



ADC Delivers Cellular Service at Chicago Landmark

CASE STUDY

Poised along the Chicago River at the juncture of the Loop and North Michigan Avenue, the Trump International Hotel and Tower is a 92-story, three million square-foot building that includes a 28-story luxury hotel with 61 floors of condominiums above. The landmark structure brings new elegance and style to the Chicago skyline, and the hotel features 339 guestrooms and suites, a gourmet restaurant and bar, meeting rooms, and a 23,000 square-foot spa. When it opened in February 2008, the tower was the tallest residential property in North America.

With a reputation for uncompromising service and luxury, the Trump organization naturally wanted to provide outstanding service for its hotel guests in the Chicago property. During the three-year construction phase, however, hotel staff noted that many areas of the building were not receiving adequate cellular phone signals. The tower's steel and concrete construction and its dense urban location made it difficult for signals to penetrate to the interior from nearby macro cell towers.

"As the premier luxury hotel in Chicago, we wanted to provide outstanding service in all areas, including cellular coverage," says Jerry Chang, IT director at the Trump International Hotel and Tower. "We started talking with local wireless carriers and consultants and considered a lot of different systems starting in 2007."

Given the size of the property and the looming February, 2008 grand opening, however, Chang and his team needed a quick decision and deployment. Of the carriers consulted, Sprint-Nextel was the most aggressive in volunteering a solution. "Sprint has a very close relationship with ADC, and they came up with a design for the InterReach Fusion® system that could be deployed in time for the opening," says Chang.



The Fusion setup specified by Sprint and ADC engineers provide voice and data services. It includes six Main Hubs, 25 Expansion Hubs, and 168 remote antenna units (RAUs) covering the guest rooms, public areas, meeting rooms, restaurant and bar, and most of the spa. The Fusion system's active architecture made it possible to use existing fiber optic cabling to convey cellular signals from the Main Hubs in the hotel operations center to Expansion Hubs located on various floors. From the expansion Hubs, technicians connected ceiling-mounted RAUs via standard CATV cabling.

Sprint technicians deployed the Fusion system in December of 2007. The system includes a rooftop donor antenna to capture Sprint network signals from the outdoor macro network, along with a micro base station located in the hotel's network operations center to power the Nextel frequencies.

"The Sprint system eliminated our coverage issues for Sprint and Nextel customers," says Chang, "but we really wanted to have our own multi-carrier system that would support any of the major cellular providers in the Chicago area. We chose ADC for our own system because we were getting very good results from the Sprint system, and we could basically use the same design for the neutral host system."

Working from the initial system's design, ADC engineers quickly designed a multi-carrier system for the hotel consisting of 6 Main Hubs, 24 Expansion Hubs, and 174 RAUs. This system was activated in December of 2008.

Providing rapid design and deployment was important because the hotel was already in operation at this point, and the new system had to be installed without disrupting guests. "The ADC engineers were very responsive and the system went in pretty quickly," says Chang.

Another benefit to the Fusion system's active architecture is that it can be remotely monitored.

Verizon is currently performing remote monitoring of the multi-carrier system to ensure rapid responses to any problems that may arise.

Currently, the multi-carrier system supports Verizon traffic via a Verizon-installed micro base station, and the hotel is in discussions with AT&T and T-Mobile about adding their services.

In operation, the systems have been completely reliable from Day One. "As with any high-profile hotel, our customers rely heavily on their wireless devices," says Chang. "It was imperative that we had to provide signals throughout the building, and since we installed coverage for Sprint-Nextel and Verizon, those customers are getting great service. We expect that the other carriers will join the system as well."

Thanks to ADC's high-performance InterReach Fusion systems, visitors and guests at Chicago's Trump International Hotel and Tower have high-performance cellular voice and data services to match the luxury and convenience of their surroundings.

Challenges and Solutions:

Challenges: 28-story hotel with inadequate coverage from outdoor macro network

Multi-carrier system needed to provide services for any guest

Rapid and non-disruptive deployment in operating hotel

Solutions: InterReach Fusion system delivers strong, consistent service to all hotel rooms and public areas

One set of electronics supports multiple carriers, minimizing equipment costs

Active architecture leverages existing fiber and uses standard coax cabling, minimizing deployment time and disruption



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