The Ryder Cup is a sporting event like no other. It brings together the best golfers from the United States and Europe to battle it out over three days. For a sport that usually focuses on the individual, it is a compelling team event – attracting more than 270,000 on-course spectators and a global TV audience with a potential home reach of up to half a billion households.

Golf has never had a problem attracting advertisers’ most sought-after demographic: affluent middle-aged men. The Ryder Cup, held every two years, alternately in the United States then Europe, certainly attracts this audience, but it also pulls in a younger, more diverse crowd. The challenge for The Ryder Cup organisers is to build on this success.

“*We know The Ryder Cup attracts an audience who would never normally watch a golf tournament,*” says Nathan Homer, Chief Commercial and Marketing Officer of The European Tour, organisers of the 2018 Ryder Cup. “*Our challenge is to bring this audience over into golf events throughout the rest of the year.*”

**CREATING AN EXEMPLARY CONNECTIVITY EXPERIENCE**

The 2018 Ryder Cup, held at Le Golf National course in Paris, is the largest event to date. Michael Cole, CTO of the European Tour, says he wanted it to be the most technologically ambitious.

“*My vision was to create a truly connected and intelligent course,*” he says. He wanted to ensure all prime spectator and operational areas on the 150-acre course were covered with wired and wireless connectivity, powering apps, data-gathering sensors and location-based fan services. The generated data would help fine tune future European Tour events, and the exceptional connectivity would deliver an unparalleled sporting experience for fans at Le Golf National.

“When everything is connected then anything is possible,” says Cole.

**A unique physical and logistical challenge**

This is easier said than done. Ryder Cup Europe only had access to Le Golf National for three months for final technology deployment. There was no fibre infrastructure for the distribution layer in place, yet Cole wanted the same level of connectivity fans would experience at home or in the office.

Everything needed to build a high-performance wireless network needed to be temporarily deployed. The components of the solution would need to be adapted and reused at future and smaller European Tour events. Also, the installation needed to be aesthetically sensitive. Cole says the solution couldn’t spoil the natural look of the course with visible access points and switch boxes.

**Biggest ever investment in technology**

The solution is entirely based on the Aruba Mobile First Architecture. It consists of the switching and wireless infrastructure, bolstered by a suite of central management and network security software. It includes Aruba Location of the switching and wireless infrastructure, bolstered by a suite of central management and network security software. It includes Aruba Location

**REQUIREMENTS**

- Change the conversation from just golf to entertainment
- Immersive fan experience across a 150-acre connected course
- Attract younger generations to the world of golf
- Create an increasingly data-enabled entertaining event
- Intelligent infrastructure to collect player, spectator and operational data
- Uninterrupted service and connectivity
- Simplify management across a complex network including IoT and 99,042 BYOD connections

**SOLUTION**

- 649 outdoor, indoor and remote Aruba Wi-Fi APs
- Aruba 7240XM mobility controllers
- Aruba Mobility Master Controller
- Aruba AirWave Network Management
- Aruba ClearPass Policy Manager
- Over 140 Aruba Campus and Edge switches
- Aruba Analytics and Location Engine (ALE)
- 4 HPE FlexFabric DC core switches
- Skyfii analytics and reporting platform
- Ryder Cup App with 826K+ downloads

**OUTCOMES**

- Uninterrupted connectivity for over 99,000 individual devices
- 3.2 Million Wi-Fi sessions
- Total equivalent WLAN and LAN connection time of 63 years
- 59TB data transfers and 15,460 maximum concurrent connections
- Richer fan experience with digital content, alerts, wayfinding and location-based services
- Support of commercial partners through improved digital engagement
- Foundation for content-rich media coverage, enabling shift to social channels
- Delivery of insight for informed planning, management and engagement for future events

“The intelligent edge will transform golf. For me, the intelligent edge really translates into the experience edge for spectators. The 2018 Ryder Cup has set a benchmark for future global sporting events.”

MICHAEL COLE

CTO, EUROPEAN TOUR AND RYDER CUP EUROPE

Services platform and the Analytics Location Engine (ALE), to enable a rich and data-enabled digital engagement with the spectators, on and off the course. The robust integration with a data analytics platform from Skyfii, fed with data points extracted from ALE, meant that Cole and his team could monitor millions of data points throughout the event, monitoring data rates, connectivity heat maps, dwell times and much more.

The site was covered with 649 indoor and outdoor Aruba Wi-Fi access points hidden under grandstands and in trees. In addition, the solution comprised of over 140 Aruba Campus Distribution and Edge switches, as well as locally deployed dual-resilient data centres with 4 HPE FlexFabric DC core switches and an HPE VMware virtual compute platform.
The access points were controlled by four Aruba 7240XM Mobility Controllers and an Aruba Mobility Master Controller. Each pair of controllers was placed in one of the two NOCs. For remote locations requiring secure and convenient connectivity, Aruba AP-303HR Remote APs were deployed. The entire network was configured, monitored, and managed centrally, from an Aruba AirWave Network Management console. “This has been the biggest investment in technology we have ever made for a Ryder Cup,” Cole says. “And this investment gives us the perfect platform, not just for The Ryder Cup but also for the European Tour.”

