



As far as Wi-Fi can go

Applications



Creating a wireless network, which caters to businesses, is a challenging endeavor. Business customers are accustomed to operating using high bandwidths. In addition, the connection stability must be high and comparable to those of wire line services in order to meet the service level agreements (SLA) demanded by this market segment.

Wavion solution for business connectivity is able to meet the challenge and provide high quality service to business customers with very low setup and maintenance costs. The solution is based on Wavion WBS-2400 Wi-Fi base stations and outdoor customer premise equipment (CPE's). This combination provides high-throughput, stable network coverage for up to 20Km.

Using Wavion's WBS-2400 operators are able to deploy their network with significantly less base stations. Remote locations can also be served due to the extended network coverage. Operators are, therefore, able to deploy a wireless Wi-Fi business network quickly and cost effectively.

Key benefits

- High capacity and superior radio performance in a wireless network using Wavion WBS-2400 with Wavion's beamforming and SDMA technology
- Utilization of both near-line-of-sight for short distance and line-of-site for long distance connectivity
- Improved network coverage, which requires significantly fewer base stations and provides effective service to remote locations using Wavion's WBS-2400
- Cost effective solution that utilizes of-the-shelf Wi-Fi CPE's
- Short time to market enabled by providing service to existing, standard Wi-Fi clients



Towns and municipalities often have a wide variety of applications that require network connectivity. Below are a number of examples:

- Municipal Wi-Fi coverage
- Building connectivity of city hall, library, offices, local police etc.
- Building coverage
- Video surveillance
- Traffic control
- Access to mobile workers
- Aggregation to meter reading

By creating their own access network, towns are able to save on high leased line expenses. Municipalities need to save on infrastructure set up costs, where wireless networks have an inherent advantage. However, municipal networks are required to provide as wide coverage as possible in order to cover the entire territory. In addition, high capacity network is required in order to handle several applications simultaneously.

Wavion solution for municipalities creates a high capacity network with extended coverage. The solution is based on Wavion WBS-2400 Wi-Fi base stations, which utilize Wavion's unique beamforming technology. The uniform coverage provided by the solution provides connection for every device, mobile worker or security personnel throughout the municipality.

Spare network capacity can be used by the municipality to provide wireless internet access to its citizens, as a complementary service. This type of gesture goes a long way in people's perception of their municipal service.

Municipalities are often able to utilize strategic building such as water towers and public buildings to place the WBS-2400 base stations. These strategic locations can provide even better network coverage. The efficient coverage, offered by Wavion's spatially adaptive, beamforming technology requires significantly fewer base stations to cover a square kilometer. This translates to tremendous reduction in network infrastructure costs.

Key benefits

- Low cost of ownership for infrastructure deployment as well as maintenance.
- Multiple applications can be supported on a single, broadband network
- Improved coverage with WBS-2400 base stations, which provide 3 times the coverage than of conventional AP
- Easy installation requiring minimal alignments in difficult-to-reach places such as light poles



In rural areas, the customer base is typified by relatively few customers, who are dispersed over a large geographical area. These factors can be very prohibitive to most network connectivity business cases. The typical rural demand is to provide broadband to remote sites mostly governmental entities such as military bases, police stations, hospitals, and schools.

Wavion's rural Wi-Fi solution provides highly extended coverage without compromising the throughput or quality of service. The solution is based on Wavion WBS-2400 Wi-Fi base stations, which utilize Wavion's unique beamforming technology.

Wavion solution also supports Voice over IP for Villages kiosk, fixed telephone, gated

communities and other applications. This can be achieved by adding a VoIP gateway along side the Wi-Fi CPE. Wavion's Wi-Fi base station support Wi-Fi quality of service (QoS), ensuring high priority VoIP traffic.

Key benefits

- Providing a broadband Wi-Fi solution for both internet and Voice-over-IP services creates a unique value proposition for the operator
- Low cost of ownership for infrastructure deployment as well as maintenance.
- Supporting long-hauls multiple point to point links of up to 20 Km' per CPE with the same WBS-2400 base station



Internet is the gateway to the future of the children around the world and especially in remote areas. Governments and international organizations, such as One Laptop per Child (OLPC), are working to provide Internet access to schools and communities in these areas. In the absence of wire-line infrastructure, Wi-Fi networks have become a prevalent choice for these projects.

Wavion's Internet to schools solution has been proven to be effective in terms of performance and cost. The solution is based on Wavion WBS-2400 Wi-Fi base stations, which utilize Wavion's unique beamforming technology. A single WBS-2400 base station is able to provide access not only to the school itself but also to the pupils at their home and the entire surrounding community.

