

ProCurve Networking by HP

# ProCurve Mobility Infrastructure Solutions

ProCurve Networking by HP has taken mobility to an exciting new stage, unifying wired and wireless networking into a secure, cohesive mobility infrastructure. ProCurve has significantly expanded its wireless offerings, with solutions for both standalone and coordinated access points — all consistently managed under the ProCurve Adaptive EDGE Architecture™ framework. ProCurve's mobility infrastructure solutions encompass the following:

### Standalone Access Points

- ProCurve Intelligent Edge Wireless Access Point 530 (new)
- ProCurve Wireless Access Point 420
- Antennas



### Wireless LAN System

- ProCurve Wireless Edge Services Module for the Switch 5300xl series (new)
- ProCurve Switch 5300xl series
- ProCurve Radio Ports 210, 220 and 230 (new)
- ProCurve Wireless Services Redundant xl Module (new)
- Antennas



### Secure Access Series

- ProCurve Secure Access 700wl series
- ProCurve Switch xl Access Controller Module



Each of these mobility approaches provides advantages for different environments. By offering a range of approaches that are all part of a consistent framework, ProCurve enables streamlined and unified wired/wireless management resulting in reduced complexity and less operational expense; a consistent and customized user experience regardless of how or where the user connects; and the ability to support both current and emerging applications without future infrastructure upgrades.

## Enterprise WLAN Technology Flourishes

Enterprises are finding that wireless LAN (WLAN) technology is good for business: providing workers with more flexible connection to the corporate network can raise productivity as well as increase the overall agility of the enterprise.

Not surprisingly, then, industry analysts are finding companies enthusiastic about WLAN. According to Forrester Research's Ellen Daley, "Wireless LAN (WLAN) adoption today is broad and growing...." and Forrester predicts that by the end of 2006, 75 percent of North American enterprises will be using or evaluating WLANs<sup>1</sup>. IDC estimates that worldwide, shipments of enterprise- and public service-class WLAN access points will grow with a compound annual growth rate of nearly 30 percent through 2009<sup>2</sup>.

WLAN deployments are particularly prevalent in vertical industries such as healthcare, retail, education and logistics. In these areas, mobility is woven into the fabric of everyday operations. For instance, healthcare workers in hospitals are constantly on the move as they attend to patients. Being able to gain immediate access to patient-related information from anywhere in the hospital can dramatically improve decisions and outcomes for patients and boost healthcare workers' efficiency.

In the retail world, the ability for workers to respond quickly to customers' questions from anywhere in the store can significantly enhance the customer retail experience and the likelihood of a sale. On university campuses, liberating instructors and students from the constraints of wired network access opens new possibilities for more creative and effective instruction and research.

<sup>1</sup>Ellen Daley, "North American WLAN Adoption Grows," Forrester Research Inc., December 15, 2005

<sup>2</sup>Abner Germanow and Jean Kaplan, "Worldwide Enterprise Wireless LAN Equipment 2005-2009 Forecast," IDC, May 2005



More broadly, powerful new applications are emerging that enhance the attractiveness of WLANs in areas beyond the early-adopting vertical industries. These applications include Voice over WLAN (VoWLAN), which combines WLAN and Voice over Internet Protocol (VoIP) technologies to enable voice communications over a WLAN, and guest access, which is the need to permit yet control network access by non-employees. The future appears bright with other application areas such as location-based services and presence as well. For users and network administrators alike, the promise of using one network fabric, WLAN, to deploy these diverse emerging applications is very compelling..

## Challenges to WLAN Adoption

Despite the obvious advantages of WLAN, many enterprises remain on the sidelines. Some are reluctant to entrust sensitive corporate information to WLANs, concerned about security safeguards for data protection,

user authentication, rogue device detection and unauthorized intrusions. Other enterprises balk at the added complexity of managing separate wired and wireless networks.

Still others feel bombarded by complex and often contradictory information about the rapidly developing WLAN market segment. This market overflows with a wide range of WLAN technologies, products and architectures such as "fat" access points, "thin" access points with WLAN controllers and other approaches. A related challenge is navigating through the confusing marketplace of various vendors, many of whom lack the longevity and trusted brands that enterprises seek to safeguard their investments.

