

The Jockey Club races out of the stalls with Xirrus Wi-Fi network at Cheltenham Festival



Britain's leading racecourse uses wireless technology to more effectively engage spectators, members, staff, sponsors, media and business partners

Recognised as the 'jewel in Jump Racing's crown', Cheltenham Racecourse plays host to the best jumping action in the world from 350 acres in the lee of the Cotswold Hills. Located at Prestbury Park, the course has a capacity of 67,500 spectators and is the home of The Centaur, one of the largest auditoria in the South West of England, which can cater for up to 4,000 guests.

Voted Britain's Racecourse of the Year for the last 10 years, Cheltenham is owned by The Jockey Club, the largest commercial organisation in British horseracing, which manages 15 of Britain's famous racecourses, including Aintree, Cheltenham and Epsom Downs.

At the 2014 Cheltenham Festival, the world's pre-eminent Jump Racing meeting that attracts over 235,000 race goers, The Jockey Club launched one of the country's most advanced Wi-Fi networks. The Xirrus Wi-Fi network deployment was led by eircom Business, supported by key partners including UCOPIA Communications and Sceptre.

eircom acted as the full systems integrator for the project, bringing together the required technologies and ensuring functionality. This involved managing the Xirrus product deployment, Wi-Fi security and authentication engine, site access and LAN infrastructure.

The aim of the new Wi-Fi network was to enable The Jockey Club to more effectively engage with spectators, members, staff, sponsors, media and business partners, and potentially the jockeys themselves. Comprising 190 Xirrus high-capacity wireless arrays, the eircom-managed Wi-Fi solution now equips Cheltenham Racecourse with proven technology to deliver high speed, reliable, wireless internet access to thousands of mobile phone and tablet users in and around the venue.

"Every year at Cheltenham we look to enhance the experience we offer our race goers," said Ian Renton, Regional Director of the South West region of The Jockey Club Racecourses. "Providing free Wi-Fi is a fantastic innovation for our customers and provides us with a number of commercial benefits."

"The main business objectives for the wireless deployment were threefold," said David Dommert, Group IS Director, The Jockey Club. "First, we wanted to have a managed wireless 'airspace' where all third parties have a common infrastructure to connect to, ensuring improved performance. Second, we needed to meet growing demand from spectators to use their mobile devices for social media and online transactions. Third, we wanted to be able to better connect with spectators and push out content to improve their overall event experience."



THE JOCKEY CLUB

Since 1750

Requirements

- Wireless coverage throughout the 350 acre, 67,500 capacity racecourse, enabling spectators to share race day experiences and access sponsor services
- Specialised, flexible, high-capacity wireless network to ensure a high quality user experience for thousands of concurrent users and devices
- Sign-in via a one-time registration process that encourages race goers to communicate with each other and access online services throughout the event
- Ability to learn which devices spectators use to connect with The Jockey Club, thereby providing information to help in planning investments in digital platforms
- Insights into how fans use the racecourse and its facilities, allowing management to better serve their needs
- Other analytics that enable prioritisation of key applications and the ability to connect more devices to the network by optimising Wi-Fi spectrum usage

Solution

- High capacity 8-radio XR-4820 Wireless Arrays with Application Control in high density areas
- High capacity 4-radio XR-2425H Hardened Wireless Arrays for harsh outdoor environments
- Cost effective 2-radio XR-520H Hardened Access Points for harsh outdoor environments
- Ubiquitous wireless network able to support custom services and Xirrus Management System to provide full monitoring and management of the Xirrus wireless Array network

A unique Wi-Fi deployment

Providing Wi-Fi coverage to a full racecourse has a number of key challenges, primarily due to the high concentration of concurrent mobile users, the size of the area to be covered, and the movement of these users throughout the venue.

Specialised data cabling installation partner Sceptre provided recommendations to eircom on the infrastructure required for such a challenging user environment. Sceptre has worked with Xirrus closely on a number of deployments due to its capability to deliver complex networks with different architecture to traditional wireless Access Points (APs).

“Not only does a racecourse have to cater for a huge volume of users vying for the same Wi-Fi network, these users are moving throughout the venue, so it’s a challenge for any Wi-Fi network to be successful,” said Danny Cole, Solution Principal at eircom Business. “For example, you can have 12-15,000 spectators watching the horses in the parade ring, then when it empties you can have over 65,000 people in the grandstand and track-side to watch the race. It’s very much a tidal effect.

“Throw into the mix the event sponsors each having specific Wi-Fi demands, and the fact that on this occasion we had such a short time frame to get the network up and running, and you’ve got an unusually challenging project.”

The crowds are also very deep, so directional wireless antennae were required to ensure full coverage throughout the grandstands. Xirrus APs were deployed on the railings, pointing into both the grandstand and out to the crowds along the finish line. In addition to meeting user demands, the network also had to cater for the requirements of a number of individual bookies that needed high-performance wireless coverage in the corporate boxes.

“Ensuring coverage is a bit of an art in these environments: the Radio Frequency (RF) tuning and tweaking was a key success factor,” said Cole. “You can put in as much wireless as you want, but if you don’t get the tuning and positioning correct, then it will fail every time.

“Sponsors such as William Hill needed their own specific SSIDs with access to their own mobile betting applications. It was vital that they had high bandwidth and coverage for all of their high-roller clients in these boxes to ensure a seamless experience. There were also a number of retail operators in the venue that needed to access the Wi-Fi for their BPOS systems to take payments.