The WBS-2400 provides a self-backhaul functionality, which makes it extremely easy to install. Extended coverage to additional villages and communities can be achieved simply by installing an additional unit. The

beamforming technology assure that no cumbersome alignments are required as part of the installation process.

The WBS-2400 requires very low power consumption, typically less than 35Watt. This allows the unit to be installed with a solar or a battery powering unit, thus making it a viable solution in remote locations with no direct power lines.

For more information about Wavion's solutions in an OLPC installation, read here.

Key benefits

- WBS-2400 indoor penetration, ensures that residences throughout the community, as well as the school can be effectively accessed
- Low cost of ownership for infrastructure deployment as well as maintenance.
- Supporting long-hauls multiple point to point links of up to 20 Km' per CPE with the same WBS-2400 base station



Our world is becoming more accustomed to having connectivity where ever we live. However, the required wire line infrastructure does not always exist. In such areas, wireless infrastructure is often the ideal solution for providing broadband internet access service.

Wavion's residential solution includes a WBS-2400 Wi-Fi base station, which is placed in the middle of a neighborhood or village and self-installed indoor CPEs, purchased by the customer and placed next to a window inside the home. The CPE receive the Wi-Fi signal from the outside base station and redistribute it to the residence.

An additional key feature, which operators can offer their customer base, using

Wavion's Wi-Fi solution is VoIP telephony service bundled with the broadband internet service. This can be achieved by adding a VoIP gateway along side the Wi-Fi CPE. Wavion's Wi-Fi base station support Wi-Fi quality of service (QoS), ensuring high priority VoIP traffic.

Key benefits

- Cost effective solution that utilizes low cost, off-the-shelf Wi-Fi CPEs
- Improved network coverage, which requires significantly fewer base stations and provides effective service to remote locations using Wavion's WBS-2400
- WBS-2400 indoor penetration, ensures that residences throughout the deployment can be effectively accessed



Buildings such as Hotels, Offices and Government facilities that need to provide broadband Wi-Fi service to their residents, often need to lay a cumbersome infrastructure throughout the building. In a building with 15 floors and 4 wings in each floor, a typical Wi-Fi installation may require 60 access points to be deployed. Furthermore, each access point requires a wire line network connection.

Wavion's building coverage solution is a very cost effective alternative with faster rollout and easier maintenance: By deploying only one or two WBS-2400 Wi-Fi base stations from the outside of the building, it is possible to provide coverage in all floors and wings. The WBS-2400 coverage has such high quality that it effectively provides connections even to

weaker clients such as laptops with embedded Wi-Fi client.

Wavion's solution offers much lower cost of ownership. The infrastructures costs are lower due to the low number of base stations on the one hand (CAPEX), and the maintenance costs are drastically reduced for the same reason (OPEX).

Key benefits

- WBS-2400 indoor penetration, ensures that rooms and offices throughout the building can be effectively accessed
- Low cost of ownership for infrastructure deployment as well as maintenance.
- Easy installation requiring minimal alignments



Technology is playing an ever growing role in our fight against terror and crime. The use of video surveillance cameras, which deliver real-time information using data networks, allows public safety officials to respond quickly and effectively to any situation. However, camera locations often prohibit the choice of wire-line connectivity and mandate the use of a wireless solution. The challenge is to create a wireless solution that can meet the strenuous capacity, latency and jitter demands of a video network.

Wavion's solution for public safety creates a high capacity network that offers high quality service and superior resistance to interference. The solution is based on Wavion WBS-2400 Wi-Fi base stations, which utilize Wavion's unique beamforming technology.

The beamforming technology enables the WBS-2400 Wi-Fi base station to focus the energy transmitted to and from the Wi-Fi client this resolves a high percent of the

interference factors. Additional interference mitigation is achieved using Wavion's unique Dynamic interference handling (DIH), which constantly adjusts to deal with varying interference conditions.

Using Wavion's WBS-2400 it is possible to deploy the wireless network with significantly less base stations. Remote locations can also be served due to the extended network coverage. This makes Wavion's wireless solution a viable choice for video surveillance networks.

Key benefits

- Traffic from multiple cameras can be supported using a single WBS-2400 base station, which reduces the investment in infrastructure
- Support for Wi-Fi Protected Access (WPA2) to ensure the highest level of 802.11 Wi-Fi security
- Low cost of ownership for infrastructure deployment as well as maintenance.

