

EnGenius Case Study

Davis Cup by Rakuten Finals 2021



Customer	Madrid Arena Stadium
Location	Madrid, Spain
Requirements	A reliable high performance Wi-Fi network
Equipment	33 x indoor access points, 15 x outdoor access points, 12 x 8 port switches, 9 x 24 port switches with Cloud management

The Requirement

The prestigious Davis Cup is an annual competition held between 16 competing countries in eight first round ties. The eight winners then compete in four quarter final tie games, then two semifinals and then a grand finale all viewed by audiences around the world.

Madrid, Spain was one of three cities selected to host this premier international event in men's tennis. The competition included 18 international teams who converged on the designated sports venues in Madrid as well as Innsbruck, Austria and Turin, Italy.

The multipurpose Madrid arena pavilion is in one of Spain's largest parks, the Casa de Campo Fairgrounds, and hosted the final of the competition in December 2021. The arena has a maximum capacity of 12,000 spectators and has two annex buildings, one 20,000sqm and the second with 3000sqm.

The competition was to be covered by approximately 600 journalists and media staff whose task it was to report every aspect of the competition to a global audience. The journalists and representatives due to attend would be generating and distributing large video and data files to news desks around the world in a High-Definition format, so speed and reliability was an essential requirement.

With such a major event as the Davis Cup, the demands for Wi-Fi over the entire complex needed careful planning, with different areas of the venue having specific demands. This included the organisers offices, organisation staff, ITF offices, the player's area, the hospitality zone/VIP restaurants, changing rooms, press area and training tracks.



The Right Product

After reviewing several solutions, the infrastructure team at the Madrid arena stadium selected the EnGenius Cloud managed solution.

The EnGenius portfolio of networking solutions provide an enterprise level Wi-Fi solution which includes internal and external access points as well as Cloud managed PoE switches. All products can be managed via an AI Cloud platform that uses FaaS Technology enabling an SLA of 99.99%. The switch range uses 1Gb, 2.5Gb and 10Gb (including Multiport 2.5Gb and 10Gb switches) allowing clients to take advantage of increased Wi-Fi 6 speed capability and ensure that all data demands are met.

Incorporating latest standards, and without any ongoing subscription costs and licence fees, the EnGenius solution provided everything necessary to meet the complex's needs, add to that a limited lifetime warranty and free Firmware upgrades for Life, made EnGenius the obvious choice for this project.

- Free Support for Life
- Free Limited Lifetime Warranty
- Free unlimited Cloud Management using FaaS Technology
- Zero Touch Provisioning
- Zero On Costs

For organisations that need to manage their wireless networks in an intuitive and secure way without requiring servers to install the network controller, the rapid installation and configuration of EnGenius Cloud equipment provides reliable performance, predictive analysis, and real-time information.

EnGenius also allows you to view your networks in real time under a single pane dashboard.

One of the most prominent requirements, beyond the high density of users, was the management of the network with variable traffic requirements depending on the areas of the stadium and the movement of the public and journalists.

With the EnGenius serverless Cloud solution it was possible to always provide the best connectivity, being able to secure traffic per Client or SSID. This was achieved by using the management tools within the dashboard, which allowed for the optimum settings of different SSID's and a customisable captive portal.



Design and Installation

The ECW230 indoor access point is a 4x4 Wi-Fi 6 indoor access point, with a 2.5G Ethernet port. Each access point supports multi-user MU-MIMO up and down links for optimal signal and reception capabilities, as well as stronger, more stable, and efficient wireless connections.

The ECW260 outdoor access points provided stable Wi-Fi 6 connectivity outdoors. With a high data capacity, these access points ensured optimal connectivity. Installing 4x4 Wi-Fi 6 access points across the site maximised data throughput and gave all users a seamless roaming experience. Consideration also needed to be given to the network backbone to ensure no bottlenecks were created.

To alleviate any issues with bottlenecks, the ECS2512FP 8 port 2.5GbE PoE 240W and the ECS1528P 24 port PoE 240W cloud managed switches with 10G uplinks were installed as part of the LAN backbone upgrade.

All devices were managed from the license-free Cloud platform. The ECW230 access points each with a 2.5 GHz Ethernet port, were able to support multi-user uplink and downlink of MU-MIMO for optimal signal and reception as well as stronger, steadier, and a more efficient wireless connection.



The Result

EnGenius Cloud's AI driven management system provided staff, players, and guests with reliable performance, predictive analysis, and real-time insights. The solution allowed admins to visualise the network under a single pane of glass. The Cloud To-Go mobile app also gave admins the freedom to monitor and manage the network on-site or remotely, providing deep dive analytics into each wired and wireless connected device.

One Cloud feature of particular importance was the ability to manage bandwidth across the network depending on traffic requirements in different parts of the stadium. The IT team was able to reallocate bandwidth in heavy use areas to ensure everyone always had great connectivity.

Finally, the zero touch provisioning ensured that all network devices were configured ahead of time before installation for a speedy rollout of the installation.

The whole installation was carried out by **Parson Project Solutions**. It was not the first time that **Álvaro Cano Parson CEO**, had implemented the EnGenius solution, which for him has always yielded impressive results.

"The integration of EnGenius wired and wireless systems allows us absolute flexibility in our integrations. Our specialised technical team relies on the robustness and stability of the brand's equipment as well as the confidence we have in the Cloud management capability".

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