What's New in ZD Version 10.2?

This application note describes the new features available in version 10.2 of Ruckus' ZoneDirector (ZD). This document assumes familiarity with the Ruckus product line and the features of earlier releases till ZD's software version 10.1.

Highlights of this Release

ZoneDirector software release 10.2 delivers higher performing, more reliable, and easier to deploy WiFi network to provide wireless access to diverse groups of users across multiple locations.

Key features of release 10.2

- Customization of Guest Captive portal
- Social login for Guest WLAN
- Local language support for guest captive portal
- Zero Touch Mesh
- Support for mesh link over 2.4 GHz on dual band APs
- 802.1x support with Active Directory
- Application Recognition and Control (ARC) integration with SCI
- Bonjour fencing enhancements for Apple TV and Chromecast
- CLI Wizard
- Client Connection Diagnostics (CCD) Phase – 2
- Export client Info

Supported Platforms

- ZoneDirector 1200 WLAN Controller
- ZoneDirector 3000 WLAN Controller **(Last major feature release)**
- R720 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point
- R710 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point
- R610 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point
- R510 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point
- R320 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point
- H510 802.11ac Multi-User MIMO (MU-MIMO) Indoor AP with Wired/Wireless Wall Switch
- T710 802.11ac Multi-User MIMO (MU-MIMO) Outdoor Access Point
- T710S 802.11ac Multi-User MIMO (MU-MIMO) Outdoor Access Point with Sector Antenna
- T610 802.11ac Multi-User MIMO (MU-MIMO) Outdoor Access Point
- C110 802.11ac Multi-User MIMO (MU-MIMO) Indoor Access Point with Cable Modem
- R310 802.11ac Dual-band Access Point
- R500 802.11ac Dual-band Access Point
- R600 802.11ac Dual-band Access Point
- R700 802.11ac Dual-band Access Point
- T300 802.11ac Dual-band Access Point
- T300e 802.11ac Dual-band Access Point
- T301n 802.11ac Dual-band Access Point
- T301s 802.11ac Dual-band Access Point

Customization of Guest Captive portal

ZoneDirector version 10.2 extends the customization of Guest's captive portal even further. Before version 10.2, ZD provided customers to customize the 'Welcome' message, 'Terms & Conditions', and 'Logo.' In this release, it offers to customize 'Banner, Background image, and Opacity.' After customizing the portal customer can 'Preview' the portal to experience.
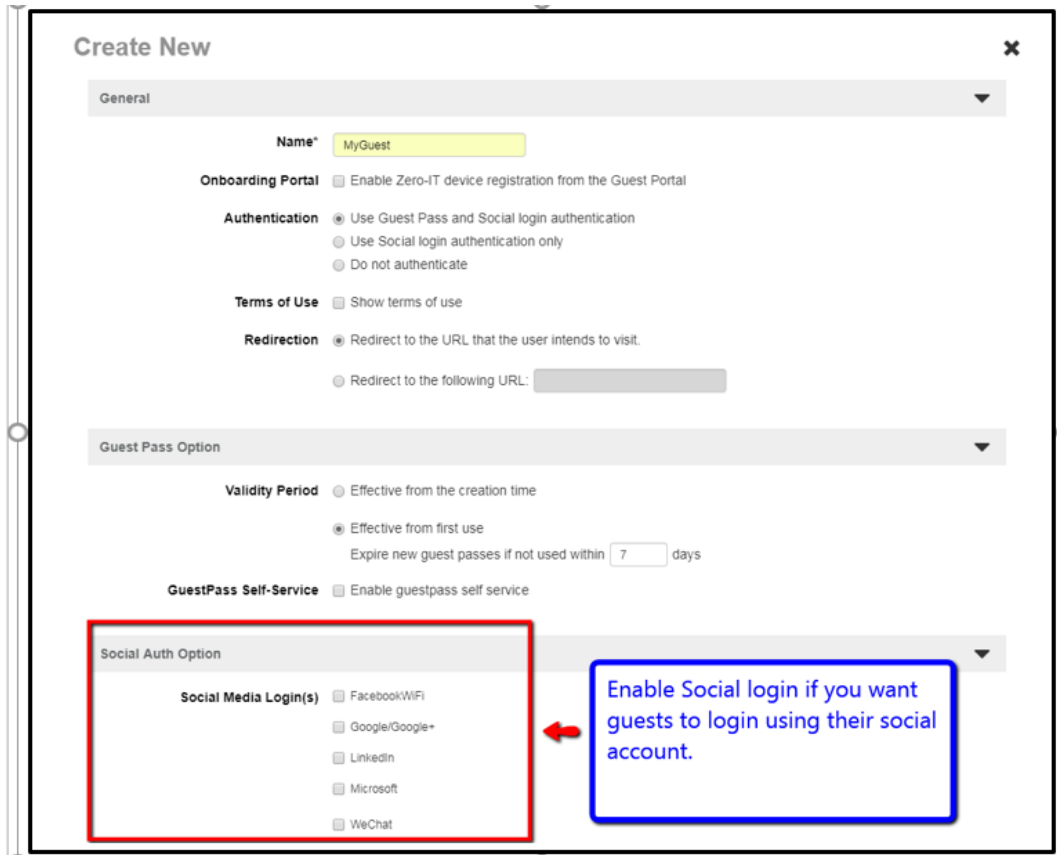

