

# MediaFlex Overview

Smart Wi-Fi Products for Service Providers



The Ruckus MediaFlex Wi-Fi system is the first carrier-class product that simultaneously delivers a secure, robust, and plug-and-play offering that dramatically reduces the carrier's operating expenditure while opening up new revenue opportunities. Unlike any Wi-Fi system on the market, the Ruckus MediaFlex system constantly monitors the wireless environment, steering RF signals around interference and prioritizing different traffic types for transmission over the air. With the Ruckus MediaFlex system, consumers now have complete freedom and flexibility to distribute and enjoy multimedia content anywhere in their homes — all without wires. Carriers can accelerate deployment while minimizing installation cost and eliminating truck-rolls.

The Ruckus MediaFlex system is also developed specifically for carriers to extend their broadband networks and network services by building "hotspots at home" — opening the door to a whole new world of managed Wi-Fi services.

MediaFlex is the only "Smart" Wi-Fi system available today. The smarts come from patented hardware and software technologies that deliver predictable performance, extended range and real-time adaptability to the changing Wi-Fi environments.

Completely standards-based, all of our smart Wi-Fi products feature state-of-the-art smart antenna arrays and RF traffic engineering software, per client, per traffic-flow based quality of service (QoS), and robust automated security.

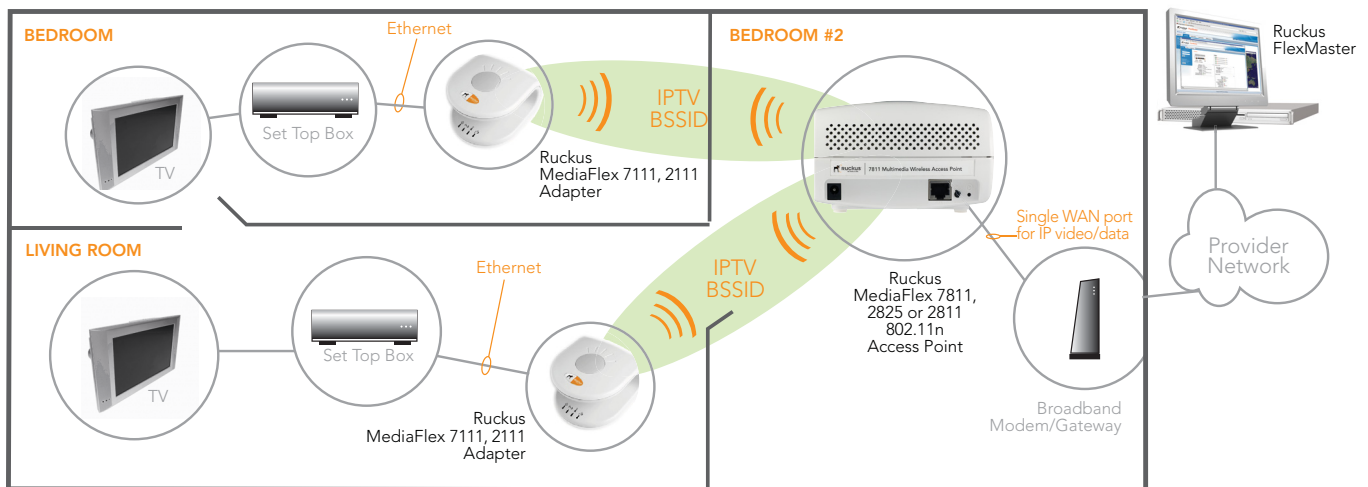


## MediaFlex 802.11 Smart Wi-Fi Access Points

Ruckus MediaFlex System is the most widely accepted WLAN product for triple-play distribution and hotspots for broadband service providers. Designed specifically for broadband service providers, and installed in hundreds of thousands of locations around

the world, the MediaFlex System is the world's most popular and best selling carrier customer premise equipment (CPE) for consistent, picture-perfect multimedia distribution in triple-play applications over standard 802.11a/b/g/n Wi-Fi technology.

The Ruckus MediaFlex family of products includes the MediaFlex multimedia router and the Ruckus MediaFlex multimedia adapter. The Ruckus MediaFlex router attaches to any broadband gateway and communicates with any standard



Improved user experience — Smart adaptive beamsteering antenna technology.



