

# FlexMaster™

First Global Wi-Fi Managed Service Platform for Enterprises and Service Providers

## First Complete Management Platform Enabling Enterprise and Carrier-Grade Wi-Fi Service Infrastructure

The Ruckus Wireless FlexMaster Management System is the industry's only complete management platform for building and managing both Enterprise and Carrier-Grade Wi-Fi Service Infrastructures.

FlexMaster is a fully-featured, intuitive, and complete Wi-Fi management platform for all sizes of Enterprises. FlexMaster enables network administrator to perform all critical functions necessary to set up, maintain, and optimize the deployment of their business Wi-Fi networks all from a single point.

FlexMaster can also be used by service providers as a unique and exciting new way to extend their network footprint, enabling new revenue streams and offering managed Wi-Fi services. Fitting seamlessly into existing operational support systems (OSS), FlexMaster is ideal for telecommunication carriers, multi-service operators, and broadband providers looking to monetize Wi-Fi services in growing new services markets, including hot spots, hot zones, home spots, and IPTV services. FlexMaster is also ideal for offering Managed Enterprise Wi-Fi services. FlexMaster was designed for enabling a managed Wi-Fi service whether users are at home, in the office or in a hot spot.

FlexMaster uses industry-standard protocols to manage Wi-Fi service infrastructures. It provides a comprehensive set of capabilities for configuration, fault detection, performance management, and reporting of Ruckus Wireless ZoneDirectors, ZoneFlex Access Points (APs), and MediaFlex APs. FlexMaster can manage the Ruckus Smart Wi-Fi APs either in standalone mode or via the ZoneDirectors.

FlexMaster can visualize remote RF environments, bulk configure and manage groups of devices, securely monitor and manage Wi-Fi services.

Easy to install and use, FlexMaster reduces the total cost of ownership by automatically discovering the deployed devices in your network, eliminating the need for tedious remote configuration, troubleshooting, and maintenance.



## BENEFITS

### Single platform for Wi-Fi management by enterprises and service providers

Simple to use, install, and deploy Linux-based management platform for managing Ruckus Smart Wi-Fi systems.

### Direct device access

Instant and secure access to Ruckus Wireless ZoneDirectors and individual Smart Wi-Fi APs over the Internet or any private IP wide area network.

### Comprehensive management

Leverage industry-standard protocols such as SNMP, TR-069, TCP, and HTTP/S for secure communication across the entire network.

### Carrier-grade scalability

Automatically discover, configure, monitor, and troubleshoot tens of thousands of remote access points.

### At-a-Glance network dashboard

Provides system health overview of events, device connectivity, and status of associated clients.

### Bulk configuration and firmware upgrades

Upgrade individual or groups of Ruckus Wireless ZoneDirectors and Smart Wi-Fi APs with a simple click of the mouse.

### Sophisticated filtering, searching and grouping

Easily group and manage devices by geography, device type, serial number, and customer.

### Branch offices

Remote management features enable IT managers and service providers to better support remote sites.

### Hierarchical administration rights

Provides multi-tiered access to the partitioned views of the networks' statistics, status, and reports.



## Introducing the Ruckus FlexMaster Management Services Platform

Wi-Fi has become an essential access method for all types of devices, in all types of environments. For Enterprises, the key is providing the limited IT staff with an intuitive tool to easily set up and manage the Wi-Fi devices without the need for RF expertise. For Service Providers, the key is figuring out how to monetize and manage large-scale Wi-Fi networks, and offer innovative managed Wi-Fi services.

The Ruckus FlexMaster System is the first complete management service platform that lets providers securely control, monitor, and upgrade Smart Wi-Fi systems anywhere in the world, whether over the Internet or a private IP wide area network.

Simple to install, and easy to use with an intuitive look and feel, FlexMaster provides a comprehensive solution for configuration, fault detection, audit, and performance management.

It fits seamlessly into existing network management architectures by uniquely leveraging a variety of industry-standard protocols such as SNMP, TR-069, TCP, and HTTP/S.

FlexMaster also provides the scalability expected for large scale infrastructures.



## Enabling Managed Services

With FlexMaster service providers create unique configuration parameters on a bulk basis, and load different versions of firmware for each customer.