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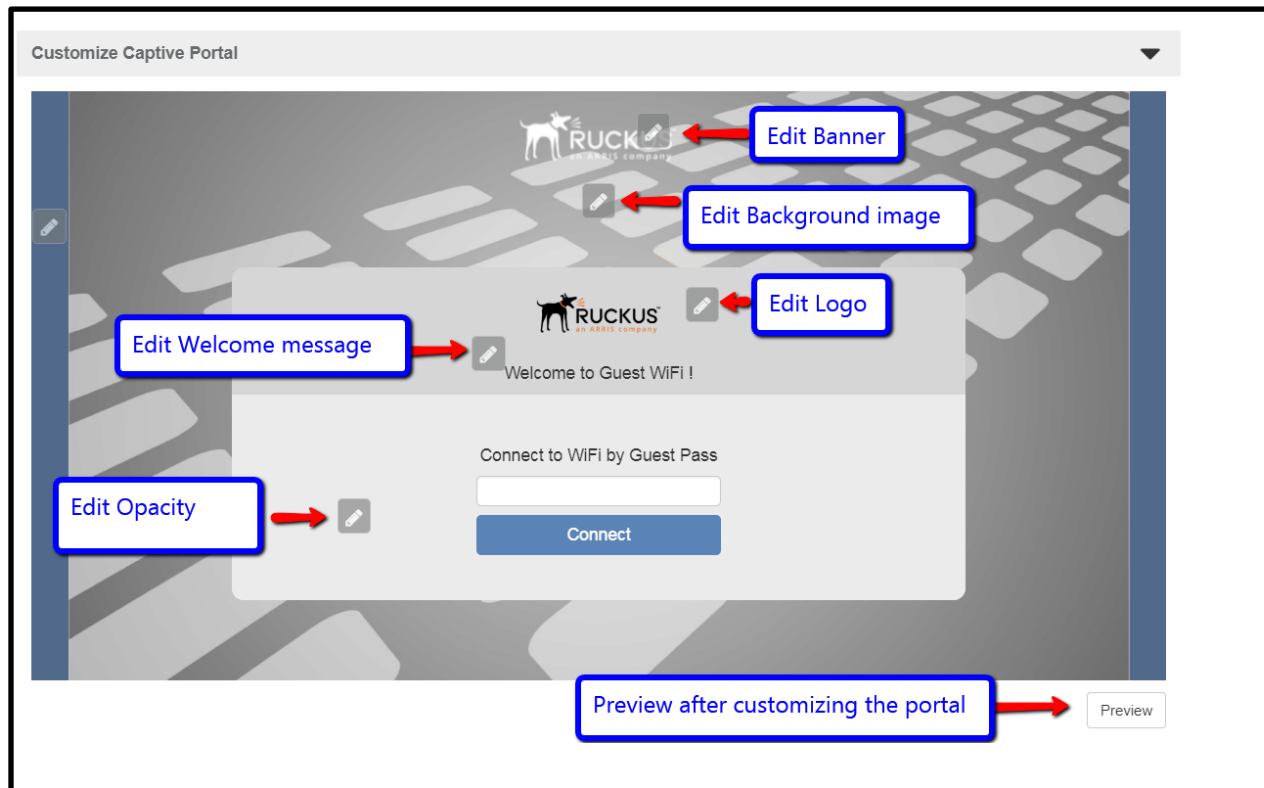
Customer Benefits

1. Built-in guest portal customization reduces the solution cost and complexity.

2. Guests will feel more comfortable when joining WiFi network as the look & feel could match your theme.

Social login for Guest WLAN

The social login is used by guests to connect to WiFi network. Before ZD version 10.2, a separate WLAN had to be created for allowing guests to connect using their social login credentials like Facebook, Google+, WeChat and so on. Starting ZD version 10.2, no need to create a separate WLAN for social login. Instead, the guest WLAN itself can let users connect to guest WLAN using one of their social login ID. With the addition of rich guest portal customization along with social login, the ZD's guest WLAN solution has become very compelling.
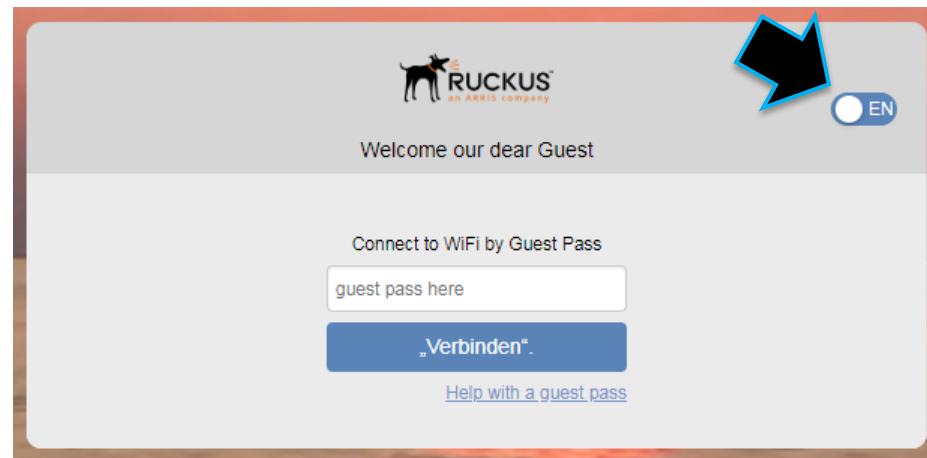
- Guests can login using
  - Admin provided guest pass
  - Self-service (guest pass)
  - Social account

