



Powerwave Coverage Solutions

Oxford Properties Group

Powerwave Extends Wireless Coverage in 13 Buildings in Toronto for Oxford's Thirty Minute Tenant Service Response

The Customer

Back in 1960, G. Donald Love had a 'light bulb moment' and with just \$300 to his name, launched what is now one of Canada's leading commercial real estate ownership and management companies. Today the Oxford Properties Group (TSE: OXG) owns and/or manages more than 64 million square feet of high-quality office, industrial and retail property in major urban centers throughout Canada and the U.S. Ironically, a burnt out light bulb provided the impetus for yet another brilliant business idea and in the year 2000, ServNet - a division of the Oxford Properties Group - launched its 310-maxx service across the company's network of properties. Intended to provide added value to their tenants, 310-maxx is an innovative Web-based maintenance response system - complete with online tracking and confirmation capabilities - that enables building custodians "on the go" to respond to maintenance requests with greater efficiency. For example, if a tenant needs a light bulb changed, they simply log on to www.310maxx.com or call 310-maxx and submit their request. The appropriate custodian is then immediately notified by the Oxford ServNet Call Centre via an e-mail page sent to them on their RIM Blackberry over Mobitex, Rogers AT&T's dedicated two-way wireless data network.

The Challenge

With some 15 billion short messages currently delivered via wireless devices worldwide on a monthly basis - a figure which is growing exponentially - Oxford Properties Group has once again shown great foresight with the introduction of their 310-maxx service. However, shortly after its implementation, custodians at thirteen of their Toronto properties began to experience serious signal disruptions. The affected properties included Atria II, Atria III, Metro Centre, Richmond-Adelaide Centre, Royal Bank Plaza, Toronto Place, College Park, Royal Bank Building, Consilium Place, Clarica Centre, 315 Front Street Complex, 130 Bloor Street West, and the Bell-Trinity Building. Communications at these addresses were often spotty and pages were frequently missed altogether. This in turn led to lengthy delays in maintenance response times and seriously comprised the future viability of the service. For the most part, the materials used in the construction of the buildings themselves were to blame for the disruptions. Concrete, steel and brick as well as special architectural details such as metallic glass panels can all be extremely hostile to RF signals. And when too many high-rise structures made of such materials are built too closely together, signal transmissions can be blocked altogether. With so much already

invested in the service - including the company's reputation and relationships with its many high-profile tenants - the Oxford Properties Group needed to resolve the problem fast.

The Solution

Oxford Properties Group partnered with Powerwave Technologies, who could deliver a simple and affordable solution, to offer their employees reliable coverage inside the affected buildings. The initial process involved thorough on-site surveys by Powerwave's highly experienced team of engineers in order to assess the layout of each afflicted building and pinpoint all their needs and conditions. With the results received from the surveys Powerwave's engineering team set about designing the optimum solution for each scenario. What they ultimately recommended was the strategic installation of a sequence of Powerwave's In-Hancer™ Series Bidirectional Amplifiers (BDA) specifically designed to extend wireless coverage into buildings, tunnels, garages and other challenging RF shielded structures. In addition to providing full-spectrum linear amplification within their passband, these proprietary BDAs incorporate Powerwave's latest developments in advanced digital gain control, offering unprecedented precision in both the uplink and downlink paths. As well, a custom-tailored distributed antenna system was recommended for each building in order to distribute the Mobitex signal throughout the facility. Upon approval, the final phase of the process took place, which involved the rapid implementation of each recommended solution with minimal disruption to regular in-building activities.

The Results

With Powerwave's ability to provide a complete turn-key solution for extending wireless coverage throughout all thirteen of the affected Oxford Properties Group buildings - handling all aspects of the execution - the job was completed efficiently and cost effectively. More importantly, the responsiveness of the custodians in those buildings has dramatically improved because they can now rely on their wireless pagers to receive and acknowledge a maintenance request, confirm when they have arrived at a tenant's site, and verify when a task has been completed from anywhere within the buildings.

Key Advantages

- Unprecedented precision in both uplink and downlink paths with advanced Digital Gain Control, which allows installers or technicians to set DGC levels in 1dB increments.
- Simplified maintenance and repair because all major components, such as uplink and downlink amplifiers, power supply and Microprocessor Controller are designed for 'plug-and-play' to facilitate quick module replacement.
- Suitable for all types of environments because units are housed in a painted steel cabinet for indoor environments, but are also available in a stainless steel option for more demanding environments.
- High System Availability through the Powerwave Microprocessor Controller option – a device that enables installers or technicians to quickly and easily set, store and change all relevant parameters on site, including Automatic Gain Control, Digital Gain Control, module fault monitoring and battery back-up control.

- Negligible signal loss over large distances when equipped with Powewave's Fiber-Optic upgrade.

About Powerwave Technologies

A global leader in end-to-end wireless coverage and capacity solutions, Powerwave Technologies, Inc. offers cutting edge wireless infrastructure to address the demands of enterprise and commercial customers. Powerwave offers a comprehensive suite of solutions, including Antennas, Base Station Solutions and Coverage Solutions. Powerwave's product line supports all wireless network protocols and frequencies including Next Generation Networks in 4G technology such as WiMAX™ and LTE®. Powerwave solutions, products and services also help wireless operators and OEMs reduce capital and operating expenses, speed rollout of services, improve coverage and capacity, and reduce environmental impact. For more information, visit us at www.powerwave.com.



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