

## What's New in ZoneFlex Software Release 8.0

This application note describes the new features available in Version 8.0 of the Ruckus Wireless ZoneFlex family. This document assumes familiarity with the Ruckus ZoneFlex product line and the features of earlier releases including version 7.1.

### Highlights of this Release

ZoneFlex software release 8.0 provides Enterprises, HotZone Operators and Managed Service Providers a higher performing, more reliable, and easier to deploy and use way of providing wireless access to diverse groups of users across multiple locations:

- ZoneFlex 7962 802.11n AP
- ZoneFlex 2741 802.11g outdoor AP (*from software release 7.1*)
- FlexMaster delegated administration
- FlexMaster northbound API
- WLAN enhancements
  - More (32) WLANs
  - WLAN Groups
  - VLAN Override
- WISPr on ZoneDirector
- SpeedFlex™ for Mesh Links
- SmartSec™ enhancements
  - LDAP authentication via captive portal
  - Layer 2-4 ACLs
  - In-network rogue AP detection
  - MAC Authentication
- Guest Access enhancements
  - Customized guest-pass printout page
  - Fixed guest-pass generation
- Other ZoneDirector management enhancements
  - SNMP support
  - RADIUS accounting
  - Import of SSL certificate
- Other FlexMaster enhancements
  - Google map display enhancements
  - Auto-Generation of reports and email notification
  - Flexible edits of templates, tasks, and groups

### Supported Platforms

- FlexMaster version 8.0
  - ZoneDirector 1000 version 8.0
  - ZoneDirector 3000 version 8.0
  - ZoneFlex 2925 802.11g Access Point version 8.0
  - ZoneFlex 2942 802.11g Access Point version 8.0
  - ZoneFlex 7942 802.11n Access Point version 8.0
  - ZoneFlex 7962 802.11n Access Point version 8.0
  - ZoneFlex 2741 802.11g Outdoor Access Point version 8.0
  - ZoneFlex 7942-OT 802.11n Outdoor Access Point version 8.0
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## 1. Introduction to Ruckus Wireless ZoneFlex 7962 dual-band 802.11n AP

The Ruckus Wireless ZoneFlex 7962 AP is the first Enterprise-class dual-band 802.11n AP to combine concurrent spatial multiplexing, interference rejection, and Beamforming - delivering unprecedented performance, range, and reliability in an unmatched price.

Featuring two 10/100/1000Mbps ports, the ZoneFlex 7962 delivers unparalleled dual-band 802.11n throughput, even with standard PoE (802.3af), providing rates of up to 600Mbps.

The ZoneFlex 7962 is the first AP to enable high-definition IPTV, Video-on-demand, and other video applications for hotels and enterprises while supporting guests and employees for data.

### *Customer Benefits*

- Wire-like performance and reliability
- Investment protection by supporting legacy clients over 2.4Ghz radio while serving 802.11n clients over 5GHz
- Ideal for voice and high-density deployments
- Enabling new business model providing video over WiFi in hotels and enterprises
- Automated deployment keeps things simple even for large Enterprise deployments
- Distributed forwarding architecture eliminates controller bottlenecks with 802.11n APs
- Standard 802.3af support for painless migration leveraging existing PoE switches

### *Availability*

ZoneFlex 7962 802.11n Access Point with software release 8.0

## 2. Introduction to Ruckus Wireless ZoneFlex 2741 Outdoor AP

Capable of sustaining throughput of up to 10 Mbps over 300 meters or more, the Ruckus Wireless ZoneFlex 2741 is the first outdoor Smart Wi-Fi product to combine patented high-gain, adaptive RF routing, Smart Wi-Fi meshing, sophisticated tunneling techniques and advanced management capabilities into a single, affordable and ultra-easy-to-use system.

Pole, ceiling or wall mountable, the ZoneFlex 2741 is an 802.11g Smart Wi-Fi system for flexible deployment in hardened environmental conditions. IP-65 rated for water and dust, the ZoneFlex 2741 operates in temperatures ranging from -20°C - 65°C (-4°F - 149°F).