Customer Benefits

1. Flexible login methods for guests

2. Ease of use

Local language support for guests

When guests login to Guest WLAN, the guest portal can be customized to show the information in their local language. It supports 13 different languages.
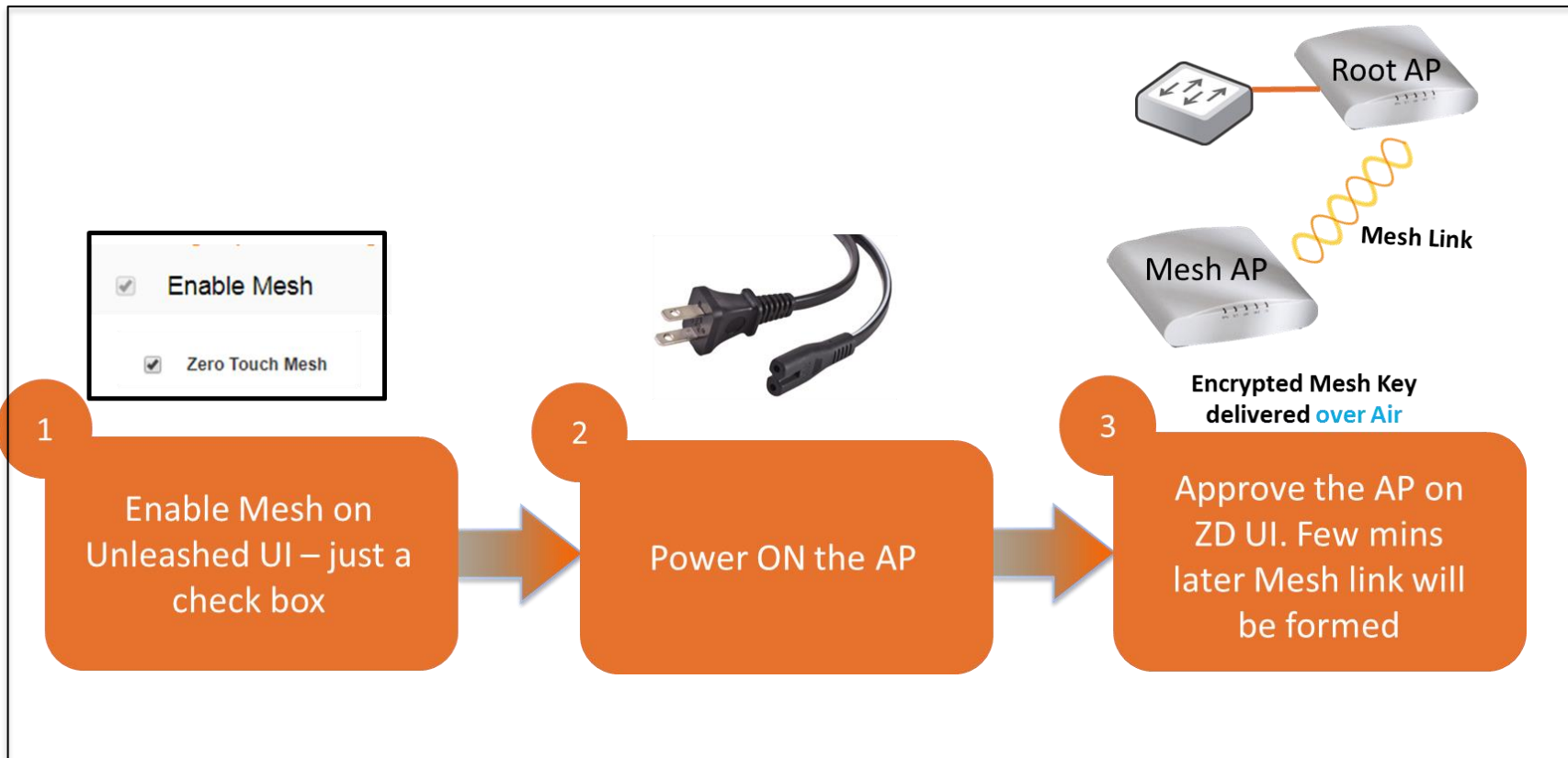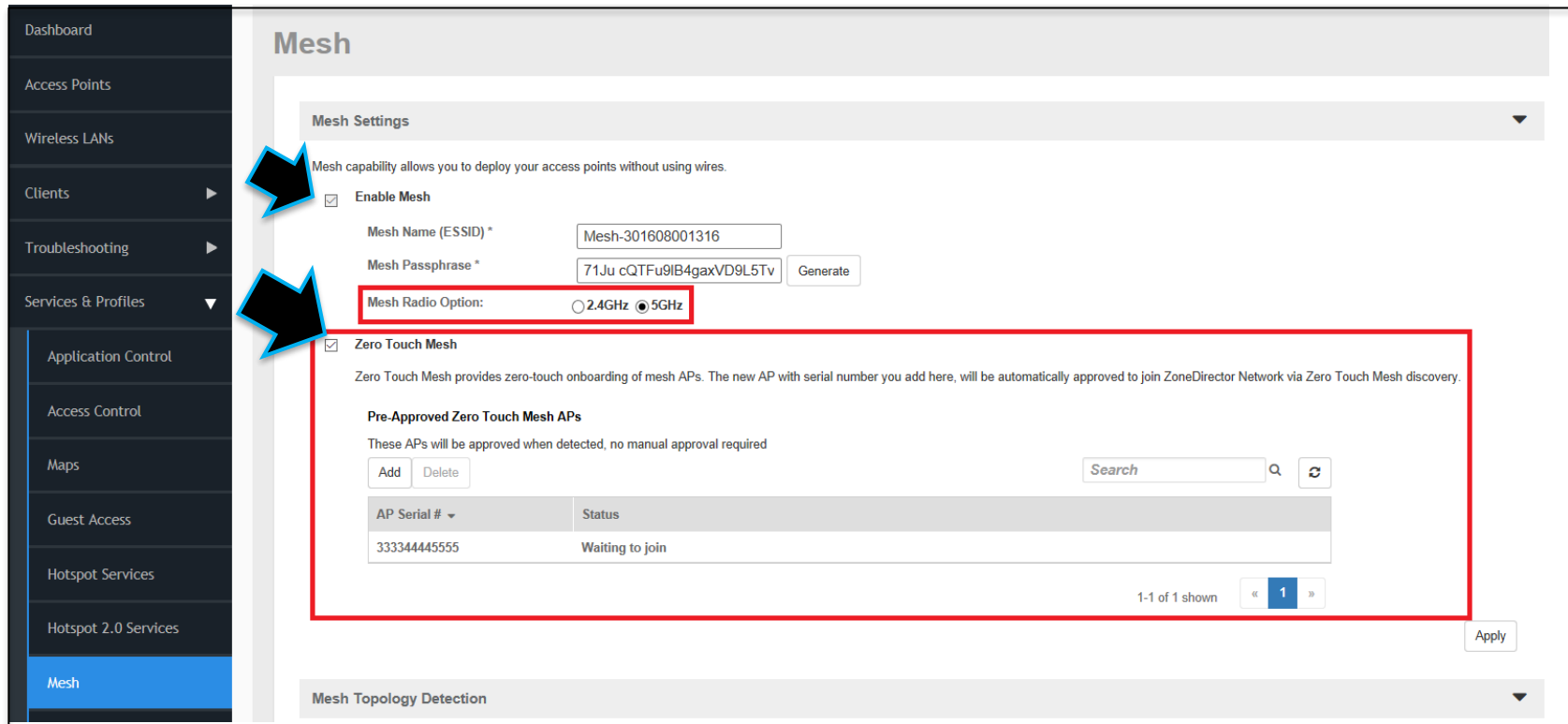

