

Bluesocket vWLAN

Bringing the Power of Network Virtualization to Wi-Fi

Product Features

- Centralized management and control virtualized in the cloud or data center
- Distributed data with intelligent APs that enforce network security at the edge
- Seamless, cost-effective scaling leverages the power of virtualization
- Inherent reliability of the data center rather than single purpose hardware controllers or “cooperative” control
- Support multiple tenants or business entities on a single vWLAN instance
- Built-in Guest Access and Wireless IDS modules
- Unified user access control for integrated wired-wireless user management
- Simplified upgrades
- Portfolio of plug-and-play 802.11n and 802.11ac APs
- Support for Apple’s Bonjour-based services
- Flexible deployment options—on-premises, cloud-hosted, and fully managed (via ProCloudSM Wi-Fi)



ADTRAN’s Bluesocket[®] virtual Wireless LAN (vWLAN) offers the industry’s first cloud-based, virtualized management and control solution for wireless LANs, eliminating physical, hardware-based controllers from the network. By removing 100 percent of the controller hardware, Bluesocket vWLAN[®] eliminates scale limitations, and enables management and control of Access Points (APs) across multiple buildings, the corporate campus or across any geographic location.

Controller-less Architecture

The Bluesocket vWLAN was built from the ground up to solve the challenges associated with hardware-based controllers. vWLAN’s unique distributed, out-of-band, controller-less architecture introduces the concept of splitting the management and control plane from the data plane. vWLAN centralizes management and control in the data center or server room (on a hypervisor), and distributes data with intelligent APs that enforce policies at the edge of the network. With vWLAN, there are no single points of failure, bottlenecks, traffic u-turns, or scalability concerns associated with hardware-based controllers.

Cloud-based Management and Control

This enables network administrators to configure, control and manage APs across multiple locations anywhere in the world, via the public or private cloud. Cloud management ensures, consistent policy management and seamless mobility. In addition, with an HTML5-based administrative interface users can access vWLAN from any iOS-, Android- or Windows-based mobile device.

Multi-tenant Support

Bluesocket vWLAN includes multi-tenant support with the ability to support multiple customers, enterprise divisions, or campuses on a single instance of vWLAN. This also enables Service Providers to provide managed and hosted wireless LAN service offerings to their customers.

Simplified Scalability and High-Density

Most hardware-based controllers can support approximately 150 access points and 4,000 users. By separating and virtualizing the management and control plane from the data plane, vWLAN breaks the constraints of hardware controllers allowing for massive scale. A single instance of vWLAN can



support thousands of APs and users, across multiple locations or even multiple customers. Scalability of the vWLAN Virtual Appliance (hypervisor) is based on the virtual machine’s specifications (CPU/Cores and Memory). For high density deployments, the Bluesocket 1900 and 2030 APs do not include a hard limit on the number of clients per radio. Instead, customers can configure the maximum number of associated clients per radio based on application requirements to ensure a better user experience.

Built-in High Availability

Bluesocket vWLAN offers an industry first wireless LAN solution with “built-in” High Availability (HA). Customers can create a secondary instance of the vWLAN software in a backup datacenter, and upgrade the APs to HA mode. In the event the link to the primary vWLAN instance goes down, the APs will simply switch over control to the secondary instance, with no loss of data (“zero” packet loss). With Wi-Fi becoming critical to business operations, customers can confidently deploy vWLAN with the assurance of an always-on network.

Security at the Edge

A conventional hardware controller-based wireless network allows unwanted traffic to enter the LAN and reach the controller. vWLAN takes advantage of intelligent APs that operate a stateful firewall to enforce security at the edge and turn away all unwanted traffic—never allowing potential security risks to enter the network.

Bluesocket vWLAN

Bringing the Power of
Network Virtualization to Wi-Fi

Unified Access with Wired and Third-party AP Support

Bluesocket vWLAN offers the industry's first software-enabled support for both wired and wireless users. This is a software upgrade option that allows integrated management and control of all users irrespective of method of access—Bluesocket APs, wired ports or even from any third-party AP. This simplifies administration, and enables an enterprise to create a truly unified wireless and wired network providing a seamless user experience, and consistent authentication irrespective of a user's access method.