Another challenge is that wireless networks have for the most part evolved separately from wired networks. As a result, even networking vendors that offer both wired and wireless equipment and network management products have sold them as two separate "tracks," leaving much of the coordination up to individual customers.

All enterprises, regardless of their stage of WLAN adoption, want clear answers about what mobility solutions to deploy, as well as when and where to deploy them. And as organizations begin to rely on WLANs as they now rely on wired LANs, they increasingly care about the security, ease of deployment, session persistence, quality of service and — perhaps most importantly — ease of management of their entire mobility infrastructure once it is in place.

### **ProCurve Offers a Unified Approach**

All ProCurve products and solutions — both wired and wireless — share the foundation of the ProCurve Adaptive EDGE Architecture (AEA), a cohesive vision designed to best meet network infrastructure needs both today and in the future. The ProCurve Adaptive EDGE Architecture approach is to push intelligence to the edge of the network, where users connect, enabling command from the center with control to the edge.

ProCurve has recently expanded its mobility offerings, providing maximum choice and flexibility to meet a wide array of customer needs, without added complexity. Because ProCurve's wireless solutions have

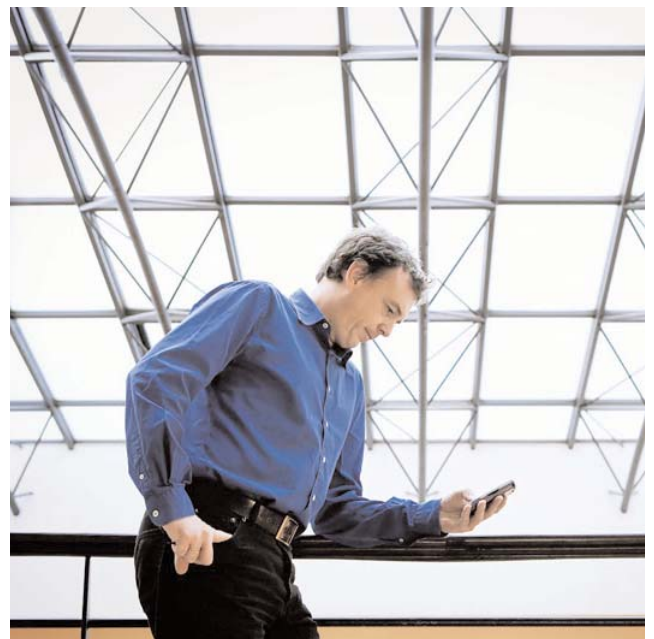
evolved within the same AEA framework as its wired solutions, ProCurve unifies wired and wireless networking in ways not previously possible.

This holistic approach enables enterprises to manage all their mobility options consistently with one another, as well as with wired network solutions. ProCurve's centralized, network-wide management and secure access control makes it easy to deploy and centrally manage a secure, yet flexible, multi-service network.

In addition, ProCurve's infrastructure is based heavily on open standards and strengthened by industry-leading warranties and robust service and support. As a result, ProCurve offers built-in investment protection for its mobility solutions, allowing enterprises to adapt easily to changing needs and incorporate future applications — such as VoWLAN — into the same infrastructure deployed today.

### **Overview of ProCurve Mobility Infrastructure Solutions**

ProCurve's expansion of its mobility offerings means that organizations can now choose the WLAN approaches and products that best fit their individual needs.

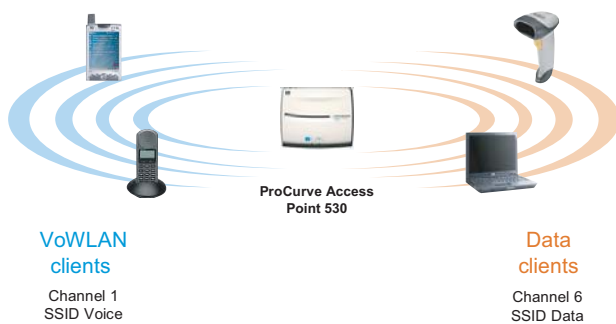


## ProCurve Standalone Access Points

### ProCurve Access Point 530

The ProCurve Access Point 530 is a highly intelligent standalone access point ideal for distributed sites. The 530 intelligent edge AP is an enterprise-class, dual-radio access point with support for 802.11b/g and 802.11a/b/g standards. Its maximum flexibility in deployment and extensive built-in capabilities make it an ideal solution for distributed office environments (e.g., organizations having many, smaller remote or branch offices or standalone small offices).

