


Ruckus®
Simply Better Wireless.

data sheet

# ZoneDirector™ 3000

## ENTERPRISE-CLASS SMART WIRELESS LAN CONTROLLER

### The First Simple and Powerful Enterprise Smart Wireless LAN Controller

The Ruckus Wireless ZoneDirector 3000 is the first enterprise-class Smart Wireless LAN system that delivers a secure, robust and easily expandable WLAN solution at an unmatched total cost of ownership.

Capable of managing up to 500 ZoneFlex Smart Wi-Fi access points and 10,000 clients from a single location, the Ruckus ZoneDirector 3000 is designed for simplicity and ease of use.

Unlike conventional wireless LAN systems that are costly, complex and cumbersome to deploy, the ZoneDirector 3000 is ideal for any enterprise that requires a high-performance wireless LAN that can be easily deployed and managed.

The ZoneDirector 3000 integrates the Ruckus Smart/OS application engine that delivers advanced features such as smart wireless meshing, high availability, hot spot authentication, elegant guest networking and dynamic Wi-Fi security.

The Ruckus ZoneDirector 3000 can be deployed and operated by non-wireless experts and can be installed quickly and easily. Any organization with limited IT staff and budget can create a robust and secure multimedia WLAN in a matter of minutes.

The Ruckus ZoneDirector easily integrates with network, security and authentication infrastructure already in place and is easily configured through a point-and-click web wizard. Ruckus ZoneFlex APs automatically discover and are configured by the ZoneDirector.

Redundant and secure, the Ruckus ZoneDirector provides WLAN-wide network, security, RF and location management within a single, easy-to-use and affordable WLAN system.

## BENEFITS

### Unmatched scalability

Supporting up to 500 APs and 1,024 WLANs per device, the ZoneDirector 3000 can easily serve medium to large campus deployments

### IT lite deployment in 5 minutes, simple to use and manage

Web-based configuration wizard configures an entire WLAN in minutes. ZoneFlex APs auto-discover the ZoneDirector. Centralized management and automatic, real-time optimization of entire WLAN

### Advanced WLAN features and functions

Advanced wireless networking features include rogue AP detection, interference detection, band steering, airtime fairness, role-based user policies, per-user rate-limiting, hotspot and guest networking services

### Smart Mesh Networking streamlines costly and complex deployment

Integrated Ruckus Smart Mesh Networking technology automates deployment, eliminates the need to run Ethernet cable to every Smart Wi-Fi AP. Adaptable architecture with Hybrid Mesh extends the wireless network through Ethernet-connected APs, increasing system performance

### Automatic user security

Dynamic PSK eliminates the requirement to configure and update individual PC client devices with unique encryption keys. Dynamic VLAN assignment seamlessly extends existing security policies to the WLAN

### Easy monitoring and troubleshooting

Customizable dashboard provides comprehensive at-a-glance network snapshot and allows drill down to troubleshoot wireless problems