Optimized Performance

A typical hardware controller has a fixed backplane capacity, which limits the available throughput to the APs that the controller manages. With vWLAN's unique distributed data architecture, data is switched at the AP and system capacity is no longer dictated by the backplane capacity. Rather, it is determined by the aggregate throughput of the APs. This provides an additional advantage, as there is no need for a forklift upgrade as new 802.11 standards come into play.

Flexible Deployment Options

Bluesocket vWLAN can be deployed on a no cost vWLAN Virtual Appliance (VMware®) or a low cost vWLAN Appliance (hardware). In addition, ADTRAN offers ProCloud Wi-Fi, a cloud-hosted and fully managed wireless LAN for a worry free Wi-Fi experience.

Portfolio of High-Performance APs

The Bluesocket vWLAN solution includes a family of high-performance APs that are a perfect fit for enterprises, educational institutions, hospitality, and healthcare providers who are looking to move their organizations to a pervasive mobility environment. The Bluesocket 1800, 1900 and 2030 Series of enterprise-class APs are completely plug-and-play requiring no manual configuration.

They include:

- 802.11a/b/g/n/ac with Multiple-Input Multiple-Output (MIMO) support
- Mesh networking
- Configurable maximum associated clients per radio
- Load balancing for high-density deployments
- DynamicRF (Radio Resource Management) for automatic channel, transmission power and neighbor discovery
- Multi-cast to unicast conversion, fast roaming, and standards-based transmit beamforming (TxBF)
- Increased sensitivity for mobile devices with low transmission power (tablets, smartphones)
- Support for Apple Bonjour-based services, Apple Captive Network Assistant (CNA) and Microsoft's Network Connectivity Status Indicator (NCSI)

Equipment	APs	Users	Tenants
Appliance (Hardware)	1,500	48,000	50
Virtual Appliance (VMware)	1,500+*	48,000+*	50

**Scalability (APs/Users) of the vWLAN Virtual Appliance is based on the VMware server's specifications (CPU/Cores, Memory). See page #3 for minimum resource requirements to support 1,500 APs.*

Bluesocket vWLAN

Bringing the Power of
Network Virtualization to Wi-Fi

Product Specifications

vWLAN Virtual Appliance (VMware) Specifications

- Resource Requirements (1,500 APs)
 - CPU: 4 Cores
 - Memory: 6 GB
 - Disk: 41 GB
- Supported and Tested VMware Versions
 - ESX/ESXi 4.X
 - ESXi 5.X

WLAN Appliance (Hardware) Specifications

Temperature

- **Operating Temperature:** 50° F to 95° F (10° C to 35° C)

Power

- **Power:** 300W Max
- **Input Voltage:** 100 - 240V
- **Frequency:** 50/60Hz

Physical

- **Dimensions:** 1.67 in. H, 16.93 in. W, 20 in. D (H x W x D)
(42 mm x 430 mm x 508 mm)
- **Weight:** 33 Pounds (15 kg)

Architecture

- Centralized Management and Control Virtualized in the Cloud or Data Center
- Distributed Data with Intelligent APs that Enforce Policies at the Edge
- Multi-tenant Support
- Flexible Deployments Options: On-premises, Cloud-hosted, or Managed (ProCloud Wi-Fi)
- Layer 2 and Layer 3 Roaming with Layer 3 Tunnel Load Balancing
- Selective Tunneling for Guest Access in DMZ
- Auto Discovery of Locations (VLANs and Subnets)
- IPv6 Client Support
- NAC DHCP IP Address Assignment Isolating Un-registered Clients at the Edge
- Unified Access with Wired and 3rd Party AP Support
- Zero Touch AP Provisioning

Authentication

- Local Database (Internal Users)
- Full or Wild Card MAC Address (MAC Devices)
- 802.1X Machine and User for WPA and WPA2
- EAP Methods - EAP-PEAP, EAP-TLS, EAP-TTLS, EAP-FAST, EAP-SIM, EAP-AKA
- Enforce Machine Auth. (Distinguish Between Corp Owned Windows Domain Computers and BYODs Such as iPads, iPhones, and Androids)
- Web-based (Captive Portal) RADIUS
- Web-based (Captive Portal) LDAP, Secure LDAP, and Microsoft Active Directory (AD)
- Web-Based (Captive Portal) SIP2 Library
- Dynamic Role Assignment using RADIUS and LDAP/AD Attributes
- RADIUS Accounting
- RADIUS Session-timeout
- RADIUS Administrative Authentication

