

## Multi-Tenant Building Applications of PePWave Surf AP

### PePWave Surf AP Enables Citywide Wi-Fi to Cover High-Rise Buildings

#### Overview

The ever popular multi-tenant residence, whether it be in a metropolitan or seasonal resort setting, provides a thriving market for Internet service providers due to its high subscriber density. However, DSL/cable subscriptions are often times not practical or feasible because of widespread seasonal homing. In these cases, a wireless approach would prove more beneficial with reduced costs and shorter service provisioning.

This application note details a wireless coverage scenario for multi-tenant residences which will grant everyone within the building Internet access by making use of locally existing Citywide Wi-Fi.



#### Context and Challenges

As both governmental and private organizations have ventured into the broadband business, Citywide Wi-Fi coverage is becoming a more prevalent trend in many North American cities. Thus, a large market share of Wi-Fi industries has been generated to service this demand. This is advantageous not only to the Wi-Fi service industry, but property management corporations and the citizens themselves can also stand to benefit from this recent movement.



Citywide Wi-Fi, also called Metro Wi-Fi, is an inexpensive resource once the initial infrastructure has been set in place. However, with most Wi-Fi nodes placed approximately twenty feet above ground level, most condominiums are unable to receive reception on most stories above ground.



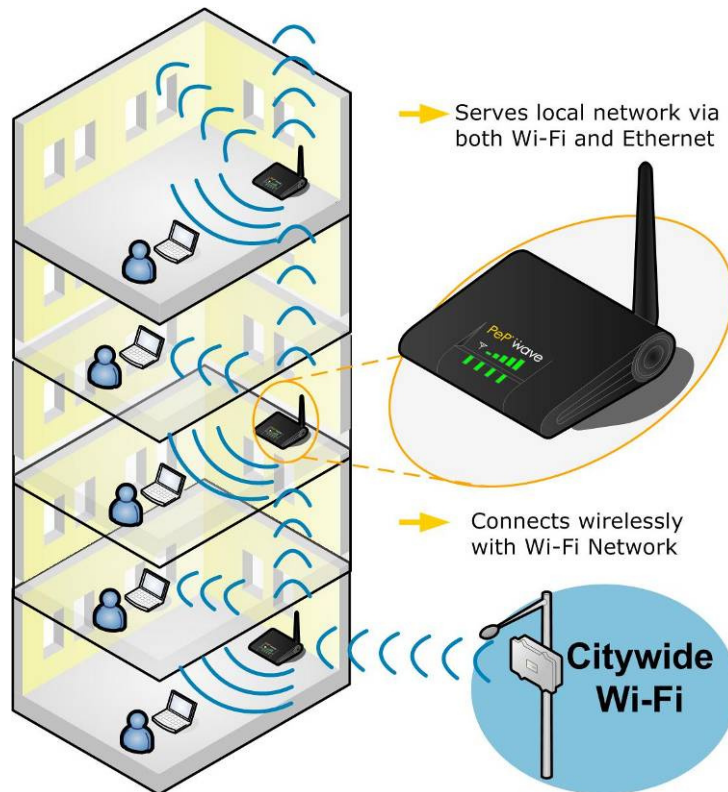
In order to implement a Metro Wi-Fi system that is most compatible with the multi-dwelling units characteristic of today's society, this system must operate on a completely wireless level. The main challenge to overcome is to employ a device that will assist in extending the range of the Wi-Fi signal originating from ground level up to the top levels of buildings everywhere.

## The Solution: PePWave Surf AP

The challenge described above is both met and surpassed by a series of PePWave Surf AP's used in succession. The PePWave Surf AP includes the following capacities:

- To connect wirelessly to outdoor Wi-Fi nodes thus bringing the signal indoors.
- To act as an access point (AP) and extend the wireless service to indoor areas so that workstations can connect wirelessly as well.
- By chaining multiple Surf AP units vertically, the Wi-Fi service is extended to cover the whole high-rise building.

The diagram below indicates how the PePWave Surf AP can transport the Wi-Fi signal up as many building stories as are required.



*In this example, a PePWave Surf AP connects to a local Citywide Wi-Fi node on the street level. The Wi-Fi service is then extended and carried up each story by more Surf AP units located at higher floors.*

## About PePWave

For further details on the applications and benefits of PePWave Surf AP, as well as other PePWave products, please visit our website at [www.pepwave.com](http://www.pepwave.com).