

Dejero and Rajant deliver live feeds and telemetry data from challenging equestrian polo match

Dejero's *Smart Blending Technology* provided cellular backhaul connectivity from a Rajant Kinetic Mesh® network — featuring the Rajant EquineView[™] solution — to deliver live video and real-time data to online spectators and trainers.

Resilient internet connectivity is crucial to critical communications, be it high-stakes news broadcasts, public safety deployments, or live streaming video and data in action sports. That's why organizations rely on Dejero to deliver uninterrupted connectivity in challenging environments.

Dejero's network aggregation technology was recently put to the test in a fast-paced equestrian polo match. Dejero teamed up with Rajant, a provider of peer-to-peer radio communications enabling video and data applications. Together with Rajant's EquineView technology, the companies streamed high-definition live video as well as horse vitals, speed, direction, and other data for real-time viewing and post-match analysis.

Challenge

Whether it is a person, an animal, or a vehicle, maintaining high-throughput wireless connectivity with a moving object is a significant challenge. Transmitting live video and sensor data without drops, from horses moving at great speeds during a polo match, adds to the complexity.

About Eldorado Polo Club

With expansive mountain views at the east end of the Coachella Valley, Eldorado Polo Club is a paradise for top polo players from around the world. Since 1957, the club has offered the best conditions to play polo during the Winter months and Indio's perfect daytime temperatures create an idyllic environment to host worldclass polo competitions each year from January through March.

Dejero

The scenario is further complicated by the location of the event. In the heart of the Californian desert, polo fields like those in Eldorado are often in remote areas with limited network infrastructure. A wireless networking solution needs to be quick, easy-to-deploy, and simple to use and maintain in the field.

Solution

Around the field of play, four self-connecting radios were placed on poles, coupled with robot-tracking IP cameras to follow the action. Small bridle-mounted cameras provided high-definition video from the horses, giving the spectators online a unique perspective and immersing them in the action.

Two mini-radios were located directly in the saddle-pads of the horses, equipped with embedded sensors to measure and stream each horse's vitals. Video and telemetry data — including heart rate, velocity, and speed — were transmitted over the Rajant Kinetic Mesh wireless network, automatically selecting the optimal path to a Dejero GateWay 211 network aggregation device.

Using Dejero's *Smart Blending Technology*, the GateWay device connected with the Dejero GateWay Cloud Service to route the live video and real-time data to YouTube. The stream provided spectators with different vantage points to view the action, including views from both field-side and the bridle-mounted cameras.

While *Smart Blending Technology* can combine cellular, satellite, and broadband connections from multiple providers — or any Internet Protocol (IP) connection — in this case cellular networks were aggregated in a virtual 'network of networks', to deliver the connection diversity, redundancy, and bandwidth required for the live video and real-time data streams.



Four self-connecting radios were placed on poles around the field of play, coupled with robot-tracking IP cameras to follow the action.



Sensors measured horse vitals while bridle-mounted cameras captured an immersive perspective from the field of play. Two mini-radios located in the saddle-pads connected with the Rajant Kinetic Mesh network to relay the real-time video and data.



Four radios were placed on poles with tracking IP cameras around the field of play. Mini-radios in the saddle-pads of the horses transmitted video and telemetry data over the Rajant Kinetic Mesh network connected to the onsite Dejero GateWay network aggregation device. Connecting with the Dejero GateWay Cloud Service over multiple cellular connections, live content was delivered to YouTube.

While the Rajant EquineView solution supports high-resolution live-streaming, the video and data are available for post-match analysis to help with predictability and future performance.

46 The combination of our two technologies, Dejero and Rajant, provides an extra layer of cool in which we offer uninterrupted connection, extra layers of features, and that omnipresence you need to deliver a superior user experience.

Don Gilbreath, Vice President of Systems, Rajant



Rajant personnel monitored the real-time video and data feeds on location.

Results

The combination of Dejero *Smart Blending Technology* and Rajant EquineView — featuring Rajant Kinetic Mesh private wireless network technology — delivered ultra-reliable, high-bandwidth connectivity for the event. Built-in redundancy and the ability to dynamically adapt to network conditions ensured the success of the equestrian event.

High-definition live video from the horse's perspective was successfully streamed to YouTube along with real-time telemetry data to add to the unique and immersive experience. All this was delivered from a remote location with limited network infrastructure despite the heavy jolts and collisions with other horses that typically occur in a fast-paced polo match.

"We wanted to showcase with Rajant how fast and easy it is to set up a field network that not only can deliver live feeds of an event from a remote location, but also provide viewer-selectable camera feeds and telemetry data from individual participants, similar to what NASCAR fans can access during a race," said Jared Brody, business development advisor at Dejero.

"The resilience of the connectivity we achieved in that match is a testament to the robustness of our network. The speed at which this can be set up without specialist IT input or onsite internet approvals means it can be deployed practically anywhere," concluded Brody.



The Rajant Kinetic Mesh wireless network connected to the Dejero GateWay solution which provided resilient internet connectivity for the livestream by combining cellular connections from multiple providers.

Dejero

Beyond Polo

The robust network technologies proven at the Pacific Coast Circuit Women's Challenge at Eldorado Polo Club in Indio, CA can be used in other equestrian sporting event locations such as steeplechase tracks and cross-country courses. But the technologies also have broad applicability in other sports, live event broadcasts, and public safety scenarios.

With the ability to deliver ultra-reliable, live video and real-time data from moving objects, be they vehicles, humans, or in this case, horses — scenarios previously limited by the reliability of the wireless connections — or in critical communications scenarios where drops or outages can have undesired consequences, Dejero *Smart Blending Technology* and Rajant Kinetic Mesh private wireless network technology can be deployed.

"We see it benefiting a number of different applications," added Brody. "Public safety is a good example in law enforcement and firefighting scenarios where body cameras, drones, or robots can be equipped with radios to provide always-connected live video and real-time data to command units, helping with coordination and decision making. It really can take public safety operations to the next level providing dynamic situational awareness."



Dejero GateWay network aggregation devices use *Smart Blending Technology* to combine cellular connections from multiple providers. The aggregated bandwidth enables real-time video and data to be sent to the desired destination via the GateWay Cloud Service.

Need help choosing the right connectivity solution for your critical communications?

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