One-time authentication

One-click configuration

Automatic authentication and WLAN access

feature sheet

ZoneConnect™

SMART DEVICE PROVISIONING AND SECURITY

Patented Ruckus technologies combine to streamline the provisioning, authentication, security and troubleshooting of client devices.

ZoneConnect leverages patented Ruckus Zero IT Activation™, Dynamic PSK™ (pre-shared key), and SpeedFlex™ technologies to eliminate tedious user complexity while simplifying the administration and troubleshooting of Wi-Fi-enabled smart phones and tablet devices.

Zero IT Activation provides ease-of-use device provisioning for configuration parameters while Dynamic PSK automates the creation of per-user encryption keys that can be easily distributed using the Zero IT framework.

SpeedFlex is a unique wireless performance tool integrated within the ZoneDirector™ family of centralized controllers that measures the real-time Wi-Fi link performance and packet loss of associated wireless LAN (WLAN) clients.

ZoneConnect is supported on a wide range of smart devices including Apple iPads and iPhones, Android OS, Windows Mobile, and Windows CE platforms. With ZoneConnect, IT staff can now automatically provision wireless device settings (such as SSIDs and unique pre-shared keys) on mobile devices along with provisioning other wireless authentication and security parameters (such as 802.1X supplicants and certificates).

DYNAMIC PSK / Simplified, Automated Security

Securing a WLAN can be complex and time consuming. This is a major problem for enterprises with limited IT staff that don't have the time or expertise to implement complex wireless security. Authentication (i.e., who is the user and what is the device) and encryption (the scrambling of data) are the two primary security issues to be addressed.

Three popular security options (open, pre-shared keys and 802.1X) trade off security and ease of deployment (see Table 1). But none of these options provides an optimal solution.

FEATURES/BENEFITS

- Zero touch wireless configuration for laptops and smart mobile devices

- Robust security simplified

- Support for iPad/iPhone, Android platforms, Mac OS/X, Windows XP, Vista and 7 and Mobile/CE

- Highly secure, simple to deploy and maintain

- Simplifies and automates securing mew smart mobile handheld devices

- Unique Dynamic Pre-Shared 63-byte encryption keys generated and automatically installed per device upon successful authentication

- Easily deactivated when employee or student leaves

- New keys can be generated on-demand

- Supported by all devices that are WPA compliant

- Simple batch configuration of Dynamic PSK keys for easier maintenance of multiple devices

- Remote and local testing of Wi-Fi client performance using smart mobile devices with SpeedFlex

- At-a-glance speedometer relays Wi-Fi link performance to any given client

- Easy troubleshooting and monitoring of network-wide Wi-Fi client performance

- Increased IT productivity from the ability to centrally test remote Wi-Fi client performance

- Easier and faster resolution of client problems

- Distinguish and isolate wired vs. wireless performance problems

- More accurate characterization of Wi-Fi performance and capacity without expensive tools

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Instead of manually configuring each device with encryption keys, 802.1X supplicants and wireless configuration information, Dynamic PSK automates and centralizes this process within the network.
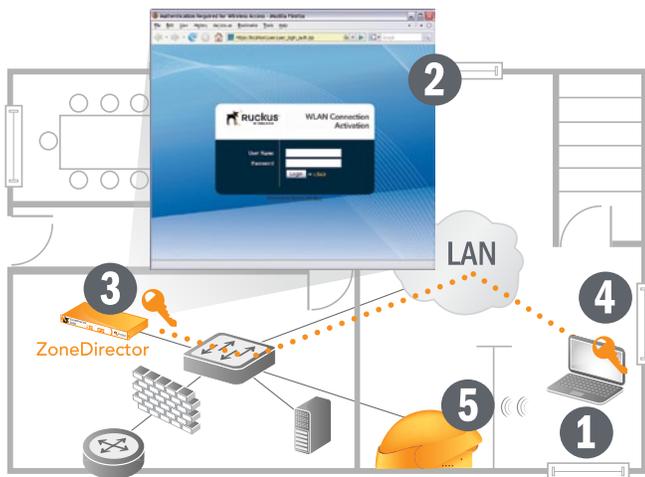
Dynamic Pre-Shared Key (PSK) is a patented technology developed to provide robust and secure wireless access while eliminating the arduous task of manual configuration of end devices and the tedious management of encryption keys.

Dynamic PSK creates a unique 63-byte encryption key for each user upon accessing the wireless LAN for the first time and then automatically configures end devices with the requisite wireless settings (i.e., SSID and unique passphrase or .1X certificate).

How does Dynamic PSK work?

Instead of manually configuring each individual laptop with an encryption key and the requisite wireless SSID, Dynamic PSK automates and centralizes this process (See Figure 1).