Customer Benefits

1. Ease of use through language customization
2. Enhanced customer/guest experience

Zero Touch Mesh (ZTM)

Zero Touch Mesh allows customers to skip the mesh configuration's priming process, enabling Mesh APs to auto-discover, provision and form a mesh network. For security reasons, Zero Touch Mesh disabled by default. When new mesh APs need to be added enable this configuration and disable after mesh link is formed. If a mesh link is lost Ruckus' SmartMesh self-healing capability will find an alternate Root AP to establish the mesh link. ZTM need not be enabled for Self-Healing to work.

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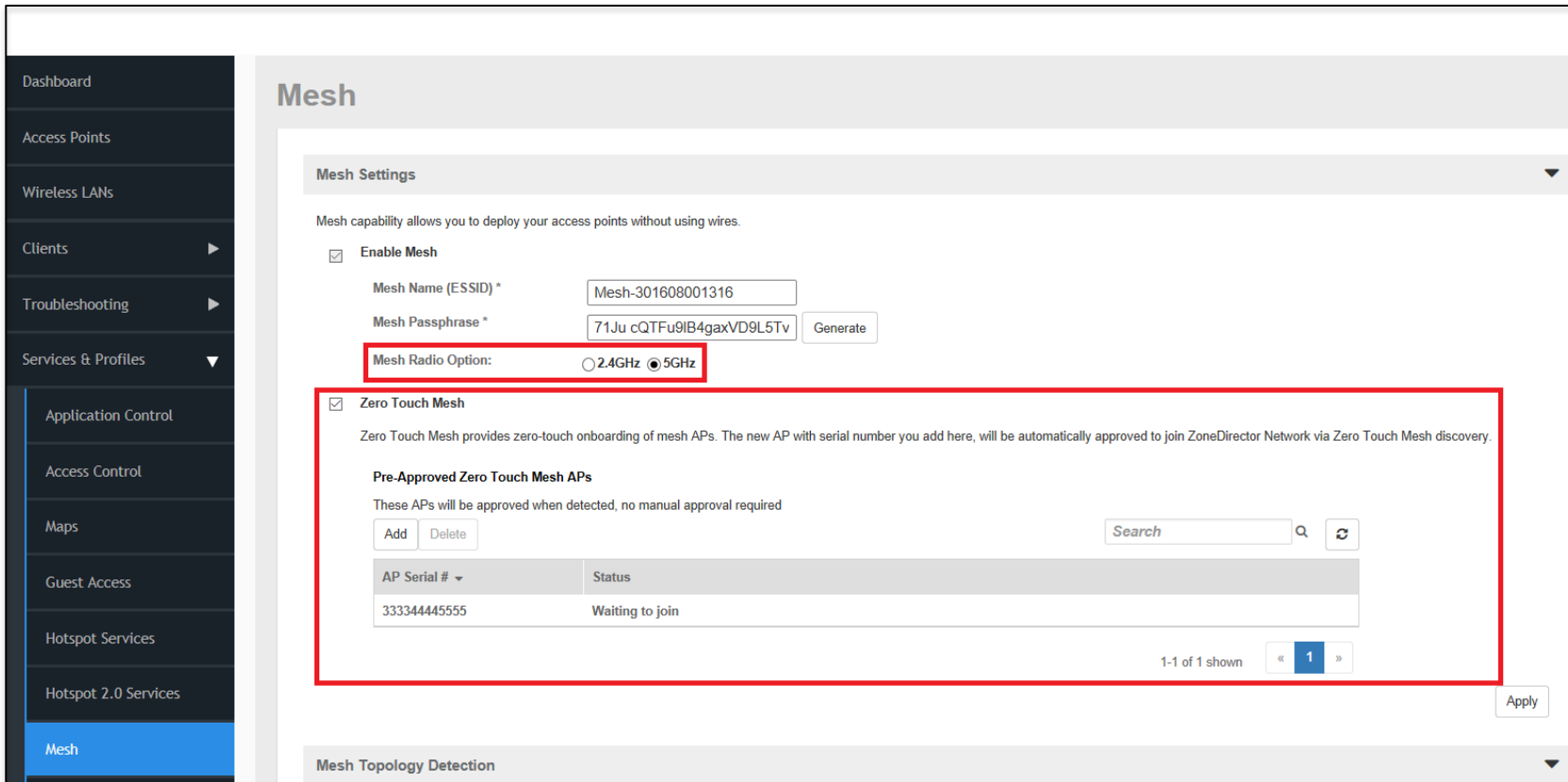
Customer Benefits

1. Makes it really easy to install a Mesh APs

2. Mesh is far more usable since Zero Touch makes is very fast and simple

3. Reduces/eliminates the Ethernet cable since Mesh just works better

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Support for mesh link over 2.4 GHz on dual band APs