Captive Portal

- Fully Customizable Captive Portals for Guest Access, RADIUS, LDAP/AD, and SIP2 Library Authentication
- URL Filtering in Un-registered Role for Walled Garden
- External Redirects for 3rd Party Captive Portal Integrations

Diagnostics

- Wired and Wireless AP Traffic Capture
- Ping, Traceroute, Netstat, ARP, Show Processes
- Phone Home to ADTRAN Technical Support
- Show Tech (System Snapshot for Troubleshooting)

Guest Access

- Enter Email Address with or without Email Account Validation
- Click to Accept Terms and Conditions
- Lobby Administrators, Security Personnel, and Conference/Training Organizers can Create Single and Bulk Accounts that Automatically Expire
- Print, Email/SMS Text Customized Receipts for Account Validation (DNA)
- Self Sponsored Accounts
- Sponsored Accounts
- Require RADIUS and/or LDAP/AD Authentication to Sponsor Accounts (Friends and Family)
- Guest Access Logging and Reporting for Security and Marketing

High Availability

- 1+1 High Availability with Configuration Sync and Zero Packet Loss Failover

Management

- Secure HTML5-Based Administrative Graphical User Interface (GUI)
- Granular Administrative Role Based Access Control
- Dashboard with Customizable Widgets
- Per Admin Time Zone
- Customizable Reports
- Customizable Notification Templates for Logs, Alarms, and Wireless IDS Alerts (Email, Syslog, SNMP Traps)
- SNMPv2c and Syslog
- vWLAN CLI Via Console, AP CLI Via Console/SSH
- Secure RESTful Web Services API with Multi-Tenant and Granular Administrative Access Support
- Heatmaps for AP Placement, RF Planning/Visualization and Rogue AP Location Tracking
- AP Templates Enable Simple Configuration Updates to Groups of APs

QOS for Voice, Video, and Data

- Bandwidth Management (Incoming, Outgoing)
- WMM (802.11e)
- 802.1p or Differentiated Service Code Point (DSCP)
- WMM Power Save (U-APSD)
- Over the Air Fairness



ADTRAN, Inc.
Attn: Enterprise Networks
901 Explorer Boulevard
Huntsville, AL 35806
P.O. Box 140000
Huntsville, AL 35814-4000

256 963-8000
256 963-8699 fax

General Information
800 9ADTRAN
info@adtran.com
www.adtran.com

Bluesocket Business Group
866 633-3358
vWLAN@adtran.com

Pre-Sales Technical Support
888 423-8726
application.engineer@adtran.com
www.adtran.com/presales

Post-Sales Technical Support
888 423-8726
support@adtran.com
www.adtran.com/support

Where to Buy
888 423-8726
channel.sales@adtran.com
www.adtran.com/where2buy

ProServicesSM
888 874-2237
proservices@adtran.com
www.adtran.com/proservices

Global Inquiries
256 963-8000
256 963-6300 fax
international@adtran.com

ADTRAN believes the information in this publication to be accurate as of publication date, and is not responsible for error. Specifications subject to change without notice. ADTRAN, Bluesocket, and vWLAN are registered trademarks of ADTRAN, Inc. and its affiliates in various countries. All other trademarks mentioned in this document are the property of their respective owners.

ADTRAN warranty duration and entitlements vary by product and geography. For specific warranty information, visit www.adtran.com/warranty

ADTRAN products may be subject to U.S. export controls and other trade restrictions. Any export, re-export, or transfer of the products contrary to law is prohibited. For more information regarding ADTRAN's export license, please visit www.adtran.com/exportlicense



TL19.1270



ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier.

619519xxG1-8H July
Copyright © 2014 ADTRAN, Inc.
All rights reserved.

Bluesocket vWLAN

Bringing the Power of Network Virtualization to Wi-Fi

Product Specifications

Security

- Role Based Access Control—User, Location (VLAN/Subnet), Block Client to Client Traffic, Over the Air Fairness, QOS, Bandwidth Allocation, Stateful Firewall Rules
- Stateful Firewall Enforced by the AP
- Wi-Fi CERTIFIED WPA and WPA2, 802.11i, 802.1X, PSK, WEP
- Encryption: AES-CCM, TKIP
- VPN Pass-through
- Secure TLS Management/Control Channel

Wireless Intrusion Detection

- Rogue AP Detection
- Rogue AP Location Tracking
- More than 40 Wireless IDS Signatures Detecting Spoofed APs, Attacks and Exploits

