BENEFITS

Super scalable
Supporting up to 1,000 APs and 20,000 clients per device, the ZoneDirector 5000 easily serves the largest 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 Meshing 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 access point. Adaptable architecture with Hybrid Mesh extends the wireless network through Ethernet-connected APs, increasing system performance through better spatial reuse

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

ZoneDirector™
5000

SCALABLE ENTERPRISE CLASS SMART WLAN CONTROLLER

The Most Affordable and Scalable Wireless LAN controller in its class

The Ruckus Wireless ZoneDirector™ 5000 (ZD5000) is the first WLAN controller to uniquely combine power, simplicity and scalability into an affordable system.

Supporting up to 20,000 clients and 2048 WLANs per device, the ZD5000 manages up to 1000 ZoneFlex Smart Wi-Fi access points from a single location.

Unlike conventional wireless LAN systems that are costly, complex and cumbersome to deploy, the ZD5000 is designed for simplicity and ease of use. It's ideal for any large-scale enterprise requiring a high-performance wireless LAN that can be easily deployed and managed.

The ZD5000 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.

Deployed and operated by non-wireless experts and installed quickly and easily, with the ZD5000, any organization with limited IT staff and budget can create a robust and secure multimedia WLAN in a matter of minutes.

The ZD5000 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 ZD5000 provides WLAN-wide network, security, RF and location management within a single, easy-to-use and affordable WLAN system.

ZoneDirector™ 5000

SCALABLE ENTERPRISE CLASS SMART WLAN CONTROLLER

Simple to Deploy

The Ruckus ZD5000 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.
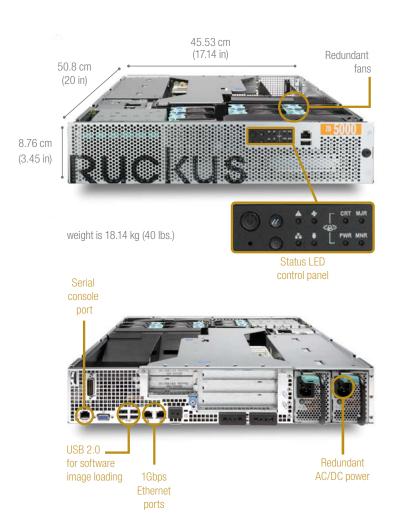
Simple to Manage

Once up and running the ZD5000 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 Meshing 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 ZD5000 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 ZD5000 supports a patented 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.

45.53 cm (17.14 in)

50.8 cm (20 in)

8.76 cm (3.45 in)

Redundant fans

weight is 18.14 kg (40 lbs.)

Status LED control panel

Serial console port

USB 2.0 for software image loading

1Gbps Ethernet ports

Redundant AC/DC power

The ZD 5000 has multiple I/O port configuration options, is field upgradable and can be deployed anywhere within a Layer 2/3 network. All ZoneFlex APs are dynamically discovered and automatically provisioned by the ZoneDirector.
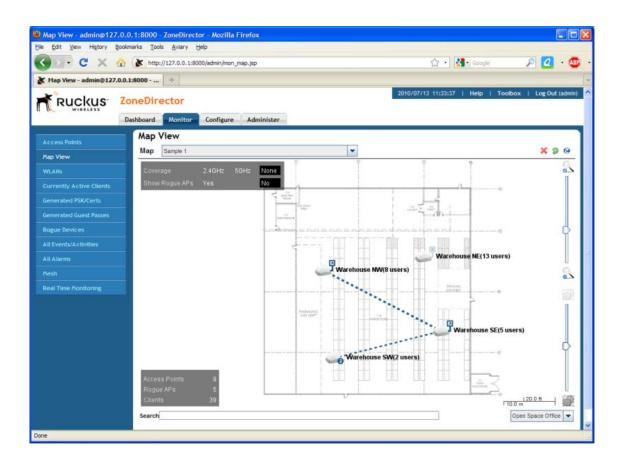
The ZD5000 centralizes authentication and authorization decisions for all APs, providing secure admission control across the WLAN. It works with any backend authentication database such as RADIUS and ActiveDirectory and also comes with an internal authentication database. Additionally, clients can be dynamically assigned to a VLAN based on their RADIUS attributes.

ZoneDirector™ 5000
SCALABLE ENTERPRISE CLASS SMART WLAN CONTROLLER

The ZD5000 provides a detail 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 Zone-Director 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.