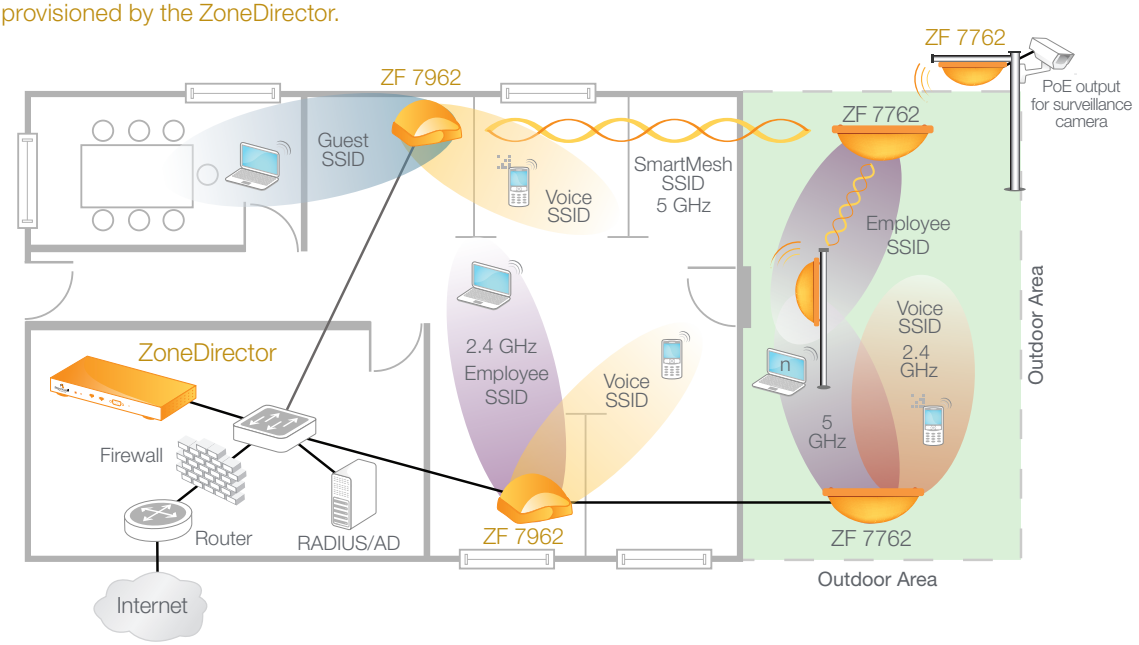
### Distributed forwarding architecture

Maximizes data throughput by sending all data traffic directly from the access points to the wired network

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The ZoneDirector 3000 can be deployed anywhere within a Layer 2/3 network. All ZoneFlex APs are dynamically discovered and automatically provisioned by the ZoneDirector.




### Simple to Deploy

The Ruckus ZoneDirector integrates seamlessly with existing switches, firewalls, authentication servers and other network infrastructure. The ZoneDirector can be placed within any Layer 2/3 network. All Ruckus ZoneFlex APs (wired or meshed) then automatically discover the Ruckus ZoneDirector, self configure and become instantly manageable. Ruckus Smart Redundancy ensures high network availability and is easy to use with automatic synchronization of configuration and authorized users between ZoneDirectors.

### Simple to Manage

Once up and running the ZoneDirector automatically manages the ZoneFlex network of APs — automatically adjusting transmit power levels and RF channel assignments as needed, to avoid interference, prevent adjacent APs from interfering and enable redundant coverage in the event of an AP failure. Configuration changes can easily be applied to multiple APs, or the entire system, simultaneously. A customizable dashboard provides instant access to a variety of client and network information and events, and a real-time heat map displays AP locations and signal coverage, as well as your Ruckus Smart Mesh Networking topology.

ZoneDirector Smart WLAN systems integrate a unique performance utility from Ruckus called SpeedFlex™. Ruckus SpeedFlex allows administrators to locally or remotely determine client Wi-Fi performance over the wireless LAN. With SpeedFlex, administrators can now better plan, troubleshoot, monitor and measure WLAN performance, eliminating the need to use Internet-based speed tools that often provide inaccurate results of the local Wi-Fi environment.

### Simple to Secure

The ZoneDirector 3000 provides innovative new techniques that simplify and automate Wi-Fi security. In addition to enterprise-class 802.1x support and dynamic VLAN assignment capabilities, the ZoneDirector 3000 supports a patent-pending Dynamic Pre-Shared Key (PSK) capability that streamlines WLAN security.

