

Public Safety & Convenience Applications of PePWave Surf Outdoor

Connecting Security and Traffic Cameras to Control and Data Centers

Overview



Security and traffic cameras can help to deter crime and alert motorists when they are part of an overall system that consists also of control and data centers that process and analyze the video feeds.

These application notes outline the scenario of leveraging a citywide Wi-Fi network (Citywide Wi-Fi) to wirelessly connect cameras, scattered throughout the city, with the control and data centers, as well as the role of PePWave Surf Outdoor in such a system that serves the interests of public safety and convenience.

Context and Challenges

In addition to the more commonly known use of connecting the city's residents and businesses to the Internet through computers, Citywide Wi-Fi can provide services that improve public safety and convenience by wirelessly connecting IP and Ethernet-capable traffic and security cameras to control and data centers.



Traffic cameras installed at busy intersections and along major highways (to monitor the overall flow of traffic and potentially to detect accidents) can be wirelessly connected to control centers via Citywide Wi-Fi. The control centers in turn process and disperse the information via other channels (such as highway information billboards, radio, and/or television) so that commuters can avert congested routes and accident locations.

For the interests of public safety and crime prevention, security cameras can be installed at public parking lots, transit stations and/or terminals. Video data from the cameras, in these cases, are then wirelessly sent, via Citywide Wi-Fi, to data centers for storage.

The following are the main challenges to overcome, in order to implement the mentioned public services:

- The cameras, as they are typically wired devices, require intermediate devices to be installed alongside them in order to connect to Citywide Wi-Fi.
- The cameras are typically installed at outdoor public locations, and are subjected to adverse weather conditions and/or potential acts of vandalism. As a result, devices that work alongside the cameras must withstand the same elements of the operating environment.

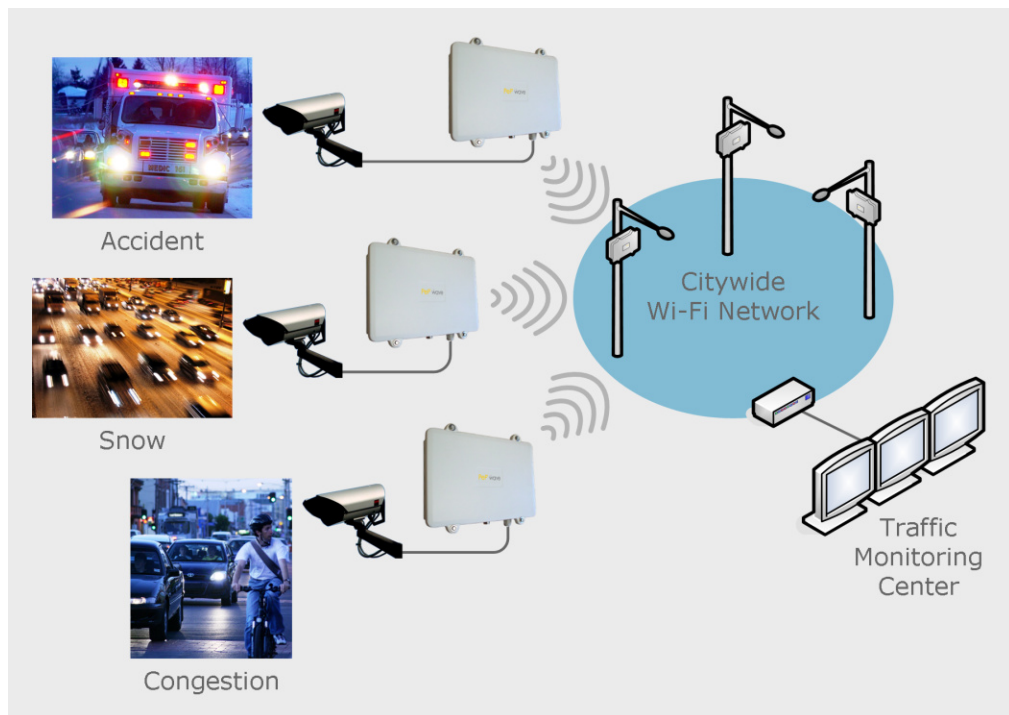


The Solution: PePWave Surf Outdoor

The aforementioned challenges are addressed by PePWave Surf Outdoor, along with cameras capable of communicating over IP through standard Ethernet:

- To enable the wireless connection of the cameras, PePWave Surf Outdoor connects at one end with the camera through standard Ethernet, and wirelessly connects at the other end with Citywide Wi-Fi.
- Designed for all-season use, the operating temperature of PePWave Surf Outdoor ranges from -40°C to +70°C (-40°F to 158°F).
- To withstand the environmental elements, as well as potential vandalism, PePWave Surf Outdoor is housed in a waterproof die-cast aluminum enclosure, rated at NEMA 6 (IP 67).

The interactions among the cameras, PePWave Surf Outdoor, and Citywide Wi-Fi:



In this example, PePWave Surf Outdoor connects via Standard Ethernet with cameras located throughout the city, and wirelessly transfers the video feed via Citywide Wi-Fi to a central traffic monitoring center.

Other Considerations and Benefits

Because the video data from the cameras are transferred over a public network, security must be considered: PePWave Surf Outdoor supports industry-standard security authentication and encryption protocols such as 802.1x, 64/128-bit WEP, WPA, WPA2, 802.11i.

For further details on the applications and benefits of PePWave Surf Outdoor, as well as other PePWave products, please visit our website at www.pepwave.com.