Till ZD version 10.1.x mesh link is supported only on 5GHz radio. Starting 10.2 the mesh link can be established between Root AP and Mesh AP over 2.4 GHz radio as well.
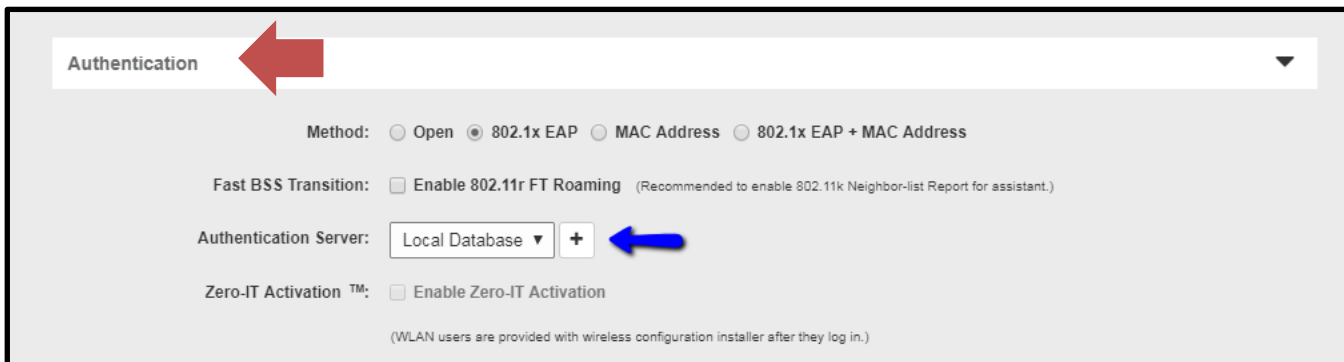
Customer Benefits

1. Mesh link over the 5GHz radio is not allowed in some countries. So, it is imperative to support mesh link over 2.4GHz to meet compliance.

2. 2.4 GHz mesh link could extend the mesh link coverage between Root and Mesh AP.

3. If 2.4 GHz is used for the mesh link, then end user devices could connect to mesh AP over the 5GHz radio, resulting in higher end-user experience.

802.1x support with Active Directory

ZD has been supporting 802.1X authentication with RADIUS for a long time. This release introduces the support 802.1x authentication with Active Directory.
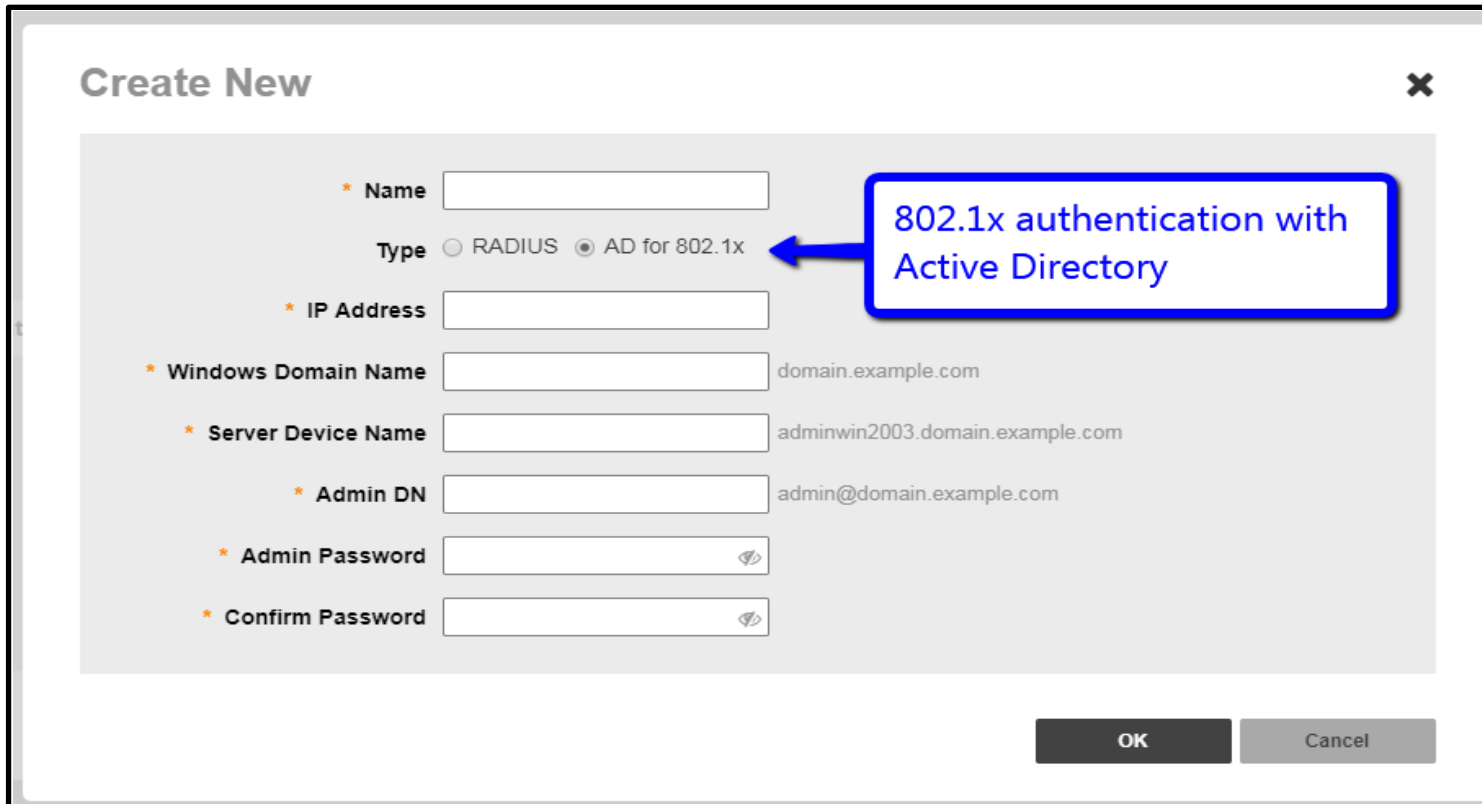
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Create New

* Name	
Type	○ RADIUS ● AD for 802.1x
* IP Address	
* Windows Domain Name		domain.example.com
* Server Device Name		adminwin2003.domain.example.com
* Admin DN		admin@domain.example.com
* Admin Password		
* Confirm Password		

802.1x authentication with Active Directory

OK   Cancel

Customer Benefits

1. Enables Bring Your Own Device (BYOD) by making authentication process simpler to join the WiFi network for employees/admin staffs, teachers and students.