ZoneDirector™ 5000

SCALABLE ENTERPRISE CLASS
SMART WLAN CONTROLLER

HARDWARE FEATURES

- 2U rack-mountable chassis footprint
- Dual, hot-swappable PSU
- Redundant, field swappable fans
- Easy discovery from PC using UPnP
- Multiple I/O port configuration options
- Two 1000 Mbps ports for full redundancy
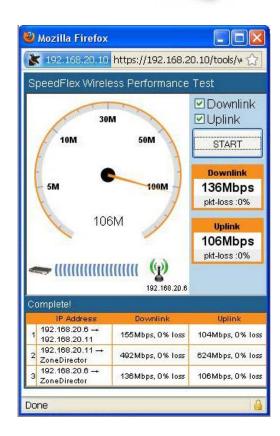- Lifetime warranty coverage

SOFTWARE FEATURES

Central control and configuration of up to 1000 ZoneFlex APs

- Support for 2048 WLANs
- 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, admission control
- Customizable dashboard
- Dynamic RF channel and power management
- Quality of Service with WLAN prioritization, band steering and airtime fairness
- Integrated captive portal
- Native ActiveDirectory/RADIUS/LDAP support
- Local authentication database
- Dynamic VLAN assignment
- Guest access
- BYOD, ZeroIT, Dynamic generation of unique Pre-Shared Keys
- Rogue AP detection and graphical map view
- Aeroscout location services support
- Hot spot authentication using WISPr
- WISPr Smart Client Support

- Performance monitoring and statistics
- Band balancing and airtime fairness
- Application recognition and control
- SPOT location services
- Limited lifetime warranty

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	• AC or DC hot-swappable, redundant power supplies
	• DC input requirements
	  - Voltage: -48 to -60VDC
	  - Current: 10A
	• AC input requirements (auto-range)
	  - 50/60Hz
	  - 100 to 127VAC/maximum current 6A
	  - 200 to 240VAC/maximum current 3A

PHYSICAL SIZE	• 2RU: 8.76cm(H), 43.53cm(W), 50.8cm(D)
WEIGHT	• 40 lbs (18.14 kilograms)
ETHERNET PORTS	• Two 10/100/1000 Mbps RJ45 ports
ENVIRONMENTAL CONDITIONS	• Operating Temperature: 41°F (5°C) – 104°F (40°C)

CAPACITY

MANAGED APs	• Up to 1,000
WLANs (BSSIDs)	• 2048
CONCURRENT STATIONS	• Up to 20,000

APPLICATIONS

HOTSPOT	• WISPr
GUEST ACCESS	• Supported
CAPTIVE PORTAL	• Supported
MESH	• Supported
VOICE	• 802.11e/WMM • U-APSD • 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 • Auto-software upgrade • Automatic channel and power optimization
CLIENT PROVISIONING	• Zero-IT • Auto proxy configuration
WIRELESS PACKET CAPTURE	• Supported

SECURITY

STANDARDS	• WPA, WPA2, 802.11i
ENCRYPTION	• WEP, TKIP, AES • Ruckus Dynamic Pre-Shared Key
AUTHENTICATION	• 802.1x, MAC address
USER DATABASE	• Internal database up to 20,000 users • External: RADIUS, LDAP, Active Directory
ACCESS CONTROL	• L2 (MAC address-based) • L3/4 (IP and Protocol based) • L2 client isolation • Management interface access control • Time-based WLANs
WIRELESS INTRUSION DETECTION (WIDS)	• Rogue AP detection • DoS attack prevention • Evil-twin/AP spoofing detection • Ad hoc detection • 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., Canada, EU, China, Japan, Taiwan, Korea

Supported Wireless Standards

IEEE	• 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, 802.11r, 802.11k, 802.11v, 802.11d, WMM/802.11e, 802.11u

Product Ordering Information

MODEL	DESCRIPTION
ZoneDirector 5000 Smart WLAN Controllers	
901-5100-WW00	ZD5000 supporting 100 APs with DC power supply
901-5100-XX10	ZD5000 supporting 100 APs with AC power supply
909-0XXX-ZD50	ZD5000 AP license upgrade (increments of 50 from 50 to 900)
Optional Accessories	
902-0179-AC00	Spare AC power supply
902-0174-XX00	Power cord for AC power supply (minimum order quantity of 5)
902-0175-DC00	Spare DC power supply
902-0176-0000	Spare fan set (6 fans)
902-0178-0000	Spare rack rail kit

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.

Ruckus ®
Simply Better Wireless.

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