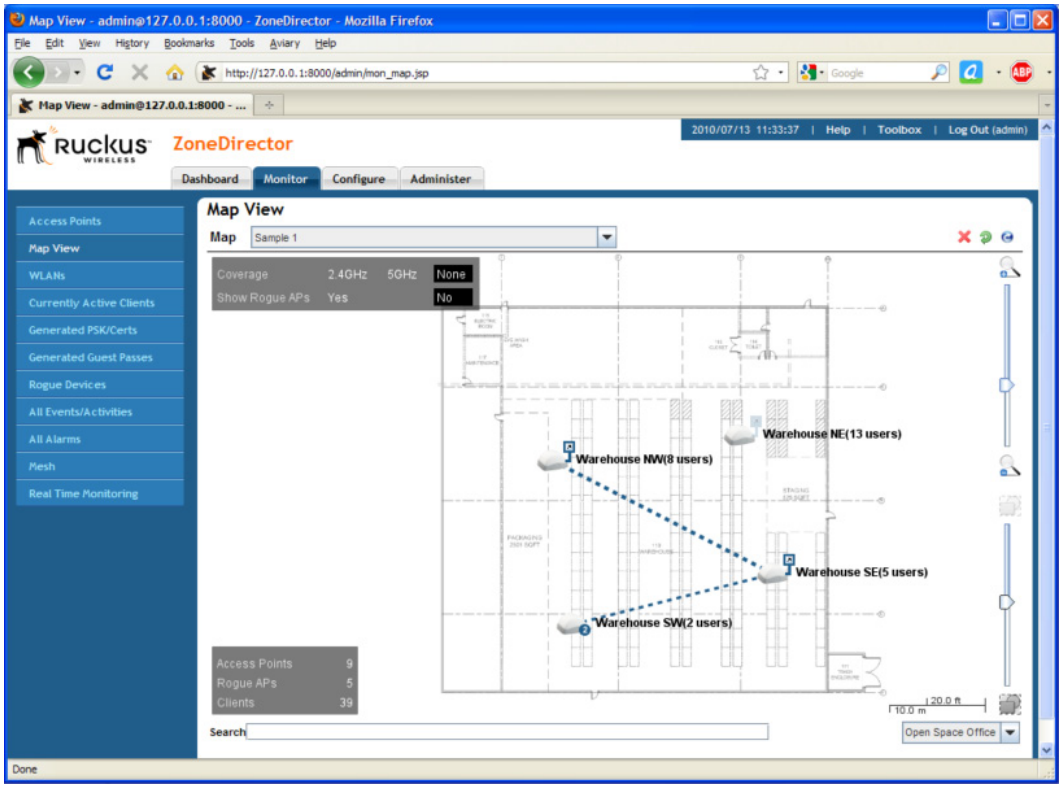
First-time users plug their computers into the LAN and specify a URL that directs them to a captive web portal for a one-time authentication. After successful authentication, the ZoneDirector automatically configures the client system with the designated SSID and a dynamically-generated encryption key. The key is bound to the client, and can be removed upon expiration when the user or the user's device is no longer trusted.

The Ruckus ZoneDirector centralizes authentication and authorization decisions for all APs, providing secure admission control across the WLAN. It works with any backend authentication database such as RADIUS and ActiveDirectory and also comes with an internal authentication database. Additionally, clients can be dynamically assigned to a VLAN based on their RADIUS attributes.

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The ZoneDirector 3000 provides a detailed map view that lets administrators quickly see the Wi-Fi network topology for all ZoneFlex Smart Wi-Fi access points.




### Avoid Interference, Maximize Performance and Extend Reach with BeamFlex

Ruckus BeamFlex™, a patented Wi-Fi beam-steering technology, ensures predictable performance for multimedia traffic applications and extends range to eliminate Wi-Fi deadspots. With ZoneDirector, the value of BeamFlex is extended beyond a single access point to the system-wide WLAN and smart wireless meshing.

The ZoneDirector automatically controls the channel assignments and transmit power of all ZoneFlex Smart Wi-Fi APs. And with BeamFlex, the ZoneFlex system continuously picks the best path for every packet, to both clients outside the network and mesh APs inside the network, automatically avoiding interference, to guarantee the highest quality of service.

### Smart Mesh Networking Increases Flexibility, Reduces Costs

Ruckus Smart Mesh Networking enables self-organizing and self-healing WLAN deployment. It eliminates the need to run Ethernet cables to every AP, allowing administrators to simply plug in ZoneFlex APs to any power source and walk away. All configuration and management is delivered through the ZoneDirector Smart WLAN controller. APs can also be daisy-chained to mesh APs to extend the mesh and take advantage of spatial reuse. Smart meshing uses patented Smart Wi-Fi technology to extend range and control Wi-Fi signals to minimize inter-nodal hops that degrade performance and automatically adapt Wi-Fi connections between nodes to maintain ultra high reliability.