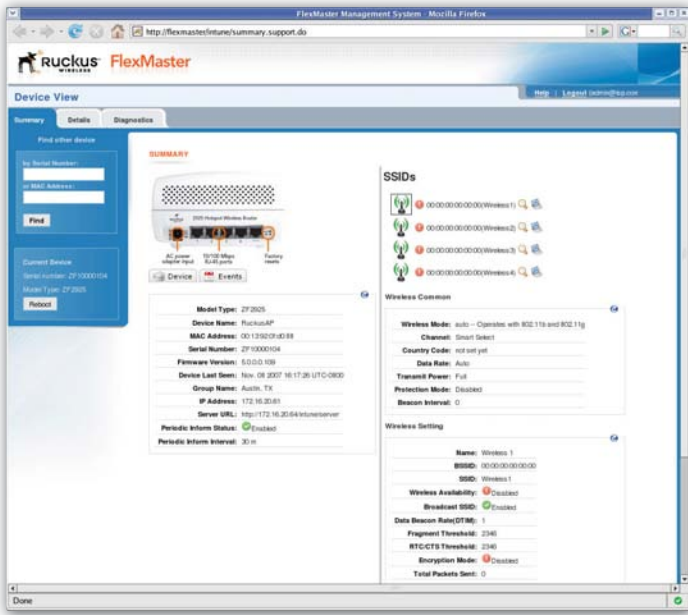
Managed MediaFlex and ZoneFlex devices can be grouped by geographic region, device type, serial number, MAC address range, or even client's name.

Multi-tiered access provides a partitioned view of the provider's customers that lets them view statistics, status, and reports related to their Wi-Fi networks. Using the administrator access privilege, the provider can access all of the devices in the management domain. IT managers and service provider can create unique Service Level Agreements for each client or department in order to offer revenue generating services.

Device Name	Serial Number	IP Address	Model Name	Last Seen	Managed	Tag Name	Actions
DSL-lab-AP	1240005522	192.168.20.224	ZF2925	Nov. 30 2007 11:12:02	✓	Company A	Set Tag Name
RuckusAP	ZF10002034	192.168.1.64	ZF2925	Nov. 29 2007 02:09:29	✓	Company A	Set Tag Name
BRUC_FHDEMO	ZF10002616	172.16.40.30	ZF2925	Dec. 04 2007 16:44:42	✓	Company A	Set Tag Name
BRUC_FHDEMO	ZF10002551	172.16.40.10	ZF2925	Dec. 04 2007 16:44:41	✓	Company B	Set Tag Name
MICHAEL_FHDEMO	ZF10002639	172.16.40.30	ZF2925	Dec. 04 2007 16:44:41	✓	Company B	Set Tag Name
SCOTT_FHDEMO	ZF10002415	172.16.40.40	ZF2925	Dec. 04 2007 16:49:11	✓	Company C	Set Tag Name
BRUCE_FHDEMO	ZF10004200	172.16.40.50	ZF2925	Dec. 04 2007 16:40:20	✓	Company C	Set Tag Name

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 statistics and reports related to the devices on their network.





The FlexMaster Device View allows administrators to configure and monitor individual Ruckus devices.

## FEATURES

- Multi-tiered management access
- Auto discovery of Ruckus devices
- Group configuration of devices
- Embedded database
- Manual or scheduled firmware upgrades for selected devices
- Geographic representation of devices on the networks using Google maps
- Custom reports
- Secure access with remote SSL
- Comprehensive data through real-time network and user level monitoring
- Connection and association reports
- Audits of user actions and system logs

FlexMaster communicates with Ruckus Smart Wi-Fi systems using industry-standard SNMP, SOAP/HTTP protocols, and takes advantage of TR-069 to establish safe and reliable links between the managed devices and the FlexMaster server. This enables remote access to devices on the LAN that normally might be inaccessible due to network address translation issues. Ruckus Smart Wi-Fi APs can also be directly queried by other third-party SNMP or auto configuration server (ACS) systems using TR-069.

Additionally, MediaFlex and ZoneFlex APs automatically reports to the FlexMaster server during initial installation, and at pre-specified periods. The FlexMaster can manually initiate instant communication, or schedule tasks to be performed at an opportune time.

### At-a-Glance Dashboard

The FlexMaster Dashboard View provides at-a-glance summary of all of the connected Ruckus Smart Wi-Fi devices that the FlexMaster is managing.

The Dashboard View categorizes the different types of devices in the network, as well as the firmware version of the devices.

An intuitive Events section gives the network administrator a quick reference about the condition of the network. And a detailed event timeline provides trend and historical records of all important events that have occurred over the previous period.



The network administrator can quickly return to a specified time to troubleshoot and analyze any abnormal conditions.

### Detailed Inventory View

The FlexMaster Inventory view provides a detailed report of all of the Ruckus Smart Wi-Fi devices in the network. Network administrators can easily navigate to any device and drill down for more detailed information.

Integrating with the Google Map application, each of the devices can be geographically displayed on the map to provide a more physical presence to the network administrator. The devices can be tagged into different groups (for example, access points for hot spot chain, access points for hotel chain, access points for Northern City, etc.) to improve the manageability.

### Flexible Managed Services Configuration Templates

The FlexMaster Template view gives service providers a simple way to set up the configuration profiles for different parameter settings of devices. For example, if an administrator wants to configure ZoneFlex APs for a hot spot chain differently than for a hotel chain, then two templates with different parameters can be set up, saved or modified before applying the configuration to the devices.