2. Preserves the security through 802.1x authentication

Application Recognition and Control (ARC) integration with SCI

Application Recognition & Control (ARC) is a feature that has been available since version 9.8. Since then it has been continuously getting enhanced so that customers can enjoy the benefits to its fullest. Ruckus' ARC is a Deep Packet Inspection (DPI) or L7 based mechanism to accurately recognize applications used in the WiFi network.

This release enhances such that information from ARC can be sent to Ruckus Smart Cell Insight (SCI) for more analysis and longer-term reporting. The SCI needs to run version 5.1.1.
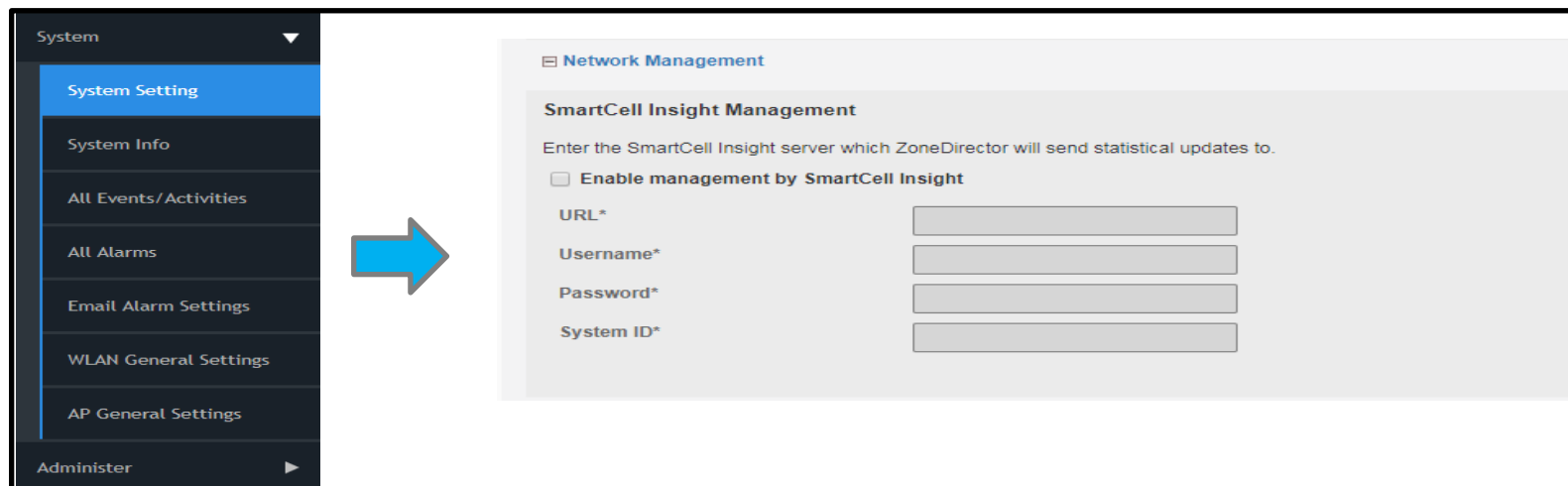
Customer Benefits
1. Longer term reporting
2. Provides application and client level insights

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Bonjour fencing enhancements for Apple TV and Chromecast

Bonjour is a multicast based discovery protocol (aka mDNS) that is primarily used by Apple and Google devices such as Apple TV, Apple Printers, Google Chromecast. As these devices advertise their services client devices like Apple Mac, Mobile devices such as iPhone and Android devices can discover them using the Bonjour protocol. Since this is a multicast protocol, if there are a large number of service advertising devices (like Apple TVs or Chromecast) in the same VLAN, then end users will have difficulty choosing from a massive list of available devices.

This is when Bonjour Fencing feature comes in very handy as it provides a mechanism to limit the scope of Bonjour (mDNS) service discovery in the physical/spatial domain. In other words, although there may be several bonjour devices in the same VLAN, the Bonjour Fencing feature would show a narrowed list of nearby devices for users to choose.

Release 10.2 delivers fencing support for Chromecast devices.

While Bonjour Fencing is related to Bonjour Gateway, they are two separate features designed for different purposes. At the same time, Bonjour Fencing works with Bonjour Gateway to complement each other.

Customer Benefits

1.   Bonjour Fencing feature displays a narrowed list of Bonjour devices for easier selection. For example, the network may have 100s of Apple TVs or Chromecast, but only a few nearby devices are displayed to choose.
2.   Limits multicast flooding from bonjour devices to improve overall network performance.