Smart and Secure AP Upgrades

- AP Pre-imaging Allows APs to Download Firmware While Operating, Reducing Downtime During Software Maintenance
- Secure AP Upgrades Allow APs to Download Firmware from the vWLAN or Server Local to the APs Using Secure Copy (SCP)
- Optional Local AP Upgrades Allow the AP to Download Firmware from Server Local to the AP Rather than Using Precious WAN Bandwidth

Wireless

- 802.11a/b/g/n/ac Support
- Mesh Networking
- Multiple-Input Multiple-Output (MIMO)
- A-MPDU and A-MSDU Frame Aggregation
- HT20, HT40 (High-Throughput) and VHT80 (Very High-throughput) Support
- Minimum Data Rate
- Configurable Maximum Associated Clients Per Radio
- DynamicRF (Radio Resource Management) for Automatic Channel, TX Power, and Neighbor Discovery
- Set Once and Hold and Continuous DynamicRF Modes of Operation
- DynamicRF Calibration
- Load Balancing for High Density Deployments
- Fast Roaming (OKC)
- Multicast/Broadcast to Unicast Conversion
- Standards Based Transmit Beamforming (TxBF) with Explicit Feedback
- Increased Receive Sensitivity for Handheld Devices with Low TX Power Such as iPads, iPhones, and Androids
- Support for Apple Bonjour Based Services (Airprint, Airplay), Apple CNA and Microsoft NCSI

Warranty

- **Hardware:** One Year Parts/Labor*
 - **Software:** 90 Days*
- *Extended with Support Contract

Ordering Information

Equipment	Part #
Bluesocket Access Points (BSAPs)	
BSAP 1800 Access Point: 802.11a/b/g/n; 2x3:2 with Six Internal MIMO Antennas	1700910F1
BSAP 1840 Access Point: 802.11a/b/g/n; 2x3:2 with Six External RP-SMA Connectors	1700911F1
BSAP 1920 Access Point: 802.11a/b/g/n; 2x2:2 with Four Internal MIMO Antennas	1700954F1
BSAP 1925 Access Point: 802.11a/b/g/n; 2x2:2 with Four External RP-SMA Connectors	1700955F1
BSAP 1930 Access Point: 802.11a/b/g/n; 3x3:3 with Six Internal MIMO Antennas	1700950F1
BSAP 1935 Indoor Access Point: 802.11a/b/g/n, 3x3:3, with Six External RP-SMA Connectors	1700951F1
BSAP 2030 Indoor Access Point: 802.11a/b/g/n/ac, 3x3:3, with Six Internal MIMO Antennas	1700948F1
BSAP 2035 Indoor Access Point: 802.11a/b/g/n/ac, 3x3:3, with Six External RP-SMA Connectors	1700949F1
BSAP 1940 Outdoor Access Point: 802.11a/b/g/n, 3x3:3, with Six External N-Type Connectors	1700952F1
vWLAN Management and Control	
vWLAN Virtual Appliance (VMware) - www.adtran.com/downloadvwan	DOWNLOAD ONLY
vWLAN Appliance (Hardware)	1700900F1
Software License	
Access Point vWLAN Software License (with built-in High Availability)	1951901G1
Access Point Unified User Access (Wired and Third-party AP Support) Software License (Optional)	1951910G1
ProCloud Wi-Fi Managed Service	
ProCloud Wi-Fi (5x8xNBD) – 1-Year (Managed Wi-Fi Service with NBD Hardware Replacement)	1100MSPM200112
ProCloud Wi-Fi (5x8xNBD) – 3-Years (Managed Wi-Fi Service with NBD Hardware Replacement)	1100MSPM200136
ProCloud Wi-Fi (5x8xNBD) – 5-Years (Managed Wi-Fi Service with NBD Hardware Replacement)	1100MSPM200160
ProCloud Wi-Fi (7x24x4) – 1-Year (Managed Wi-Fi Service with Four-hour Hardware Replacement)	1100MSPM300112
ProCloud Wi-Fi (7x24x4) – 3-Years (Managed Wi-Fi Service with Four-hour Hardware Replacement)	1100MSPM300136
ProCloud Wi-Fi (7x24x4) – 5-Years (Managed Wi-Fi Service with Four-hour Hardware Replacement)	1100MSPM300160