**Elevating the commercial possibilities**

Besides a sporting success, The Ryder Cup is also a huge commercial opportunity. Of the 51,000 tickets sold for each competition day, 18,000 are premium hospitality tickets. Ryder Cup Europe boasts a family of 30 commercial sponsors, suppliers and licensees, from watch brands to cars, clothing to broadcasters. The on-course shops sell 250,000 items each day. Homer says the Aruba solution helped the commercial stakeholders deliver a more dynamic and rewarding experience at this year’s event: “Our partners are essential in helping us put on a great event, but we can also use the Aruba platform to help them tell the story of what their business does. Connectivity brings it alive somewhere. It makes the story so much more interesting for people to engage with.”

For instance, fans could book test drives in BMWs, or send film clips of them playing a shot from a virtual first tee. Alerts would ping to a fans’ phone based on their whereabouts. “We see 2018 as a step change in the fan and partner experience,” says Homer. “Through the app we can now push relevant information to fans depending on the time of day, location or profile. We can feed insight into this data back to our commercial partners very quickly.”

Also, guests of commercial partners were given access to an enhanced level of Wi-Fi, using Aruba ClearPass capabilities, with seamless onboarding.

**SIMPLIFIED NETWORK MANAGEMENT**

“All of this connectivity, and the huge amounts of data, would have been nothing without security and oversight,” says Cole.

Besides upwards of 51,000 fans on the course every day (plus media, event staff and the teams), the event was covered with sensors and IoT devices. The Aruba solution simplified the network access management process.

“Aruba AirWave allowed us to manage the network in a more integrated way,” says Cole. “We invested in the ClearPass solution to enable us to provide far more efficient access control and onboarding for improved spectator experience across the Wi-Fi infrastructure. Finally, we had full access to the Meridian mobile engagement platform and Aruba’s range of third-party ecosystem partners such as Skyfi.”

**Unlocking a wealth of data**

The 2018 Ryder Cup was able to collect millions of data points for various analytics purposes and the delivery of location-based services. The Aruba Analytics Location Engine delivered these data points. “Anything that moved on the course, I wanted to track it and monitor it,” says Cole. “Data was a game-changer for this event, and golf in general.”

Post-event, Cole says his team was able to unlock the value of this data, to provide actionable insights and cognitive learning to pro-golfers, media and commercial partners. This meant better relationships with commercial partners and a more diverse range of potential offerings to visitors in the future.

“For our commercial partners, we wanted to showcase the capabilities the technology can provide to help open their minds as to how we can work with them to widen participation in golf. We can focus not just on the superfans, but also aim to create a broader spectator experience across younger generations in new territories. For us, data needs to be at the heart of the European Tour and golf in general. Data is a new currency that enables us to truly enable our vision to be a compelling entertainment company with golf as our product.”

**Reimagining the golf experience**

The solution provided by Aruba not only has the ability to change the way The Ryder Cup operates as an event, but also how spectators and fans view the entire sport of golf. By embracing technology and creating a more unique, user-focused experience, The Ryder Cup is at the forefront of inclusive, diverse sporting experiences, something that other sports could emulate in the future.

“The intelligent edge will transform golf,” says Cole. “For me, the intelligent edge really translates into the experience edge for spectators. The 2018 Ryder Cup has set a benchmark for future global sporting events.”

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DRIVING THE SOCIAL EXPERIENCE

At its simplest, visitors to the 2018 Ryder Cup were able to access high-performance Wi-Fi across the course, one of the largest BYOD events of 2018 for any sport. Spectators enjoyed one-click, wireless access throughout the six days of practise and competition, whether greenside or in the food and drinks and merchandise zones. In total, more than 99,000 individual devices connected to the network, generating a total connectivity of 63 years. Using techniques such as geo-fencing, more than 10 million context-based messages were distributed via the app.

“One of the first things any spectator does when they arrive on the course is post a picture. They want their friends to see where they are,” says Homer. “Enabling social media is a huge part of our event marketing.”

The 2018 organisers estimate social media delivers 20x more impact than traditional media. The official Ryder Cup Europe Twitter feed had 254,000 followers by the close of the event, with prolific on-course posting of pictures, videos and news throughout the event, including content from players and commercial partners.

**Engagement through the app**

Aruba connectivity also enabled The Ryder Cup to successfully deliver their new spectator app – a dramatic turnaround in the event’s attitude to mobile use: as recently as 2010, mobile phones were banned from Ryder Cup courses. In 2018, it was a necessary part of the new experience.

The 2018 app provided live scoring, player location and live streaming of media conferences and highlights. Fans could also listen to the live, on-course radio. Cole says the app created “a more immersive environment” for fans. Live data provided fans with more insight into how and where the players were playing.

“Up to this point we believed spectators either followed feature groups or remained stationary and watched players as they came through, but with the investment we’re making we can now truly understand those behaviours because we can track smartphones through beacon technology, and network access,” says Cole. “It was easier for fans to ‘find’ and follow their favourite players.”

This provided a double benefit: fans could better navigate the course, while the organisers were able to get marshals in place ahead of any overcrowding. Longer term, analysis of crowd movements will be used to manage crowd flows, wayfinding, ticketing and merchandising at future events.