### ProCurve Access Point 530: Highly Flexible Design



Simultaneous 2.4 GHz, dual radio support can be used for either high-capacity data or dedicated data/voice

The Access Point 530 offers the following:

- Robust functionality including a comprehensive range of industry-proven user authentication methods and wireless security
- Consistent, centralized network management for reduced operational overhead and costs — with

centrally administered, edge-enforced, identity-driven access control via ProCurve Identity Driven Manager (IDM), for highly secure yet flexible control of access to the network

- Simultaneous 802.11a and 802.11b/g radio operation for high-capacity, dual-band wireless client connectivity
- Dual 802.11b/g radio operation, which provides either high-capacity 802.11b/g data or dedicated data and voice wireless LAN coverage with a single access point in networks where support for 802.11a is not a requirement
- Business-critical application support, including standards-based QoS and a VoWLAN-ready architecture
- Remote-site RADIUS backup for distributed offices and built-in RADIUS authentication server for standalone sites, which extends enterprise-grade wireless security to small WLAN deployments that operate without a local RADIUS server
- Simplified deployment and reduced installation costs via IEEE 802.3af Power over Ethernet (PoE) support

The ProCurve Access Point 530 also offers both integrated diversity omnidirectional antennas as well as per-radio external antenna connectors. ProCurve's family of external access point antennas increase the radio frequency (RF) coverage and reliability of the network, including wireless bridging between access points. These external antennas and accessories include:

- ProCurve 11 dBi indoor/outdoor wide angle directional antenna
- ProCurve 7 dBi indoor/outdoor directional antenna
- ProCurve 6.5 dBi indoor/outdoor directional diversity antenna
- ProCurve 14dBi 5 GHz directional antenna
- ProCurve 14 dBi yagi antenna





- IEEE 802.11b/g single-radio design provides choice for support of 802.11g and legacy 802.11b wireless clients
- Detachable antenna design enables use of external antenna configurations for improved radio coverage and performance
- Simplified deployment and reduced installation costs via IEEE 802.3af Power over Ethernet (PoE) support

### ProCurve Wireless LAN System

ProCurve's wireless LAN system comprises integrated, highly available wired and wireless services aimed at campus deployments.

The ProCurve wireless LAN system consists of the new ProCurve Wireless Edge Services xl Module, new ProCurve Radio Ports (coordinated access points) and the Switch 5300xl series. When combined into a complete wireless edge services solution, these products create a secure, unified wired and wireless ProCurve intelligent edge with the following business benefits:

- ProCurve 2 dBi indoor omnidirectional diversity antenna
- ProCurve 5 dBi indoor/outdoor omnidirectional antenna
- ProCurve 8 dBi outdoor omnidirectional antenna
- ProCurve 6dBi 5 GHz omnidirectional antenna
- ProCurve 3 dBi dual band diversity antenna
- ProCurve 7dBi dual band directional antenna
- ProCurve antenna lightning arrester
- ProCurve MC-Card to R-SMA cable