CLI Wizard

Release 10.2 introduces CLI setup wizard in addition to web UI based setup wizard. This will help deployment quicker if the customer/partner chooses to script the deployment process. The ZD must be in factory-set/reset mode.

```
ruckus$
ruckus$ ruckus_cli2

Welcome to the Ruckus Wireless ZoneDirector CLI Wizard Configuration Tool

Would you like to start setup wizard? [yes/no]: y

Begin wizard from CLI :


Enter Administrative User Name (32 characters max) [admin]:

Enter Administrator Password(4-32 characters):
*****
Re-enter Administrator Password(4-32 characters):
*****

Enter System Name(32 characters max) [ruckus]:

Enter Country Code List (or 'help' for a list of countries) [US]:

Enter Mesh Enable: [yes/NO]: y

Enter IPv4 Support : [YES/no]:
Enter IPv4 DHCP Mode : [YES/no]:

Enter IPv6 Support : [yes/NO]:
```

```
Enter Wireless LANs Enable: [yes/NO]: y
Enter Wireless LAN(ESSID,1-32 characters): [Ruckus-Wireless-1]:
wlan_test
Is It Open Wlan: [YES/no]: n
Enter The WPA2 Passphrase (8-63 characters):
********
Re-enter The WPA2 Passphrase (8-63 characters):
********

Please review the following settings:
System Name=             ruckus
Administrator Name=      admin
Country Code=            US
Mesh Supported=          Enable
IPv4 Supported=          Enable
IPv4 Mode=               DHCP
IPv6 Supported=          Disable
Wireless LANs ESSID=     wlan_test
Wireless Authentication= WPA2_PSK


Are you sure to complete the setup wizard: [yes/no]: y

The ZoneDirector will periodically connect to Ruckus Wireless and Ruckus Wireless will collect
the ZoneDirector serial number, software version and build number. Ruckus Wireless will transmit
a file back to the ZoneDirector and this will be used to display the current status of the
ZoneDirector Support Contract. Please be advised that this information may be transferred and
stored outside of your country of residence where data protection standards may be different.


Enter YES or Enter to accept these terms to proceed: [yes]: y

Save the configuration ...

Welcome to the Ruckus Wireless ZoneDirector 1200 Command Line Interface
ruckus> ▉
```
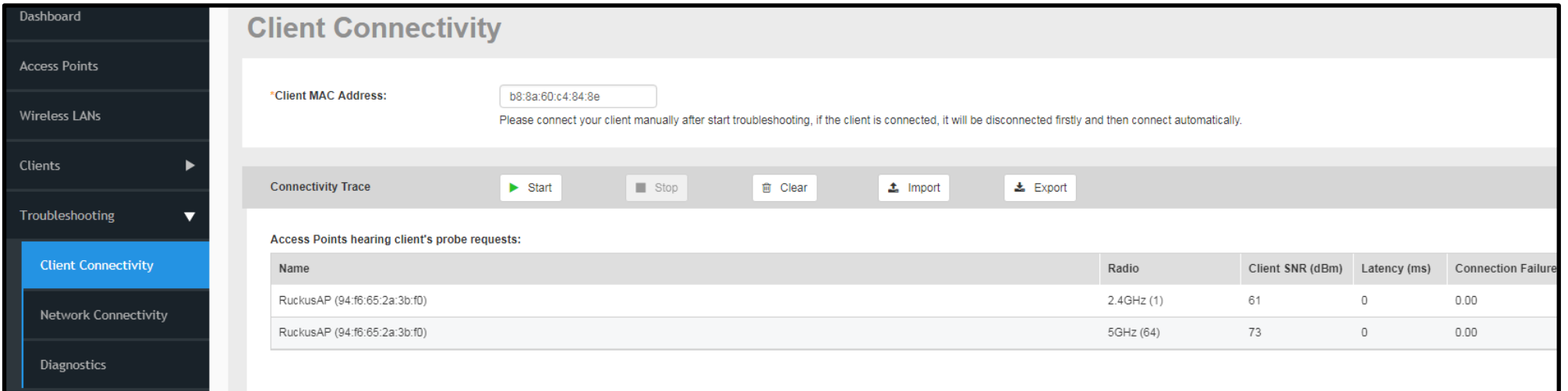
Customer Benefits

1. Faster batch deployment of ZoneDirector without manual intervention when scripts leverage CLI wizard.

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Client Connection Diagnostics (CCD) – Phase 2

This feature is designed to help customers diagnose wireless client connection issues to determine why a client fails to connect to the wireless network for all WLAN types. Previously, it was supported only for "Standard" WLAN.