Supporting standard 802.3af power over Ethernet, the ZoneFlex 2741 is the only outdoor Wi-Fi product to combine unique capabilities not found in any other Wi-Fi device in the world:

- **An integrated high-gain, adaptive antenna array (BeamFlex™)** that automatically focuses and directs Wi-Fi signals over the best performing path for any given user to ensure consistent performance at the longest distances,
- **Smart Wireless Meshing** support that eliminates the requirements to connect every AP with an Ethernet cable,
- **Sophisticated tunneling features**, such as L2TP, to support a broad range of business models and network architectures,
- **Advanced remote Wi-Fi management** including support for both SNMP and TR-069 to simplify and automate deployment and ongoing administration.

Unlike other expensive and complex outdoor Wi-Fi products, the Ruckus ZoneFlex 2741 can be deployed as a standalone Wi-Fi access point, discretely managed by the Ruckus FlexMaster system, or as part of a managed wireless LAN system using the Ruckus ZoneDirector Smart WLAN controller.

### *Customer Benefits*

- Ideal for broadband providers and multiservice operators (MSOs) looking to attract and retain subscribers by extending branded services

- Offer reliable wireless DSL at a fraction of the cost and time over alternatives
- Reap the benefits of eliminating coverage holes, minimizing expensive broadband infrastructure investment and offloading data from taxed 3G networks
- Easy and affordable extension of indoor managed wireless LAN (WLAN) services to outdoor areas where cabling Ethernet is not possible
- Unified indoor/outdoor WLAN has never been simpler to deploy or manage

**Availability**

ZoneFlex 2741 Outdoor Access Point with software release 7.1 or above

**3. FlexMaster Delegated Administration**

In Release 8.0, FlexMaster supports role-based management functionality. Managed devices (AP and ZD) can be grouped into different domains to allow management by the specific operators and IT administrators.

Two types of new users are introduced:

- Group Administrator - manages APs and ZoneDirectors that belong to the specific domain
- Group Operator - manages APs and ZoneDirectors that belong to the specific domain on a READ-ONLY basis

**Customer Benefits**

- Enable Managed Service Providers to offer services while maintaining data integrity between end-customers
- Create users with different privileges for better role assignment within Enterprise and Service Providers
- Hierarchical and partitioned management domains for better distribution of responsibilities among network administrators
- Ideal for the Distributed Enterprises, allowing local IT administrators to manage their local devices

**Availability**

FlexMaster with software release 8.0

**4. FlexMaster Northbound API**

Northbound interface is used by FlexMaster to communicate with external network management platforms. The Northbound interface provides the ability to retrieve client association and event information for managed devices. It facilitates integration with third-party network management platforms for fault management and event monitoring. By connecting to the Northbound interface client association pusher service, users can receive real-time client association data from FlexMaster. After a user connects to this interface, FlexMaster will maintain a long-term connection between the client and FlexMaster. Once FlexMaster detects an update of client association information, it will send data in XML format through this long-term connection.

For customers or partners interested in building modules using the Northbound Interface, Ruckus provides software API (Application Programming Interface), user manual, and software client application.

**Customer Benefits**

- Enhanced integration of FlexMaster into existing network management topology
- Leveraging existing network management tools to manage Ruckus devices from a centralized point.

**Availability**

FlexMaster with software release 8.0

## 5. WLAN Enhancements

With this release, ZoneDirector administrators can create more WLANs, map them to different APs, and map the same WLAN to different VLANs.

### 5.1. More WLANs

Up to 32 WLANs (BSSIDs) can be defined on a single ZoneDirector. Each radio can then be assigned up to 8 WLANs (16 in total on the ZoneFlex 7962 dual-band 802.11n AP).

### 5.2. WLAN Groups

Administrators can define groups of WLANs that will be shared by specific APs. For example: APs in common areas might have a guest WLAN in addition to the corporate WLAN(s).

### 5.3. VLAN Override

VLAN Override enables administrators to map the same WLAN to a different VLAN depending on the existing network architecture. For example: the same WLAN can be mapped to a different VLAN in each floor eliminating the need to reconfigure the closet switch.