“Another challenge was managing other retail partners that required their own wireless,” added Cole. “We had to ensure there weren’t too many wireless hotspots as this could lead to degradation in the quality of the wireless network due to channel conflict. It was a mammoth task to say the least, but one which we met with flying colours.”

“The whole deployment was considered a real success and we didn’t receive one technical support call throughout the event,” said Shane Buckley, CEO of Xirrus. “When you consider that we went from sign-off to go-live, deploying 190 wireless arrays, in just seven weeks, it makes it look even more impressive.”



Harnessing user data

UCOPIA Communications, the leading European provider of access security and mobility management solutions, worked with eircom Business to manage the guest access and monetisation component of the network.

When spectators access the Wi-Fi browser from their mobile device, they’re automatically directed to The Jockey Club webpage, which was developed specifically for the event. Following a simple sign-in process where the user is asked to register their contact details, they’re then redirected to the main Jockey Club landing page which displays information and links to key event sponsors. They’re then free to access the Wi-Fi throughout the entire event. This provides a way for sponsors and The Jockey Club to target spectators more effectively, and they can also control what websites users are able to access.

Benefits

- Positively transformed the way The Jockey Club uses technology to engage with spectators, members, staff, sponsors, media and business partners
- Delivers flawless wireless coverage throughout the racecourse and adjoining corporate facilities
- Enables spectators to share commentary on the races, place bets with betting sponsors and access other online services
- Allows The Jockey Club to gain insights into fan behaviors and practices, in order to improve services to fans
- Seamless scalability with 2 to 16 radio solutions that enable expansion of the network to accommodate new venues, applications, users and devices
- Application Control enables the Jockey Club to monitor and control over 1300 apps at the network edge



Through UCOPIA's network analytics, The Jockey Club is able to monitor all manner of user data, including when users access the network, for how long, and the devices they use to gain access. The Jockey Club is then able to use this data to tailor its services accordingly and also engage with these subscribers from a marketing perspective for future events.

The Xirrus Management System provides full monitoring and management of the Xirrus wireless Array network while Application Control enforces 'clean air policies' to ensure the network continuously provides a seamless user experience, particularly during times of peak user demand before each race commences. Application Control prioritises critical applications, restricts usage of bandwidth-heavy applications, and blocks restricted applications from the network.

Measuring success

Throughout the four day event, up to 50,000 people were recorded connecting to the Wi-Fi network, with the highest number of active sessions reaching 19,022 in total on the first day. This included spectators (guest users), members, staff, sponsors, media and business partners. The Jockey Club landing page received over 3,000 daily registrations from guest users alone. The maximum number of devices connected simultaneously reached 2,500, with the network capable of handling up to 20,000 concurrent devices.

The network reached this peak number of simultaneous connections at around 4pm on the last day of the Festival, which was just before Lord Windermere crossed the finish line ahead of the pack to win the 2014 Gold Cup. This indicates that an increased number of spectators were accessing the Wi-Fi to place their last-minute bets before the race. The busiest period during the previous days of the event was between 3-4pm, reaching 1,989 concurrent users on the 11th, 1,633 on the 12th and 1,950 on 13th.

"At Xirrus, we pride ourselves on being able to deliver high performance in the most demanding environments," said Shane Buckley, Xirrus. "The initial results demonstrate the real value that the Wi-Fi network gave spectators, partners and sponsors throughout the entire event. This has ultimately helped The Jockey Club to meet its goal of maximising fan engagement through providing an immersive experience to bandwidth-hungry visitors."

"The evolution of Wi-Fi networks is bringing exciting opportunities to popular venues such as Cheltenham Racecourse," said Enda Doyle, Director, Cloud and Managed Services, eircom Business. "Not only can Wi-Fi help reduce costs while delivering a better customer experience, it can also generate new revenue streams: by using Wi-Fi as a marketing tool to reach customers, or by using it to collect customer data in order to target visitors more effectively."

"A lot of people have tried providing Wi-Fi at racecourses, but failed," said Danny Cole, eircom Business. "The Cheltenham Festival deployment is a great example of how, with the right technology, partners and expertise, wireless can be successful in even the most demanding user environments."

"The Jockey Club is all about giving its customers the best experience and the only way we can do that is by enabling them to connect wirelessly to the venue via their own devices," said David Dommett, The Jockey Club. "The wireless deployment with eircom Business and Xirrus has exceeded all of our expectations to date and we're now developing a long-term strategy for deploying Wi-Fi across The Jockey Club's group of venues."

The Xirrus Advantage

With the explosion of smartphones and tablets, mobility has become ubiquitous. People expect to connect wirelessly. Organisations depend on high-bandwidth to send and receive voice, video and data, from any device to anyone. And no one delivers better than Xirrus.

Our Array-based solutions are unique. They draw from cellular tower design principles to provide wired-like reliability, increased user density and capacity, plus superior security. They perform under the most demanding conditions and have lower infrastructure requirements. When integrated with business and IT objectives, they help you do more than ever before.

At Xirrus, we apply the "best practices" of wired networking to wireless infrastructures by distributing the intelligence to the edge and outfitting the Array with dense multi-state radios in the same manner as a wired switch. That's how Xirrus delivers the best performing, most scalable wireless solutions in the industry. It's a strategic IT infrastructure advantage that fuels organizations. Because Xirrus does wireless networks right.

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