802.11a/b/g/n end station. The Ruckus MediaFlex multimedia wireless adapter provides Wi-Fi connectivity to set-top boxes and other media devices. Self-installable, the Ruckus MediaFlex adapter can be auto-configured over Ethernet by the router.

All MediaFlex Systems integrate Ruckus BeamFlex™ smart antenna array technology and are capable of extending Wi-Fi signals two to four-times farther than a conventional AP. MediaFlex Systems utilize an integrated miniaturized smart antenna array that allows it to automatically avoid interference and obstacles by continuously steering Wi-Fi traffic over the best performing signal path. This enables unmatched and unprecedented Wi-Fi reliability with plug-and-play, minimal operational overhead.

### Improved user experience — smart adaptive beam-steering antenna technology

Ruckus BeamFlex, a patented Wi-Fi smart antenna implementation, enables consistent, high performance multimedia support by continuously ranking the antenna configurations for each receiving device and reconfiguring itself in real-time to bypass interference and physical barriers. This eliminates Wi-Fi dead spots and significantly extends the range and performance of the Wi-Fi network. Highly sensitive antenna elements provide 9dBi of signal gain, 17dB of interference rejection and offer industry's most sensitive Wi-Fi receiving capabilities (up to -98dB). This increases the percentage of homes that can be covered by a single AP. Additionally, when offering 'hotspots at home' service, the service provider requires fewer APs to light up a neighborhood.

### SmartCast classification ensures optimum quality of services

Patent-pending SmartCast technology from Ruckus Wireless combines innovative multicast traffic handling techniques, smart QoS and application-aware traffic classification capabilities to ensure the highest reliability for all transmissions over Wi-Fi.

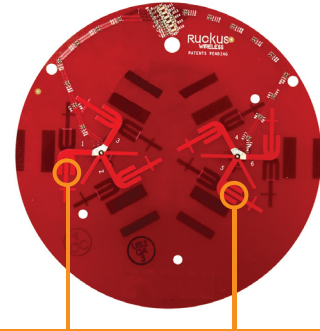
SmartCast differentiates and manages multicast video frames separately from all other traffic types. This provides a robust wireless transport for IPTV streams from the broadband gateway to the set top box.

### Flicker-free distribution of simultaneous HD IPTV streams

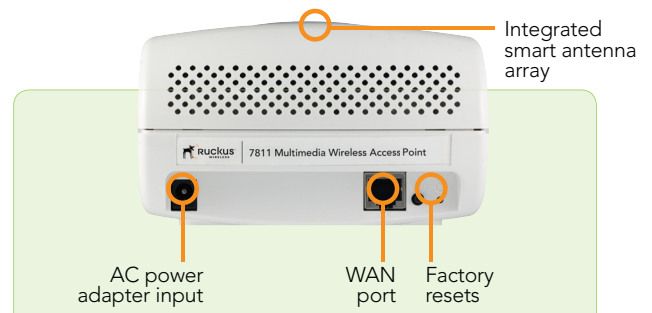
Carrier class and purpose-built for service providers these products feature BeamFlex technology for reliable multimedia service delivery to subscribers and advanced multimedia support for IPTV video streams. Deliver 20 Mbps (with 802.11g system) to 50 Mbps (with 802.11n system) of guaranteed (worst case) bandwidth.

### 'Hotspots-at-Home' services introduces new revenue opportunities

Carriers can expand their network footprint, confidently offload traffic from cellular networks to faster Wi-Fi networks and exploit unused local loop capacity to provide innovative new services. Expanded Wi-Fi coverage can be used to offer Internet access, voice over Wi-Fi services, and infotainment services to users inside and outside the residence.



The high-gain directional antenna system specifically designed for spatial multiplexing, a technique used by 802.11n, provides multiple antenna elements that are controlled by an expert software system. This system determines the best antenna pair for any packet at any given time



## CAPABILITIES

- Supports the simultaneous distribution of multiple HD IPTV streams
- Enables whole-home video distribution without tedious and expensive wiring
- Locates media receivers anywhere in the home for more flexibility and convenience
- Provides standards-compliant 802.11n wireless connectivity for Ethernet-equipped media receivers including set-top-boxes and personal video recorders (PVRs)
- Enables reliable and flicker-free streaming of IPTV from broadband gateway to set top boxes
- Extends 802.11n range and coverage by up to 300 percent, maximizes throughput and minimizes interference
- Optimizes both unicast and multicast video
- Supports simultaneous video, voice and data traffic over the same wireless network with heuristic classification of each traffic type
- Offers remote management: TR-069, HTTP, SSH and HTTPS
- Allows auto firmware upgrade via TFTP, FTP, or HTTP

