

The O₂: powered by NEC and NEC Philips

October 2007: London's newest and most prestigious entertainment and sports complex is the O₂. Situated on the Greenwich peninsula, The O₂ features a 23,000-seat music and sport arena, an 11-screen multiplex cinema, an exhibition centre, an ice rink, Indigo2, a smaller 2,350 capacity music venue and more than 30 bars and restaurants. NEC supplied the cutting-edge technology required to operate and manage the venue.

Opened in July, The O₂ represents a new start for what was formerly known as the Millennium Dome. In fact, apart from the dome itself, which is still the world's largest single roof structure, the O₂ is unrecognisable from its previous incarnation. "AEG invested £350 million transforming the Millennium Dome into the state of the art O₂. The first purpose built music venue since the Royal Albert Hall, The O₂ has changed the face of entertainment in the UK." says David Campbell, Chief Executive and President of AEG Europe, who own and operate the venue.

"To begin with, the 23,000-seat music arena is absolutely state of the art," Cambell continues. "All aspects of The O₂ arena, including the seating and the ceiling, have been specially designed by AEG to produce enhanced acoustic qualities. Some of the world's top artists, such as the Rolling Stones and Prince, were among the first to stage concerts at the new venue, which will host around 150 events in its first year."

Between concerts, the floor drops away to reveal a skating rink, which will host ice shows and NHL ice hockey matches. The O₂ arena will be an official venue for NBA basketball matches, gymnastics and basketball events during the 2012 Olympics, and it will also host the World Gymnastics Championships in 2009.

The project

As the preferred technology partner, NEC called upon solutions and competencies from across the organisation, delivering digital projectors to the state-of-the-art cinema complex, RFID security solutions and the backbone technology in the form of a fully converged IP infrastructure to support both fixed and wireless voice and data communications, which was delivered by NEC Philips.

In a complex and demanding project with uncompromising timescales, NEC Philips had to call upon its experience of similar projects, including the 2004 Athens Olympics, the Manchester Commonwealth Games and at venues such as the Amsterdam Arena. For NEC Philips this meant the delivery of solutions that have a direct influence on the customer experience, as well as underpinning behind-the-scenes operations where the technology quite literally keeps The O₂ running.

The solution

For The O₂, NEC Philips has implemented a fully converged IP Communications solution, which includes a single network infrastructure for all voice, data and IT communications throughout the venue. The solution provides flexibility, reliability and resilience, enabling users – whether fixed or temporary – to stay connected regardless of their location. “The network infrastructure offers complete resilience and a dimension for growth in anticipation of future needs,” explains Ian Guest, Marketing Manager at NEC Philips Unified Solutions in the UK.

Voice communications within the network are facilitated by a series of the UNIVERGE SV7000 native IP servers. NEC Philips has supplied a solution that not only offers a high level of reliability at product level, but also includes additional features to ensure communications are not lost. This includes building in component redundancy in the form of duplicate servers to handle voice traffic and takeover in the case of any failure in the primary server. Furthermore, in the unlikely event of a complete communications failure within The O₂, a secondary facility located outside the venue would ensure constant availability of communications.

As well as supporting the communications requirements of the O₂'s 1,500, or so, permanent employees, NEC Philips' solution also caters for potentially high numbers of temporary visitors at specific events or occasions, including artists and their entourages. “The solution's built-in ‘Hospitality’ feature allows up to 300 temporary communication end-points to be allocated to individuals or groups, with plenty of room for expansion,” says Guest. “These enable anything from traditional analogue telephony to IP or video-based communications at any location within the venue. Wireless communication is also incorporated into the solution to enable roaming on site for staff, tenants and guests.”

As Jenny McShane, IT Director for AEG, comments, “As communication becomes a more dominant part of professional and social life, it is paramount to ensure access to communication channels is as easy as possible. The Hospitality feature offers the ultimate in flexible communication. We feel that the provision of communication end-points to all visitors to The O₂ shows our commitment to using cutting-edge technology.”

Network management

With such rich functionality and the potential allocation of hundreds of temporary users, the ability to manage the network easily and efficiently is essential. NEC Philips' solution incorporates an intuitive, flexible and intelligent management application, which enables quick and easy changes, including assigning devices/handsets and creating user groups. It also enables billing per user or group.

AEG has also invested in a user efficiency application suite from NEC Philips to handle the enormous amount of calls and contact from customers and other visitors. The application offers elements of Unified Communications with messaging and presence information on a single user interface. “The inclusion of elements of Unified Communications within The O₂ was a high priority for AEG, since we recognise the impact this will have on the business community over the next few years,” says McShane.

“A single user interface provides permanent and temporary communications users at The O₂ with an efficient and effective means to stay in touch.”

Continued innovation

As The O₂'s official Technology Solutions Partners, NEC and NEC Philips have a dedicated technology demonstration suite within The O₂. Derek Owen, General Manager - Marketing, NEC UK Ltd concludes, “The O₂ is a perfect opportunity for us to showcase the breadth and depth of our solutions.”

The O₂ – facts and figures

- The O₂ has an overall diameter of 365 metres, an internal diameter of 320 metres and a circumference of a kilometre
- It encloses a ground-floor area of more than 80,000 square metres
- The O₂ arena is the first purpose built music venue in London since the Royal Albert Hall, in 1837
- At full capacity, the area can hold 23,000 people
- The O₂ arena will host the 2012 Olympics gymnastics and basketball finals and is also the first Olympic venue to be completed
- The smaller live music venue, indigO₂, has a capacity of 2,300 and contains both a standing area and amphitheatre seating
- The O₂ has 11 cinema screens including a 700-seat premier screen
- The O₂ bubble exhibition centre has two levels and covers 6,500m²
- The first exhibition will be Tutankhamen and the Golden Age of the Pharaohs
- The venue employs around 1,500 people

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