### Bulk Firmware Upgrades

Ruckus Smart Wi-Fi system firmware can be upgraded individually or in bulk. FlexMaster allows the operator to select a set of devices, schedule the firmware upgrade, and receive notification when the upgrade is complete. With a simple click of the mouse, the operator has

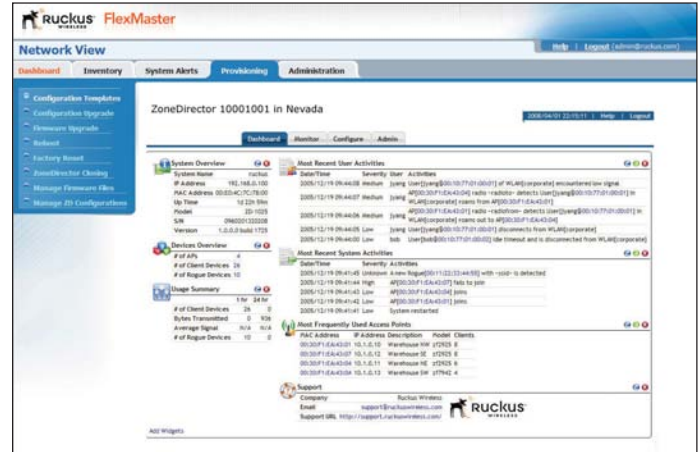
the flexibility to perform bulk firmware upgrades on all of the remaining units in the field, or schedule upgrades for a specific time.

### Comprehensive Reporting

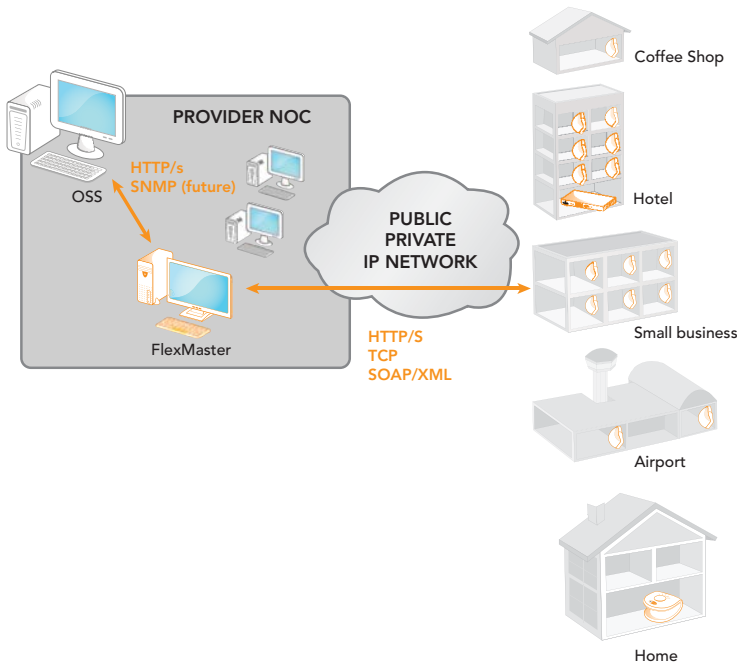
The Report View allows network administrators to define, configure, and select a variety of criteria upon which to run detailed reports at a specified time. Reports, such as analyzing the uptime of all of the Ruckus devices, or historical trend reports, can be generated by leveraging the FlexMaster database. These reports can be viewed by network administrators or senior management for a quick summary of the condition of individual devices, or the entire network.

### Powerful Provisioning

The Provisioning View is a powerful tool that gives administrators the option to permanently save the configuration of each device. In the event a user resets a pre-configured Wi-Fi device from the provider, the configuration can be restored to a known state quickly and easily without user intervention.



The Provisioning View allows administrators to configure and monitor Ruckus ZoneDirectors.



#### MINIMUM SYSTEM REQUIREMENTS

<b>CPU</b>	• 2.5 GHz
<b>Memory</b>	• 4 GB
<b>Hard Drive</b>	• 160 GB
<b>O/S</b>	• Red Hat Linux Enterprise Edition 5.0 or higher

#### Product Ordering Information

Model	Description
<b>ZoneDirector Smart WLAN Controllers</b>	
901-0100-FME0	FlexMaster software to manage up to 100 AP's (software CD including user manual)
901-0250-FME0	FlexMaster software to manage up to 250 AP's (software CD including user manual)
901-0500-FME0	FlexMaster software to manage up to 500 AP's (software CD including user manual)
901-1000-FME0	FlexMaster software to manage up to 1000 AP's (software CD including user manual)
901-2500-FME0	FlexMaster software to manage up to 2500 AP's (software CD including user manual)
901-5000-FME0	FlexMaster software to manage up to 5000 AP's (software CD including user manual)
901-0000-FME1	FlexMaster software to manage up to 10000 AP's (software CD including user manual)

