17 °C and sometimes can reach freezing 0°C at night), dust in the desert, and the vibration of a moving vehicle.

WHY TELTONIKA NETWORKS?

Being an experienced player in the industrial connectivity market, Teltonika Networks gained valuable know-how of creating products that can provide top-level performance even under harsh conditions. Lately, various racing teams have started approaching us to help with the networking solutions for their unique race car setups. Having worked with several teams taking part in races worldwide has tested our products in the most challenging conditions and proven their suitability for this demanding industry.