



WIRELESS MESH NETWORKS CASE STUDY Capital Normal University

Capital Normal University deploys Aruba for seamless mobility with superior performance and scalability

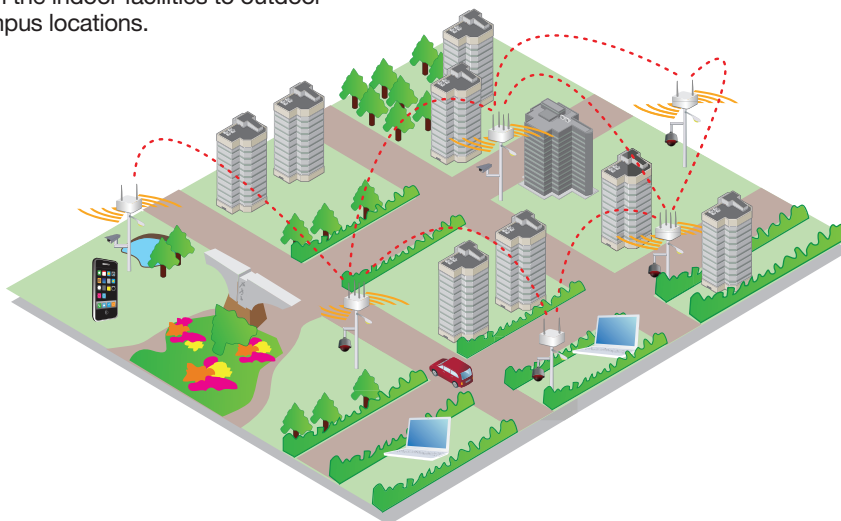
Capital Normal University in Beijing needed to keep its 27,000 students, teachers and administrators connected. With over 25,000 students and nearly 2,500 teachers spread over an area that covers 3 1/2 square miles, the most cost-effective solution was an indoor/outdoor wireless mesh network.

The university required a network that would provide high-speed data access for the users, whether they were outdoors or in one of the 17 college departments, 61 labs or 31 computer rooms on campus. It also needed a network that would scale to accommodate broadcast-quality video surveillance in the future.

The Solution

Faced with a growing demand for faster data throughput, university administrators sought a wireless mesh solution that could satisfy the bandwidth requirements of students, faculty, employees and campus visitors. They ultimately chose the Aruba Networks wireless mesh solution.

The first phase of the university's network deployment involved 89 Aruba wireless mesh routers, including the dual-radio MSR2000 wireless mesh routers. In the second phase, over 200 wireless mesh routers were deployed to increase the scale while providing seamless access from the indoor facilities to outdoor campus locations.



Aruba's wireless mesh network is ideal for Wi-Fi access on campuses, both indoors and outdoors, providing seamless mobility with superior performance for voice, video, and data.



Challenges

- Required a scalable outdoor wireless mesh solution that could also provide seamless indoor coverage.
- Needed a wireless mesh network that could overcome wireless interference in a large city environment.
- Capacity to support broadcast-quality video surveillance cameras in the future.

Capital Normal University

The Aruba Wireless Mesh Network Solution

Aruba provides wireless mesh networks that utilize scalable, easy to use and efficient routing technology. There is no complex network layout, no complicated wiring and no large up-front infrastructure costs.

Wireless mesh networks from Aruba serve as a multifunction information platform that supports secure client access, fast roaming, wireless backhaul and latency-sensitive applications such as voice and broadcast-quality video.

Scalable Wi-Fi Access and Backhaul

Aruba's Adaptive Wireless Routing™ (AWR) technology is the industry's first dynamic, distributed routing protocol purpose-built for wireless mesh networks. AWR supports a wide range of network topologies, automatic network-wide load-balancing, IP multicasting and intelligent packet forwarding with per-hop latency under 2 milliseconds – with no throughput degradation.

As a result, Aruba offers significantly higher performance compared to other multi-radio solutions that utilize only bridging or switching.

Security

Aruba wireless mesh networks provide solid security from end-to-end, beginning with the connection between clients and APs and extending across the backhaul from source to destination.

Wireless mesh network security provisions are also top-to-bottom – from basic user access control at the application layer to traffic encryption during transmission at the physical layer.

These same provisions secure all communications required to manage the Aruba infrastructure and exchange information among all wireless mesh routers.



University Overview

Capital Normal University in Beijing, founded in 1954, is a comprehensive institute of higher learning that offers undergraduate, graduate and post-graduate studies in the sciences, liberal arts, engineering, management, law, education, foreign languages and arts.

As key university with an emphasis on training educators, the university is part of a government project to develop 100 major universities in China in the 21st century.

Capital Normal University currently has about 25,000 undergraduate, graduate and post-graduate students and approximately 2,500 faculty members.

Campuses and business parks, which require access both outdoors and indoors, benefit from Aruba's superior mobility and wired/wireless internetworking capability.



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