#### **Customer Benefits**

- Scalable solution for large deployments
- Seamless integration into existing networking architecture
- Enhanced security by assigning WLANs only to APs that require them (e.g. Guest WLAN in lobby areas and conference rooms only)
- Enabling new business models for managed service providers in multi-tenant office buildings (MTUs) where each office can be assigned different WLANs

#### **Availability**

ZoneDirector with software release 8.0

## 6. WISPr on ZoneDirector

Wireless Internet Service Provider roaming (WISPr) allows service providers (carriers, MSOs, hotspot operators, and even IT departments in universities and other enterprises) to create a flexible, scalable, multi-site authentication framework for hotspots.

Previously supported on the standalone Ruckus ZoneFlex 2942 AP for hotspots, it is now extended to the ZoneDirector for hotzones and other larger deployments.

Upon creating a hotspot/WISPr service and applying it to a WLAN, ZoneDirector interacts with an external Web server that hosts the web portal and a RADIUS server to authenticate the user. End users are redirected to the external web server where the operator can customize their experience (including complete web portal customization and billing). After successful authentication, ZoneDirector can enforce the session duration.

Administrators can also define a Walled Garden - sites that end users can access even before authenticating (e.g. hotel or airline sites).

#### **Customer Benefits**

- Scalable solution for large deployments

#### **Availability**

ZoneDirector with software release 8.0

## 7. SpeedFlex™ for Mesh Links

The SpeedFlex wireless performance tool can now perform mesh link performance measurements. From the Access Points monitoring screen, administrators can invoke a speed test focusing on wireless layer-2 throughput measuring performance for a specific 802.11n AP (ZoneFlex 7942 and/or 7962). When done for all APs in a mesh tree, this test can indicate the mesh throughput capacity for each mesh hop.

### *Customer Benefits*

- Easy troubleshooting and monitoring of mesh performance
- Enhanced end user satisfaction
- Improved capacity planning capabilities allows better planning for coverage and performance in mesh deployments

### *Availability*

ZoneDirector with software release 8.0

ZoneFlex 7942 and 7962 APs for Mesh link throughput test

## 8. LDAP Authentication via Captive Portal

With this release, ZoneDirector provides the ability to authenticate users via Captive Portal to an LDAP server (in addition to ActiveDirectory and RADIUS servers). When using this method, after users associate to the WLAN they are redirected to a ZoneDirector-hosted captive portal where they can enter their username and password. ZoneDirector will check these credentials against a pre-configured LDAP server (such as OpenLDAP or Apple Open Directory) and grant access accordingly.

In addition, LDAP attributes can be used to map users to different roles and in turn allow them access to only a subset of WLANs and/or privileges.

### *Customer Benefits*

- Enhanced security by enforcing authentication and authorization via corporate LDAP server
- Seamless integration to existing AAA infrastructure

### *Availability*

ZoneDirector with software release 8.0

## 9. Layer 2-4 Access Lists

With this release, administrators can create Layer 2 and Layer 3-4 access policies on the ZoneDirector.

Layer 2 (based on MAC address) policies are enforced pre-authentication, allowing administrators to control which clients will be blocked from (or cleared to) join the network. Layer 3-4 (IP and protocol/port based) policies are traffic filters being enforced by the access points on flows between associated clients and the network.

### *Customer Benefits*

- Enhanced security via granular security policies
- Ease of integration with existing network infrastructure (e.g. proxy servers and/or printers on a blocked subnet)

### *Availability*

ZoneDirector with software release 8.0

## 10. In-network Rogue AP Detection

In previous releases, ZoneDirector identified rogue access points (SSID-spoofing, BSSID-spoofing, ad-hoc, and others), placed them on the map view, and generated an alarm (and email if configured to do so) when a rogue AP was detected. In this release, this functionality is enhanced to also indicate whether the rogue AP resides on a local network.

### *Customer Benefits*

- Enhanced security and monitoring

### *Availability*

ZoneDirector with software release 8.0

## 11. MAC Authentication

With this release, administrators can leverage a MAC address database on an external RADIUS server to enforce network admission policies. When MAC Authentication is enabled on a WLAN, upon association and authentication of a client, ZoneDirector will authorize access based on the client MAC address inclusion in the RADIUS database.