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### HARDWARE FEATURES




- Thin 1U rackmountable footprint
- Easy discovery from PC using UPnP
- Manage multiple locations and ZoneDirectors with FlexMaster
- Two 1000 Mbps ports for full redundancy
- Lifetime warranty coverage

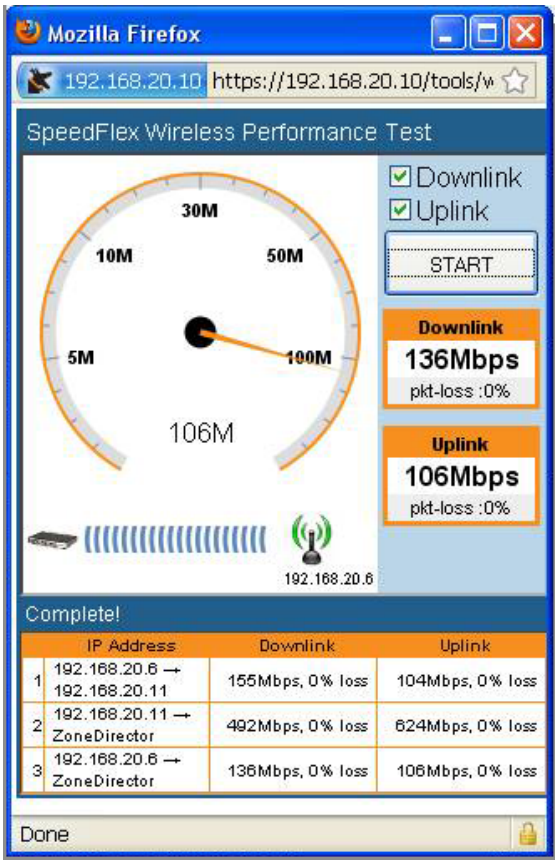
### SOFTWARE FEATURES

Central control and configuration of up to 500 ZoneFlex APs




- Support for 1,024 WLANs
- Integrated DHCP server
- Easy-to-use setup wizard
- Ultra-intuitive GUI
- 1+1 redundancy with auto synchronization
- Smart Mesh Networking control and monitoring
- Real-time client admission control
- Load-balancing
- Customizable dashboard
- Dynamic RF channel and power management
- Quality of Service with WLAN prioritization, bandsteering* and airtime fairness
- Integrated captive portal
- Native ActiveDirectory/RADIUS/LDAP support
- Local authentication database
- Dynamic VLAN assignment
- Guest networking
- Dynamic generation of unique Pre-Shared Keys
- Rogue AP detection and graphical map view
- Aeroscout location services support
- Hotspot authentication using WISPr
- WISPr Smart Client Support
- Performance monitoring and statistics
- Limited lifetime warranty

*for ZoneFlex 7962, 7762 and 7363 dual-band access points




SpeedFlex™ is a unique wireless performance test tool integrated within the ZoneFlex™ family of centralized controllers that measures the Wi-Fi throughput of associated wireless LAN clients.

## Specifications

| PHYSICAL CHARACTERISTICS | |
|---|---|
| POWER | • 220 watt internal power supply<br>• 100–250V AC Universal, IEC 320 connector |
| PHYSICAL SIZE | • 1RU: 35.52cm(L), 43.18cm(W), 4.39cm(H) |
| WEIGHT | • 14 lbs (6.37 kilograms) |
| ETHERNET PORTS | • 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45 |
| ENVIRONMENTAL CONDITIONS | • Operating Temperature: 41°F (5°C) – 104°F (40°C) |

| CAPACITY | |
|---|---|
| MANAGED APs | • Up to 500 |
| WLANs (BSSIDs) | • 1,024 |
| CONCURRENT STATIONS | • Up to 10,000 |