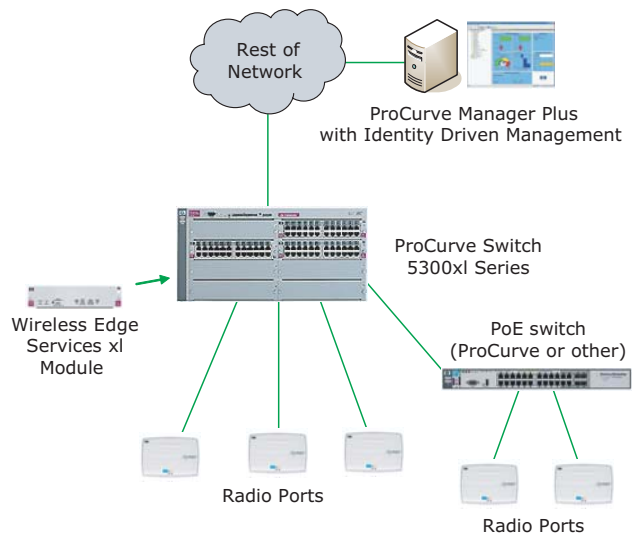
### ProCurve Access Point 420

The ProCurve Wireless Access Point 420 is a cost-effective, stand-alone single 802.11b/g radio access point providing secure, trouble-free wireless LAN connectivity for medium to larger enterprises.

Capabilities of the Wireless Access Point 420 include the following:

- Offers the latest standards-based security — including support for IEEE 802.11i, WPA2 and WPA plus multiple SSID support, rogue access point and wireless ad-hoc network detection — so mobile users can enjoy wireless network access without compromising security

ProCurve WLAN System Topology





- Centralized, unified wired and wireless network management, which reduces operational overhead and costs
- Highly secure, yet flexible, network access to accelerate business opportunities
- Business-critical application support, including a VoWLAN-ready architecture
- Highly available operations and network resiliency to maintain business continuity
- Easy deployment, scalability and pay-as-you-go capacity expansion via software license to reduce total cost of ownership

#### **Benefits of Wired and Wireless Integration**

The ProCurve Wireless Edge Services xl Module, working in conjunction with ProCurve Radio Ports, simplifies the deployment and management of a wireless LAN by seamlessly integrating centralized RF management, advanced wireless services and secure wireless network access control into ProCurve's feature-rich 5300xl series intelligent edge switch.

By integrating wireless services into the intelligent edge Switch 5300xl series, ProCurve enables enterprises to take advantage of the modular design of the fully featured ProCurve Switch 5300xl series. The 5300xl

series provides choice of port type, density and PoE capability to simplify network deployment, with expansion to scale as network needs change.

Greater resiliency results from using the ProCurve Switch 5300xl series switching capability as much as possible for deployment of mobility services, rather than relying on a separate dedicated overlay. For example, the 5300xl has been designed with high availability in mind, with fully redundant, hot-swappable power supplies that result in higher service uptime. The optional ProCurve Wireless Services Redundant xl Module provides wireless connectivity failover capability, ensuring continued availability of wireless services in the event of primary module hardware failure or loss of network connectivity between a radio port and the primary wireless module.

ProCurve intelligent edge switches, including the Switch 5300xl series, already offer identity-driven access control to network resources over wired network connections. Now with the addition of the ProCurve Wireless Edge Services xl Module, these same role-based access policies, dynamically generated by built-in support for ProCurve IDM, are also enforced across the wireless edge for wireless clients connecting to the network through ProCurve Radio Ports.

This unified approach to wired and wireless policy management provides edge-enforced security and network access control on every network connection regardless of whether a user connects to the network wirelessly or through a wired port. Moreover, wired and wireless users are presented with a consistent and personalized view of the network based on user identity and time of day.

The ProCurve wireless LAN system also takes advantage of the Switch 5300xl series' built-in connection-rate filtering based on virus-throttling technology. This new, ProCurve-developed solution addresses new threats not yet recognized by virus protection software. With virus-throttling technology, the ProCurve system is able to automatically discover attacks originating by wired or wireless devices and rate-limit or even block infected traffic from entering the network, giving network managers the time necessary to implement a response.