### *Customer Benefits*

- Easy integration with existing databases and security policies
- Support for legacy or voice clients with no browser

### *Availability*

ZoneDirector with software release 8.0

## 12. Guest Access Enhancements

With this release, administrators can customize the guest-pass printout page and define a fixed guest-pass when generating it.

### *12.1. Customized Guest-pass Printout Page*

The guest-pass printout page can now be customized. Administrators can upload revised versions of the printout page in different languages and also completely customize the text and page look-and-feel.

When printing the guest-pass, the receptionist (or IT manager) can choose which language or version to use for the specific guest (hotel guest or corporate visitor).

### *12.2. Fixed Guest-pass Generation*

When generating a guest-pass, a receptionist (or IT manager) can configure the exact guest-pass instead of using the randomly generated guest-pass. This allows the choice of an easy-to-remember pass for end users. As before, this guest-pass can be tied to a single user (MAC address) or be shared by multiple users (e.g. in a conference).

### *Customer Benefits*

- Localization support for international non-English speaking hotel guests
- Easy-to-use guest-pass for end users

### *Availability*

ZoneDirector with software release 8.0

### 13. SNMP Support

Starting with this release, ZoneDirector supports SNMP MIBs and traps. Administrators can poll (read-only) information about WLANs, APs, and clients including statistics.

In addition, SNMP traps can be generated for events and alarms such as an AP joining the ZoneDirector, loss of AP, rogue AP detection, and client authentication failure.

#### *Customer Benefits*

- Seamless integration to existing SNMP-based management systems
- Enhanced monitoring

#### *Availability*

ZoneDirector with software release 8.0

### 14. RADIUS Accounting

Starting with this release, ZoneDirector supports RADIUS accounting. Start, Stop, and Interim RADIUS accounting messages are generated as users join and leave the network.

#### *Customer Benefits*

- Enhanced management, monitoring, and compliance
- Seamless integration with existing accounting techniques
- Enabling backend billing

#### *Availability*

ZoneDirector with software release 8.0

### 15. Import of SSL Certificate

Starting with this release, administrators can load an SSL certificate to the ZoneDirector. This certificate is used by ZoneDirector for administrator login and for end-user captive portal.

#### *Customer Benefits*

- Improved usability avoiding browser warning
- Enhanced security

#### *Availability*

ZoneDirector with software release 8.0

### 16. FlexMaster Google Map Display Enhancements

FlexMaster administrators can now identify managed devices by Longitude and Latitude to place the location marker on the integrated Google Map. The status of the devices will be color coded to represent the current state of the devices.

- Red - not connected to FlexMaster
- Green - connected to FlexMaster
- Yellow - ZoneDirector connected to FlexMaster, but has some APs that have lost connectivity to ZD

#### *Customer Benefits*

- Improved dashboard view for quick at-a-glance view of the network status
- Enhanced usability and look-and-feel

#### *Availability*

FlexMaster with software release 8.0

### **17. FlexMaster Auto-Generation of Reports and Email Notification**

FlexMaster reports can now automatically be run and sent to predefined email addresses. Flexible options include selection of one or more reports, sending reports on daily, weekly, or monthly basis, and comprehensive search and filter options.

#### ***Customer Benefits***

- Improved auditing capabilities for regulatory compliance
- Automates tasks to improve manageability of small and large networks
- Enhanced ability for troubleshooting and increased visibility of network status

#### ***Availability***

FlexMaster with software release 8.0

### **18. Flexible edits of Tasks, Templates, and Groups in FlexMaster**

FlexMaster administrators can now modify an existing task or template using the Duplicate, Delete, or Edit functions. This improves the configuration of the devices without the need to create a separate task or template. Users can now specify a system wide configuration setting which allows them to restart a task that has previously failed.

In addition, administrators can easily change search criteria for device views. Previously, the administrator had to create a new group with the additional parameters. This enhancement allows administrators to quickly add or modify the criteria for grouped devices and still use the existing group.

#### ***Customer Benefits***

- Streamlined management - easily duplicate templates to manage devices with similar configurations
- Enhanced management allowing interrupted tasks to restart without creating new ones
- Improved usability of configuration tasks and management

#### ***Availability***

FlexMaster with software release 8.0