



## WIRELESS MESH NETWORKS CASE STUDY

### Beijing Olympics

## Beijing Olympics relies on Aruba wireless mesh networks for public safety and Wi-Fi hot spots

Athletes, fans, reporters and public safety officials alike at the 2008 Summer Olympic Games in Beijing all benefitted from an expansive outdoor wireless mesh network from Aruba Networks that spanned 38 square miles of the city. Beijing officials initially sought a broadband wireless infrastructure that would cover key parts of the city for the event. The goal was to establish secure wireless access for security personnel, including police and emergency workers, as well as citizens and visitors.



#### Challenges

- Deploy a wireless infrastructure for city modernization before the Olympic Games
- Reduce the risk of potential terrorist threats by provincial and multinational groups
- Increase public safety and security, including traffic monitoring
- Provide secure Internet access during and after the Olympic Games for visitors and citizens
- Consider a cost-effective alternative to digging and trenching to lay cable and minimize stirring up pollutants

#### The Solution

The Aruba infrastructure in Beijing consists of 1,000 wireless mesh routers that are deployed throughout the city. In addition to offering Internet and email access for anyone with a Wi-Fi device, the wireless mesh network provides video surveillance and emergency communications for Beijing's police department, firefighters, medical personnel and other public servants.

#### Public Safety and Security

City officials in Beijing were anticipating the potential threat of a terrorist attack and disruptions during the Olympic Games. In the months leading up to the Olympic Games, China had dealt with bus bombing incidents in Shanghai and Kunming, as well as other terrorist threats.

To shore up safety and security against these threats, officials decided to install fixed and wireless video surveillance cameras throughout key venues in Beijing. Security measures that the government wanted to implement required an infrastructure that would quickly and reliably support wireless mobility and fast emergency response, as well as voice, video and data.



Screen capture from a video surveillance command center monitoring a bus stop in Beijing.

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With the enormous crowds drawn to Beijing during the Olympic Games, city officials turned to Aruba to provide traffic control to support public safety.

#### Aruba Video Surveillance

CECT-Chinacomm Communications Co. Ltd. and Trussnet USA, with support from the Beijing municipal government, sought to establish a reliable Wi-Fi network that would provide visitors at the Olympic Games with Internet access throughout the city.

After the Olympic Games, a service provider model was adopted to charge citizens for access to the network. During the height of the Games, the wireless mesh network accommodated up to 5,000 users daily with no performance problems.

The volume of download traffic each week exceeded 3 terabytes. Handling about 10,000 sessions each day, the token \$1 access Internet fee assessed during the Games substantially defrayed the cost of deploying and operating the wireless mesh network.

Since the success of the wireless mesh deployment in Beijing, Aruba has established similar networks in major cities throughout China including Shanghai, Hangzhou, and Yangzhou.



Beijing Police chose Aruba's MSR2000 routers for quick deployment of temporary wireless networks that could tie into the larger mesh network.

#### Organization Overview

The 2008 Summer Olympics, officially known as the Games of the XXIX Olympiad, were a major international multi-sport event that took place in Beijing, China, from August 8-24, 2008. A total of 11,028 athletes from 204 National Olympic Committees competed in 302 events in 28 sports. China became the 22nd nation to host the Olympic Games and the 18th to hold the Summer Olympic Games. It was the third time that the Summer Olympic Games were held in Asia.

*"Aruba's advanced wireless equipment and solutions, local technical team, support system, and rich experience in deploying wireless cities at home and abroad have allowed us to realize this enormous leap forward in Beijing's wireless communications capabilities."*

**Mr. Ping Qiu**  
CECT-Chinacomm  
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