#### **Advanced Wireless Services**

The ProCurve Wireless Edge Services xl Module provides a single point to configure system-wide wireless LAN setup and operation, including SSID, security and authentication options as well as advanced wireless services. Wireless LAN settings are automatically administered to designated ProCurve Radio Ports,

eliminating the cost and time associated with individual configuration of access points. Advanced wireless services include the following:

- **Network self-healing:** In the event of a radio port failure, the module will automatically adjust transmission power and data rate on adjacent ProCurve Radio Ports to maintain wireless LAN coverage.
- **RF detection and interference avoidance:** The system automatically recalibrates radio port channel assignments to avoid environmental or other 802.11-based wireless interference.
- **Fast, secure roaming:** Enables seamless, fast roaming with pre-cached authentication credentials for wireless users
- **Wi-Fi WMM support:** Provides QoS functionality in wireless networks by prioritizing wireless traffic from different applications.
- **Web-based authentication:** Provides an alternative to 802.1X-based authentication for wireless clients to access network resources. Web-based authentication presents the user with a customizable, browser-based login page. Upon successful verification of username and password against a RADIUS server, the authenticated user is granted access to the network. When used in conjunction with ProCurve IDM, identity-driven access control provides specific access to authorized network resources based on IDM-generated policies.

#### **Simple Installation, Deployment and Scalability**

Upon installation of a Wireless Edge Services xl Module, the Switch 5300xl series automatically configures the module to discover and adopt ProCurve Radio Ports. Once a ProCurve Radio Port is connected to a PoE-enabled network port, the device will be automatically discovered and configured by the Wireless Edge Services xl Module.

ProCurve's wireless edge services solution includes three ProCurve Radio Port options, providing choice and flexibility to address a broad range of wireless deployments. All ProCurve Radio Ports support PoE as the only power source. The options are as follows:

- **ProCurve Radio Port 210:** Offering single-radio,

802.11b/g network connectivity with an embedded 2.4 GHz diversity omnidirectional antenna, the ProCurve Radio Port 210 provides a highly cost-effective solution for wireless LAN deployments when 802.11a wireless client support is not a requirement.

- **ProCurve Radio Port 220:** The ProCurve Radio Port 220 enables simultaneous 802.11a and 802.11b/g radio operation to support dual-band wireless clients. With per-radio external diversity antenna support, this radio port addresses installations where expanded wireless coverage or physical device placement such as placement in the plenum (air-handling spaces) requires the use of external antennas.
- **ProCurve Radio Port 230:** With simultaneous 802.11a and 802.11b/g radio operation, the ProCurve Radio Port 230 supports dual-band wireless clients. The per-radio integrated diversity antenna with omnidirectional coverage provides robust, dual-radio wireless LAN coverage for open office environments.

The ProCurve Wireless Edge Services xl Module, as purchased, provides support for up to 12 ProCurve Radio Ports. The module easily accommodates additional radio port capacity with the purchase of the ProCurve Wireless Services Module 12 RP License. Each license provides support for an additional 12 ProCurve Radio Ports, for a maximum of 36 ProCurve Radio Ports per module. With support for two ProCurve Wireless Edge Services xl Modules per chassis, each switch in the 5300xl series can manage a total of 72 radio ports.

#### **ProCurve Secure Access Series**

The ProCurve Secure Access 700wl series in conjunction with the ProCurve Switch xl Access Controller Module (ACM) provides a specialized, highly secure access solution for demanding client environments. The easy-to-deploy clientless guest access solution is designed for installations that must deal with uncontrolled clients, such as schools and universities, hospitals and companies that employ temporary workers or contractors.



The ProCurve Secure Access 700wl series enables the following:

- Identity-based rights management
- Wireless data security
- Secure subnet roaming
- Virtual private network (VPN) termination
- Flexible deployment schemes that work with equipment from multiple networking vendors

This mobility solution enables network managers to increase business productivity by providing mobile users with secure and appropriate access to network services without risk to the network.

Designed to reduce the cost and complexity of securing a mobile LAN and providing rich guest access services, the ProCurve 700wl series easily integrates into existing authentication services, networks and WLAN infrastructures, providing a superior return on IT investment. IT administrators can use the ProCurve 700wl series' centralized policy and system management to easily adjust user and security policies in response to evolving business needs.

The ProCurve Switch xl Access Controller Module works with the ProCurve Switch 5300xl series to deliver a unique approach to integrating rich guest access services, wireless VPN and secure subnet roaming with the flexibility of a full-featured intelligent switch. Centrally managed from the ProCurve 700 Series Access Control Server, the Access Controller Module enables wireless and wired mobility so that network managers can easily deploy edge-enforced access control on existing 5300xl switched networks — or design new, highly scalable, secure Switch 5300xl-based WLANs.

