

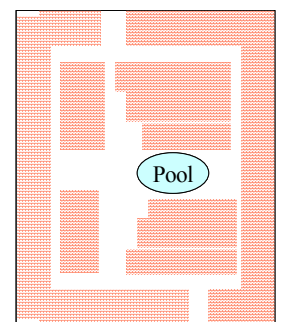
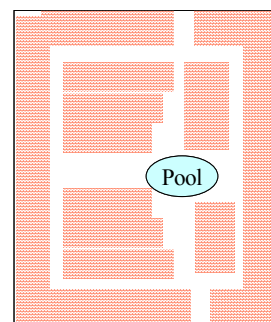
# Case Study - AeroExtend™ Outdoor Solution Provides Internet Access for Stanford Gate Condominium Residents

## IT Global Solutions

### Application Scenario:

The Stanford Gate Condominium, Mountain View, California, is a modern housing complex, conveniently located to both business and leisure points of interest in the Mountain View area. The complex consists of 96 luxury 2 and 3 bedroom condominiums located on the Del Medio Avenue on two parcels with a row of beautiful tall trees. Each condominium complex has a swimming pool. One of the buildings is the residence of an on-site facility's manager.

The building is primarily an open architecture with mixed concrete and wood construction and a flat tar and gravel roof. Each unit has all the modern amenities except for the direct broadband Internet access. The complex was not constructed with Ethernet cabling to each unit. The challenge for property management was to add the fast broadband Internet access as an amenity without extensive remodeling and the associated inconvenience and delays. **Offering broadband Internet access was essential to the resident's lifestyle.**



**Figure 1: Stanford Gate Condominium, Mountain View, California**

## **Desired Outcome:**

The homeowners association gave the property management company two goals:

*One, to offer a ubiquitous private broadband Internet amenity commensurate with the lifestyle and aspirations of the residents, and two, to do so as fast as possible.*

The property management company contacted, IT Global Solutions, a network technology savvy value added reseller. After the initial investigation, it became clear to the IT Global Solutions that a wired broadband Internet access solution would not meet either of the two desired goals; ubiquitous access and fast installation. The IT Global Solutions quickly narrowed down the options to a solution that could provide entire complex coverage without Ethernet cable installations.



The capability of SOHware's AeroExtend™ solution to create an all-wireless outdoor network was seen as an ideal way to achieve the desired outcomes.

To ensure that the solution supported the desired performance and security concerns, Layer 2 isolation, radio frequency power adjustments, greater range radio performance, 802.1x authentication with greater than 1024 MAC address access control and 64/128 bit WEP encryption emerged as the basic technical requirements.

What came handy were the ease of installation and simple management achieved through advanced features, such as Auto Discovery of all outdoor access points, bulk configuration, antenna alignment and the Kick Start (without IP connection) option.

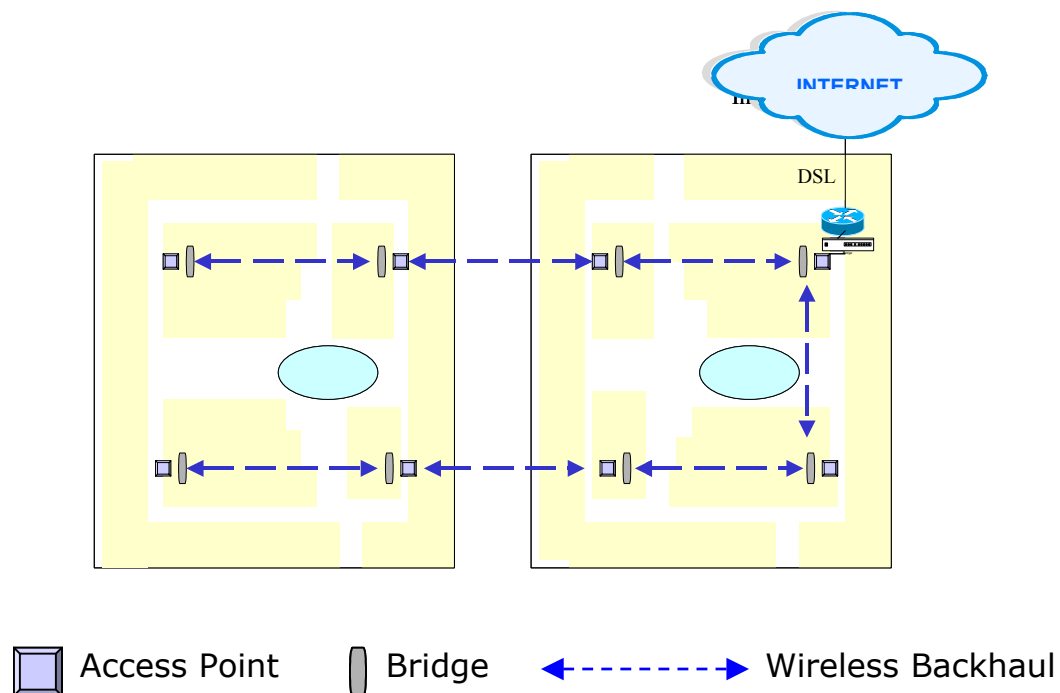
## **AeroExtend™ All Wireless Outdoor Solution:**