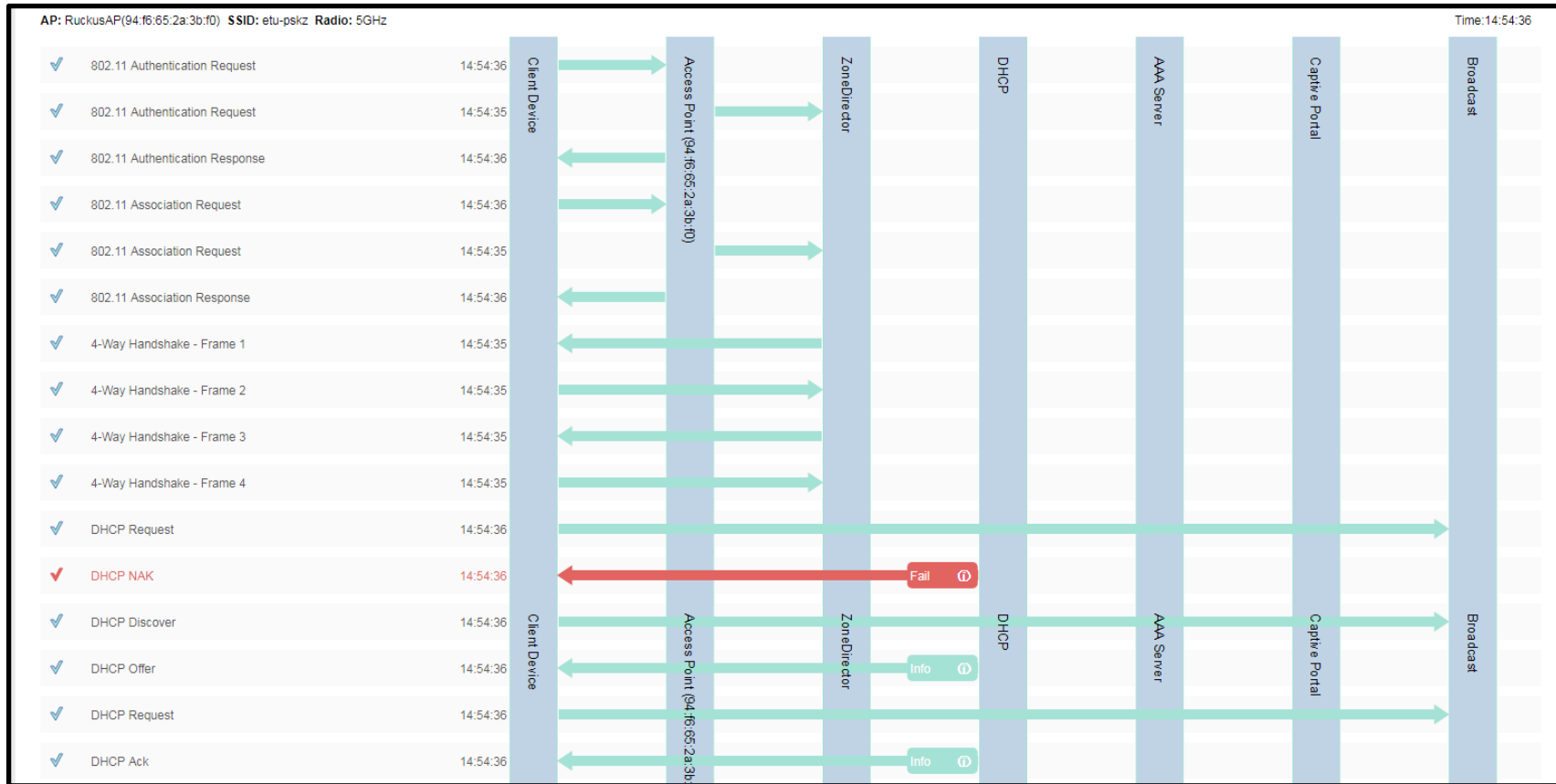**AP:** RuckusAP(94:f6:65:2a:3b:f0) **SSID:** etu-pskz **Radio:** 5GHz   Time:14:54:36

✓	802.11 Authentication Request	14:54:36
✓	802.11 Authentication Request	14:54:35
✓	802.11 Authentication Response	14:54:36
✓	802.11 Association Request	14:54:36
✓	802.11 Association Request	14:54:35
✓	802.11 Association Response	14:54:36
✓	4-Way Handshake - Frame 1	14:54:35
✓	4-Way Handshake - Frame 2	14:54:35
✓	4-Way Handshake - Frame 3	14:54:35
✓	4-Way Handshake - Frame 4	14:54:35
✓	DHCP Request	14:54:36
✓	DHCP NAK	14:54:36
✓	DHCP Discover	14:54:36
✓	DHCP Offer	14:54:36
✓	DHCP Request	14:54:36
✓	DHCP Ack	14:54:36
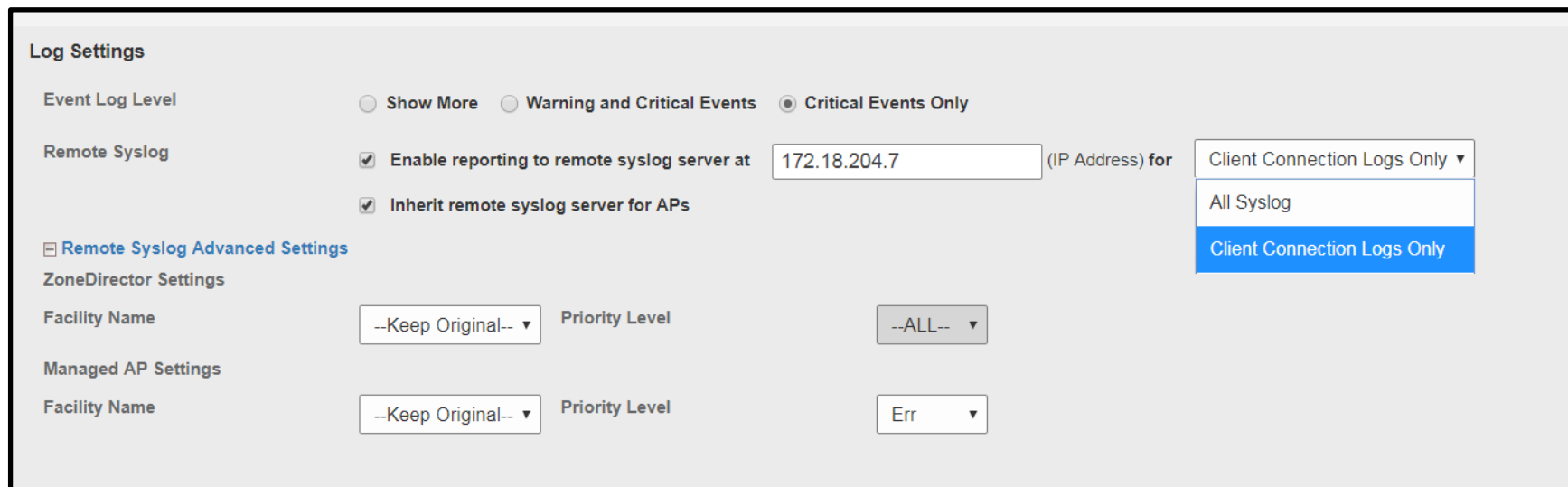
Customer Benefits

1. Helps to narrow down client specific connectivity issues

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Export Client logging info

This feature provides a means of logging all client connection events and sending them to a syslog server for meeting regulatory requirements for public Wi-Fi systems in some countries.

Customer Benefits

1. Helps to meet legal compliance