The ProCurve Secure Access Series can be easily deployed in conjunction with ProCurve standalone access points, ProCurve WLAN systems or third-party WLAN solutions.

### **Streamlined, Consistent Management**

A key aspect of all ProCurve's mobility solutions is streamlined, consistent management regardless of choice in wireless architecture deployment options and across both wired and wireless networks. ProCurve delivers the following management approaches and tools:

- **Device management.** ProCurve Manager Plus (PCM+) provides a common management foundation across the entire network, wired and wireless. PCM+ 2.1 is a secure, advanced Windows-based network management tool that allows administrators to configure, update, monitor and troubleshoot ProCurve



devices centrally with easy-to-use screens. PCM+ can also be enhanced with plug-in modules to provide additional mobility, security and convergence features.

One of these PCM+ plug-in modules is ProCurve Mobility Manager (PMM) 1.0, a simple yet powerful management tool to centrally configure, update, monitor and troubleshoot ProCurve wireless access points. PMM's capabilities include basic rogue device detection and alerting, client association visibility, group-based access point configuration and firmware updates, and customizable quick-view screens.

- **User-based management and access control.** ProCurve provides consistent, integrated user-based policy management and access control via ProCurve IDM, another PCM+ plug-in. Centrally administered IDM policies enforced on every network connection ensure that only authorized users gain access to the network. IDM 2.0 dynamically applies security, access and performance settings to network infrastructure devices based on user, device, location, time and client system state. IDM dynamically configures identity-driven access rights to provide appropriate access regardless of whether a user connects wirelessly or through a wired port. By enabling edge-enforced policies, IDM presents users with a consistent and personalized view of the network wherever and whenever they connect to it.

Standards-based and easy to use, IDM allows network administrators to define and manage policies from a

central location, eliminating the need to configure each network element separately. By automatically managing intelligent network access in this way, IDM gives network administrators more control over their networks, enables more productivity from the IT staff and supports greater adaptability in an increasingly competitive business environment.

- **Integration with ProCurve technology partners for rich WLAN management.** ProCurve works with partners such as AirWave Wireless to enhance the breadth of wireless network management tools available to customers.

For environments demanding more advanced WLAN management capabilities, the AirWave Management Platform (AMP) suite of software tools provides rich monitoring, robust intrusion detection, site planning assistance and RF visualization for ProCurve as well as mixed-vendor environments. The AirWave centralized, automated WLAN management solution can reduce support costs, improve performance and enhance security. AMP gives network administrators a single point of intelligent control from which to monitor, analyze and configure — in real time — even complex, multi-vendor wireless network infrastructures.

ProCurve Manager Plus can integrate with AirWave AMP, allowing for network administrators to more easily manage their wired and wireless networks.

### Choosing the Best Solution

Integrated vs. overlay? Standalone vs. coordinated? How to choose which wireless LAN approach is best for each individual situation?

Recent additions to the ProCurve mobility infrastructure solution family open up new doors and add maximum choice and flexibility to meet a wide range of customer needs. The following chart provides guidance on what solution approaches and components work best for different environments and needs. This is not meant to be an a detailed guide, but rather is intended as a high-level tool to help suggest appropriate directions.

| Business campus or medium to large remote sites<br>Many clients, Larger buildings |   | ProCurve Wireless LAN System  | ProCurve Standalone Access Points | ProCurve Secure Access Series  |
|---|---|---|-----------------------------------|--|
| <b>Customer Priorities</b>  | <ul style="list-style-type: none"> <li>• Resiliency</li> <li>• Self-healing</li> <li>• Ease of deployment</li> <li>• Lower OPEX</li> <li>• Easy scalability</li> </ul>  | <p>BEST FIT</p> <p>The ProCurve Wireless Edge Services xl Module and Radio Ports provide an ideal solution.</p> |                                   |  |
| <b>Additional Customer Priorities</b>   | <ul style="list-style-type: none"> <li>• Layer 3 roaming</li> <li>• VPN termination to secure wireless traffic</li> <li>• No control over type of wireless device, configuration</li> <li>• Zero-config guest access</li> </ul> |   |                                   | <p>BEST FIT</p> <p>ProCurve 700 series and Access Controller Module can be added to provide additional specialized capabilities.</p> |