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Smart Wi-Fi 802.11n System

## Speed time to revenue — installation times and costs are half the competition

The Ruckus MediaFlex family of products includes the MediaFlex multimedia router and the Ruckus MediaFlex multimedia adapter. The Ruckus MediaFlex router attaches to any broadband gateway and communicates with any standard 802.11a/b/g/n end station. The Ruckus MediaFlex multimedia wireless adapter provides Wi-Fi connectivity to set-top boxes and other media devices. Self-installable, the Ruckus MediaFlex adapter can be auto-configured over Ethernet by the router.



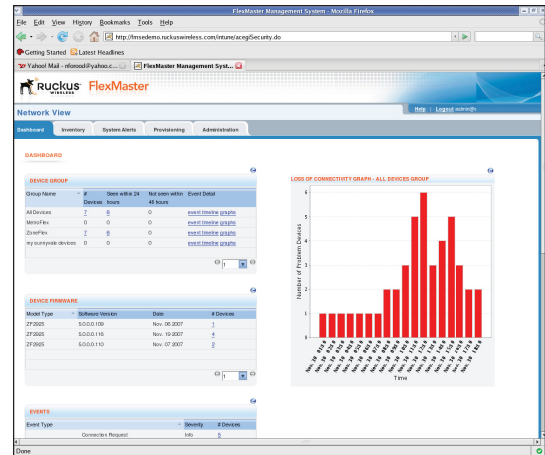
## FlexMaster Management System

FlexMaster Management System is the industry's only complete management platform for building and managing remote Wi-Fi infrastructures.

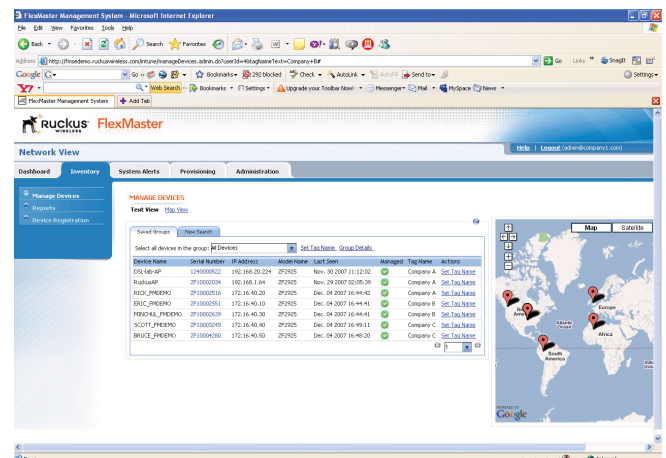
FlexMaster, a Linux-based management platform, uses industry-standard protocols (SNMP, TR-069, SOAP, XML, TCP, and HTTP/S) to access devices on networks that otherwise might be blocked by local firewalls or NAT devices (such as the Customer Premise Equipments behind the home gateway). The network manager can remotely control, monitor and upgrade the MediaFlex APs worldwide over the Internet or any private, public or hybrid IP wide area network.

## At-a-glance network dashboard

The network manager performs all critical administration and control functions from a single intuitive, web-based interface. Advanced capabilities lets network manager create unique configuration parameters on a bulk basis, load different versions of firmware for each group of devices, monitor events, generate trend reports, and upgrade devices individually or in groups with a simple click of the mouse.



A comprehensive dashboard view lets operators see all the Ruckus devices by group, region or customer providing model, types, software versions being run throughout the entire global network.



The Inventory View gives providers the power to manage different Wi-Fi infrastructures of different customers on a single screen using a single platform. Clients can also access the system to view only the stats and reports related to the devices on their network

## ABOUT RUCKUS WIRELESS

- Based in Sunnyvale, California
- Formed in 2004
- Funded by Motorola, T-Online, Sequoia Capital
- 140 employees
- Over one million "Ruckus Smart Wi-Fi systems shipped worldwide
- Over 30 patents in the area of adaptive RF signal path selection, beam steering, beam forming, and quality of service

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