VIDEO MESH DISTRIBUTION

RUCKUS VIDEO MESH DISTRIBUTION IS IDEAL FOR:

- Surveilling undercover environments, such as hotels
- Surveilling activities in or around vehicles
- Perimeter protection around sewage or gas works
- Real-time data collection in public spaces like parks
- Situational awareness around schools
- Smart military bases
- Transportation and logistics

Time is of the essence during a criminal investigation. Law enforcement agencies must be able to quickly deploy video surveillance when and where it's needed—without filing for permits, installing infrastructure or incurring exorbitant fees. Law enforcement agencies need "pop-up" security enabled by a solution that is cost-effective and easily deployed virtually anywhere.

Ruckus Video Mesh Distribution is an easily deployable surveillance network that delivers high bandwidth and full frame rate with low latency. The solution provides backhaul over a Wi-Fi network, enabling law enforcement agencies to achieve visibility virtually anywhere there's power—including locations where running copper or fiber cable is unfeasible. The self-forming, self-healing, and self-optimizing technology makes mesh networking easy to deploy and manage.

VIDEO MESH DISTRIBUTION

- **Lowers installation and operating costs** by reducing the need for Ethernet cabling and RF planning.
- **Delivers consistent bandwidth**. Traffic is never throttled as it is with cellular providers.
- **Automates configuration**, enabling Smart Mesh Networking WLANs to be deployed and operational in half the time of conventional WLANs.
- **Works with any IP-based camera and VMS for optimal flexibility**. Outdoor access points can even provide Power over Ethernet (PoE) to IP cameras, making outdoor video surveillance much easier to deploy.
- **Brings stability and reliability** to video surveillance with a solution that's secure by design. All mesh backhaul links between nodes are encrypted and hidden to ensure safe and secure operation.

HOW IT WORKS

Ruckus SmartMesh enables wireless backhaul from almost any location where there is power. The solution combines high-gain smart antenna arrays, sophisticated RF routing, and centralized management within a single WLAN system. Ruckus Smart Mesh Networking builds self-forming, self-healing, and self-optimizing mesh networks at half the time and cost of traditional wireless deployments.

The Ruckus E510 802.11ac Wave 2 access point (AP) is designed with a unique, diminutive two element enclosure which separates the RF components from the antenna module. Its small form-factor is designed to be installed in park benches, street furniture, on light poles or other aesthetically restrictive areas. The separate low-profile antenna module is placed in a nearby un-obtrusive location. Both modules can withstand

the most challenging outdoor environments allowing operators and service providers to deploy Wi-Fi in previously unreachable environments.

The Ruckus E510 incorporates patented technologies found only in the Ruckus Wi-Fi portfolio:

- Extended coverage with patented BeamFlex+™ adaptive antenna technology utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

BeamFlex technology enables APs to dynamically change antenna patterns on a packet-by-packet basis to adapt to conditions and ensure a solid connection. The antenna system mitigates radio interference, noise, and network performance issues, while improving application flows. BeamFlex delivers increased performance and range, crystal clear video and voice communications, and maximized power efficiency.

SmartCast is a quality-of-service engine that maximizes the reliability and wireless performance of IP-based voice and video. SmartCast uses an advanced superset of IEEE 802.11e/WMM hardware-based queueing standards to automatically inspect, classify, pre-queue, and schedule traffic to prioritize video traffic over other WLAN traffic.

USE CASES

Ruckus SmartMesh allows video to go where it previously it was too costly, complex and disruptive to deploy. "Smart" cities or bases are an example, which often have large perimeters that are difficult to monitor. Not only can SmartMesh detect activity, but it can also relay that information to responders for full situational awareness. The same principle would hold for an enterprise campus environment. A robust and secure infrastructure can quickly be stood up on a temporary or permanent basis, overt or covert, without the need for expensive maintenance.

The Fresno Police Department is an excellent example of the power of Ruckus video mesh technology. The Department is responsible for policing 115 square miles and protecting 535,000 citizens, and could not support their 200 surveillance cameras with fiber optic cable. The City deployed a Ruckus solution including 802.11ac outdoor APs and the ZoneDirector controller. The mesh capabilities of the APs allowed them to have multiple APs seamlessly joined together to provide the necessary throughput and backhaul capabilities. In the words of Fresno Chief of Police Jerry Dyer, Ruckus technology took surveillance video reliability from 50 percent to 100 percent, making Wi-Fi as good as fiber optics. Here's a link to the testimonial video.

Ruckus SmartMesh also provided public safety video networking at the recent 72nd Annual Little League Baseball® World Series in South Williamsport, Pennsylvania. Ruckus deployed APs and its SmartZone™ 100 management controller, to help ensure seamless connectivity for the outdoor environment. This helped ensure top-notch performance for multiple, simultaneous high-definition video over Wi-Fi, enabling every video stream to be captured. For the LLBWS, this capability allows all the video cameras in the stadium to be constantly streaming, helping to ensure maximum safety and security for players, officials and fans at all times.
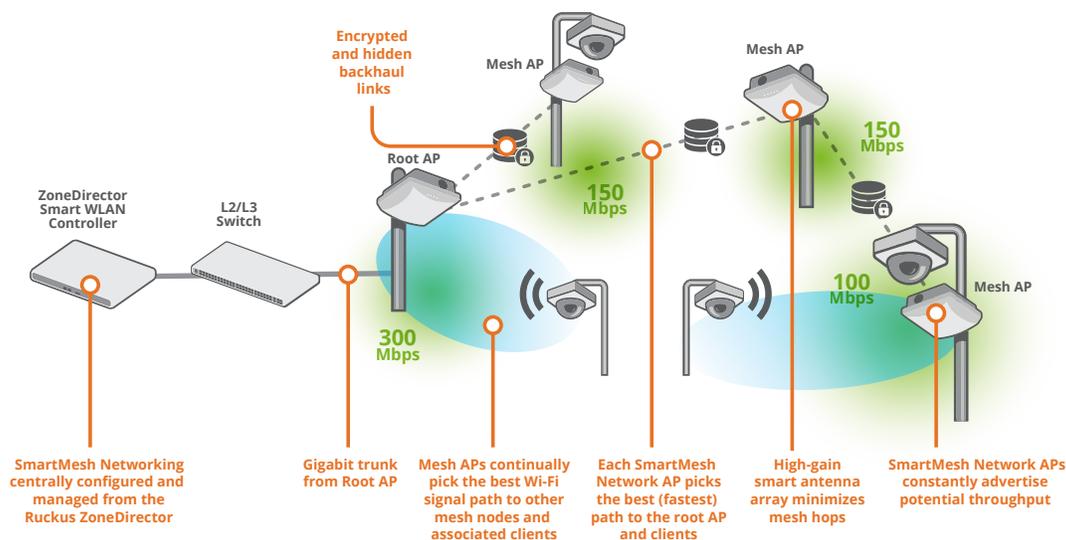

Figure 1. SmartMesh Networking with wireless video surveillance cameras

RUCKUS
an ARRIS company

350 West Java Dr., Sunnyvale, CA 94089 USA
www.ruckusnetworks.com