**Small satellite branches or standalone small offices  
Fewer clients per site**

|  | <b>ProCurve Wireless LAN System</b> | <b>ProCurve Standalone Access Points</b>   | <b>ProCurve Secure Access Series</b>   |
|--|-------------------------------------|--|--|
| <b>Customer Priorities</b> <ul style="list-style-type: none"> <li>• Flexibility in deployment</li> <li>• Remote management, standalone operation</li> <li>• Out of box capability</li> <li>• Unified access control, policy and device management</li> <li>• WAN failure survivability</li> <li>• Local authentication at small sites</li> </ul> |                                     | <b>BEST FIT</b><br>The ProCurve Access Point 530 with centralized access control, management via PCM/IDM provides an ideal solution for small satellite branches of an enterprise. |  |
| <b>Additional Customer Priorities</b> <ul style="list-style-type: none"> <li>• Layer 3 roaming</li> <li>• VPN termination to secure wireless traffic</li> <li>• No control over type of wireless device, configuration</li> <li>• Zero-config guest access</li> </ul>  |                                     |  | <b>BEST FIT</b><br>ProCurve 700 series and Access Controller Module can be added to provide additional specialized capabilities. |

**Branch or campus environments with extensive non-ProCurve wireless infrastructure**

|   | <b>ProCurve Wireless LAN System</b> | <b>ProCurve Standalone Access Points</b>  | <b>ProCurve Secure Access Series</b>  |
|---|-------------------------------------|---|---|
| <b>Customer Priorities</b> <ul style="list-style-type: none"> <li>• VPN termination to protect wireless traffic</li> <li>• Layer 3 roaming</li> <li>• Zero-config guest access</li> <li>• Granular user-based wireless access control and policy enforcement</li> </ul> |                                     | <b>BEST FIT</b><br>Access Point 420 (If additional access points are required)<br><br><b>BEST FIT</b><br>Access Point 530 (If additional access points AND simultaneous 802.11a + g are required) | <b>BEST FIT</b><br>Easy overlay solution to existing wireless environments. |

**ProCurve Wireless LAN System**

**ProCurve Standalone Access Points**

**ProCurve Secure Access Series**

**Customer Priorities**

- Wireless site planning assistance
- RF visualization
- Advanced monitoring and troubleshooting
- Advanced intrusion detection
- Multi-vendor WLAN management

**BEST FIT**

Add AirWave to whatever hardware solution/approach is most appropriate for customer environment/priorities, based on guidance provided above.

**Preparing Now for the Future**

Within the overarching framework of the ProCurve Adaptive EDGE Architecture, ProCurve is delivering powerful new mobility products and solutions that finally make secure, unified wired and wireless networking a reality.

ProCurve's holistic approach to mobility cuts through the confusion and doubt plaguing enterprises that recognize the potential advantages of WLANs but that balk at issues such as wireless-related security concerns and the complexity of trying to manage wired and wireless networks separately. ProCurve provides the first viable unification of wired and wireless networks, with streamlined, secure, centralized management as well as consistent, customized user experiences regardless of how or where users connect.

In addition to these current benefits, ProCurve's standards-based mobility infrastructure solutions and AEA are designed to accommodate future applications and capabilities within their existing framework. Enterprises can add VoWLAN, guest access and other expanded capabilities as business needs evolve or change, cost-effectively and without upgrades to the existing network infrastructure. As a result, enterprises can be confident that the ProCurve mobility infrastructure they implement today will continue to serve them well into the future.



## For more information

To learn more about these mobility solutions, go to [www.procurve.com](http://www.procurve.com) or contact your ProCurve reseller or sales representative.



© 2007 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

4AA0-5427ENN 03/2007

**ProCurve Networking**

HP Innovation