| APPLICATIONS | |
|---|---|
| HOTSPOT | • WISPr |
| GUEST ACCESS | • Supported |
| CAPTIVE PORTAL | • Supported |
| MESH | • Supported |
| VOICE | • 802.11e/WMM<br>• U-APSD<br>• Tunneling to AP |

| NETWORK ARCHITECTURE | |
|---|---|
| IP | • IPv4, IPv6, dual-stack |
| VLANs | • 802.1Q (1 per BSSID), dynamic VLAN |
| REDUNDANCY | • 1+1 with auto-synchronization |
| DCHP SERVER | • Supported |

| MANAGEMENT | |
|---|---|
| CONFIGURATION | • Web user interface, CLI, FlexMaster, SNMP v1, v2, v3 |
| AAA | • RADIUS (primary and backup) |
| AP PROVISIONING | • L2 or L3 auto-discovery<br>• Auto-software upgrade<br>• Automatic channel and power optimization |
| CLIENT PROVISIONING | • Zero-IT<br>• Auto proxy configuration |
| WIRELESS PACKET CAPTURE | • Supported |

| SECURITY | |
|---|---|
| STANDARDS | • WPA, WPA2, 802.11i |
| ENCRYPTION | • WEP, TKIP, AES<br>• Ruckus Dynamic Pre-Shared Key |
| AUTHENTICATION | • 802.1x, MAC address |
| USER DATABASE | • Internal database up to 10,000 users<br>• External: RADIUS, LDAP, Active Directory |
| ACCESS CONTROL | • L2 (MAC address-based)<br>• L3/4 (IP and Protocol based)<br>• L2 client isolation<br>• Management interface access control<br>• Time-based WLANs |
| WIRELESS INTRUSION DETECTION (WIDS) | • Rogue AP detection<br>• DoS attack prevention<br>• Evil-twin/AP spoofing detection<br>• Ad hoc detection<br>• Password guessing protection |

| MULTIMEDIA AND QUALITY OF SERVICE | |
|---|---|
| 802.11e/WMM | • Supported |
| SOFTWARE QUEUES | • Per traffic type (4), per client |
| TRAFFIC CLASSIFICATION | • Automatic, heuristics and TOS based or VLAN-defined |
| RATE LIMITING | • Supported |
| WLAN PRIORITIZATION | • Supported |
| CLIENT LOAD BALANCING | • Automatic |

| CERTIFICATIONS | |
|---|---|
| CERTIFICATIONS | • U.S., Europe, Australia, Brazil, Canada, Chile, China, Colombia, Ecuador, Egypt, Hong Kong, India, Indonesia, Korea, Malaysia, Mexico, New Zealand, Pakistan, Philippines, Saudi Arabia, South Africa, Taiwan, Thailand, UAE, Uruguay, Vietnam<br>• Wi-Fi Alliance Certification (Wi-Fi Certified™) |

## Product Ordering Information

| MODEL | DESCRIPTION |
|---|---|
| **ZoneDirector 3000 Smart WLAN Controllers** | |
| 901-3025-XX00 | ZoneDirector 3025 supporting up to 25 APs |
| 901-3050-XX00 | ZoneDirector 3050 supporting up to 50 APs |
| 909-0XXX-ZD00 | ZoneDirector 3000 AP license upgrade (increments of 50 from 50 to 450) |

PLEASE NOTE: When ordering ZoneDirector, you must specify the destination region by indicating -US, -EU, -CN, -IN, -JP, -KR, -SA, -UK or -UN instead of -XX.

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Ruckus® Simply Better Wireless.

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## Reasons to work with us

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## Solutions for: Industry • Consumer • Mobility Transportation and Logistics • Retail • Health



Label printers



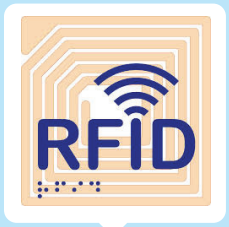
Barcode readers



Data terminals & PDA



PVC card printers




RFID



Consumables
(labels, ribbons, PVC cards)

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