Once enabled, a new user simply connects to network and authenticates via a captive portal hosted on the ZoneDirector. This information is checked against any standard authentication (AAA) server such as Active Directory, RADIUS, LDAP or an internal database on the ZoneDirector.

Upon successful authentication, the ZoneDirector generates a unique encryption key for each user. The lifetime of the key can be configured to align with company policies. A temporary applet with the unique user key and other wireless configuration information is then pushed to the client. This applet automatically configures the user's device without any human intervention.

The user then detaches from the LAN and connects to the wireless network. Once associated, the unique Dynamic PSK is bound to the specific user and the end device being used.

Administrators can create a batch of Dynamic PSK keys for easier maintenance of multiple machines. These keys, provided via a CSV file, can then be added to any script designed to image an end device.

FIGURE 1: Dynamic PSK automates secure Wi-Fi access

1. User attaches to wired wireless LAN (open, dedicated provisioning WLAN)

2. User challenged to authenticate at captive portal page

3. Once authenticated, a unique encryption key is dynamically generated for each user by the ZoneDirector

4. Key is passed to user device where it is automatically configured within the device's wireless configuration settings

5. User is now safely connect to the WLAN

Table 1: Wireless Security Options

SECURITY OPTION	BENEFITS	DRAWBACKS
Pre-Shared Key	• Straightforward implementation • Link layer encryption	• Easily compromised when <30 characters are utilized • Same key for all employees (major threat) • Individual client configuration required
802.1X	• Robust and comprehensive framework • Strong encryption and authentication	• Expensive authentication server • Requires 802.1X supplicant on every device • Highly complex • Time-consuming to implement
Dynamic PSK	• Easy to use • Strong encryption without 802.1X • No IT staff intervention • Works with existing authentication without EAP	• Manual configuration required for the few devices not supported by Zero IT

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Enabled with a simple click of a mouse on a per WLAN basis, Zero IT activation automatically authenticates users against a variety of database options, then automatically configures each client with the requisite encryption keys, certificates and wireless parameters.

Dynamic PSKs are easily configured on a per WLAN basis for each user and can be set to automatically expire at pre determined times. The D-PSK is bound to the end user device within the ZoneDirector. This eliminates having to reconfigure keys in all devices if a key is compromised.

Administrators can create a batch of Dynamic PSK keys for easier maintenance of multiple machines. These keys, provided via a CSV file, can then be added to any script designed to image an end device. These Dynamic PSK keys can be assigned to a specific MAC address upon creation or handed out at a later point to a user/machine and be tied to the MAC address at that point.

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Zero IT Activation / Simplified Device Configuration

Zero IT Activation is a first-of-its kind capability that streamlines the configuration, deployment, management and security of wireless LANs. With Zero IT Configuration, any computer user can point-and-click their way to building a robust and secure WLAN with unprecedented ease.

Zero IT Activation includes a unique facility that eliminates the requirement to configure individual end devices with wireless settings, certificates and/or unique encryption keys.

In the configuration process, an administrator simply selects the Zero IT Config button to enable automatic user security. The ZoneDirector then prompts client devices to download a small applet that is used to automatically configure end devices, such as laptops, with the required wireless setting along with encryption keys or certificates.

Before using the WLAN, users simply connect to the network and login to the WLAN Connection Activation page with a username and password provided by the administrator.

Once authenticated, the ZoneDirector downloads an applet to the end device. This applet automatically configures the appropriate wireless settings such as the SSID, authentication and encryption type and assigns a dynamic pre-shared key. Each pre-shared key

is bound to a specific device based on its MAC address with a configurable expiration timer. This binding is maintained with the ZoneDirector.

SpeedFlex / Simplified Device Configuration

SpeedFlex is a unique wireless performance tool. With it, administrators can 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.

An intuitive speedometer delivers at-a-glance feedback of the actual connection speed of each wireless client, allowing administrators to quickly isolate client issues. The same test also can be performed by the user from any location.

How SpeedFlex Works

SpeedFlex sends fixed-duration bursts of full-length User Datagram Protocol (UDP) packets. The packet loss and inter arrival times are closely monitored and reported.

From any ZoneDirector WLAN management console, administrators remotely invoke a speed test for a specific client, focusing on wireless layer-2 throughput measuring performance for that client.

SpeedFlex then downloads a thin agent from the ZoneDirector to each client. Real-time Wi-Fi performance tests can be initiated locally by the client or remotely by the administrator for a given client.

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SpeedFlex can be invoked for any associated client from the ZoneDirector without end user involvement, allowing administrators to quickly and easily isolate Wi-Fi performance problems for individual clients or discrete mesh hop links.

Ruckus Wireless, Inc.
350 West Java Drive
Sunnyvale, CA 94089 USA
(650) 265-4200 Ph \ (408) 738-2065 Fx

www.ruckuswireless.com

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