AeroExtend™ has a unique capability to enable an all-wireless outdoor network with 802.11b/g standard compliant outdoor access point and a

separate outdoor wireless backhaul connections between access points, providing an all-wireless broadband Internet access through the property.

The flexibility of the AeroExtend™ allowed the access points to be placed strategically throughout the condominium complex to create a complete wireless infrastructure that sustained the bandwidth demand.

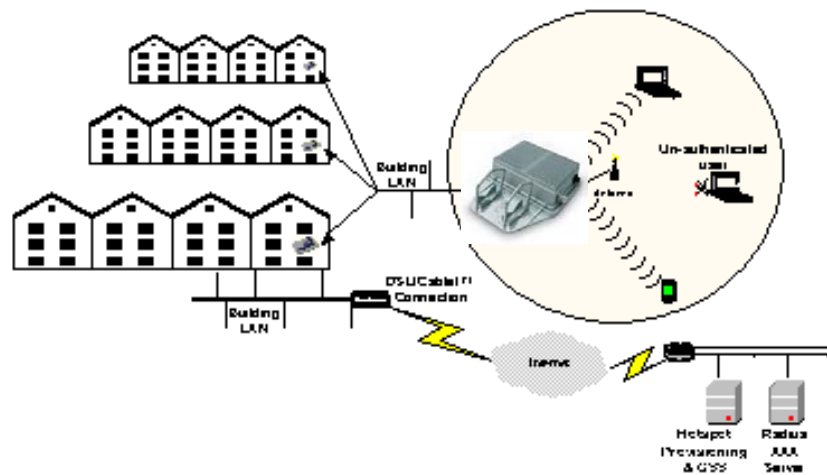
The housing complex had a single DSL broadband Internet access in the property managers' unit located in one corner of the complex. The output of the DSL router was connected to a wireless bridge using a power over Ethernet device. Simultaneously, the Ethernet connection was also extended to an outdoor wireless access point. It was determined that the best network architecture would consist of several point-to-point wireless bridge links rather than a single point-to-multipoint bridging connection. This allowed a much better performance; lower equipment cost and avoided the need to raise the heights of the wireless devices shown in Figure 2.



**Figure 2: AeroExtend™ All-Wireless Outdoor Solution**

The total project installation time, start to finish, was accomplished in one day. The IT Global Solutions and the property management were delighted at the speed with which system was put into service. Once the residents were informed, everyone immediately set about testing the wireless performance throughout their condominium complex.

There were no interoperability problems. Many of the residents procured standard Wi-Fi compliant off the shelf adaptor cards for their lap tops and were able to sign up for the access. The freedom of movement throughout the condominium community with an all-wireless coverage with no cables into each unit was welcome by everyone.



No on duty personnel were required in setting up the user computers and the system was reliable. Other features include:

- Compatible with a 3<sup>rd</sup> party external AAA RADIUS server
- 802.1x: external authentication
- L2 Client Privacy, users not able to view other users' computer
- Secure enrolment & deployment of AP
- Simultaneous wireless backhaul and access point coverage
- Complete property wide coverage
- Remote software download and upgrades
- Real-time alarms and traps
- Simple Radio resource management
- Host controllers for IP address management enabled
- Zero-Configuration Internet access
- External Web page redirection
- Enhanced security: 802.1x, 1024 MACs, 64/128 bit WEP
- Auto Discovery of outdoor APs, Bulk configuration with Kick Start feature to test operation without IP Connection