

Name	OS				Prism Chip- set	Passive	Cost	Source Code	Link
	WinCE	iPAQ Familiar	Zaurus	Palm					
AirScanner	X					Yes	\$	No	<a href="http://airscanner.com/d">http://airscanner.com/d</a>
AirMagnet	X						\$\$\$		
bing			X					Yes	<a href="http://www.killefiz.de/za">http://www.killefiz.de/za</a>
buzzme			X					Yes	<a href="http://www.killefiz.de/za">http://www.killefiz.de/za</a>
CEniffer	X						\$	No	<a href="http://www.epiphan.com">http://www.epiphan.com</a>
Discoverer			X			Yes		Yes	<a href="http://www.killefiz.de/za">http://www.killefiz.de/za</a>
Kismet		X	X		X	Yes	Free	Yes	<a href="http://www.kismetwirele">http://www.kismetwirele</a>
Kismet Qt/e			X					Yes	<a href="http://www.killefiz.de/za">http://www.killefiz.de/za</a>
Mognet		X	X					Yes	<a href="http://www.node99.org">http://www.node99.org</a>
NetChaser (WiFinder)				X				No	<a href="http://www.bitsnbolts.co">http://www.bitsnbolts.co</a>
MiniStumbler	X							No	<a href="http://www.netstumbler">http://www.netstumbler</a>
PocketWarrior	X				X			Yes	<a href="http://www.pocketwarri">http://www.pocketwarri</a>
PrismStumbler		X	X		X			Yes	<a href="http://prismstumbler.so">http://prismstumbler.so</a>
Sniff		X	X					Yes	<a href="http://www.defect.org/ip">http://www.defect.org/ip</a>
Wellenreiter		X	X		X			Yes	<a href="http://www.wellenreiter">http://www.wellenreiter</a>
Wireless LAN Monitor			X					Yes	<a href="http://www.killefiz.de/za">http://www.killefiz.de/za</a>
Wireless Security Auditor		X					N/A	No	<a href="http://researchweb.wats">http://researchweb.wats</a>
Cirond pocketWiNc	X					No	\$19.95	No	<a href="http://www.cirond.com/site/products/wifispotter/download_software.htm">http://www.cirond.com/site/products/wifispotter/download_software.htm</a>

Description
An 802.11b Ethernet sniffer for the PocketPC 2002. Discontinued
MiniStumbler like tool, but better features. Limited to 11 channels in US. Expensive. No GPS Support?
automates network port scanning. Bing makes a list of active IPs on the network and presents a menu to choose which IP to port scan (requires nmap)
Support program for Kismet Wireless LAN sniffer
Ethernet Sniffer
Passive sniffer. Link is broken
802.11 wireless network sniffer. Includes GPSMap which can track along the traveled path, draw a rectangle around the extreme points of the network, Draw a point at the estimated center of the network.  Has "drone" support where multiple Kismet drones can feed info into a central Kismet server.
A GUI for kismet
scans for beaconframes from accesspoints
Cycles through the channels looking for beacon packets and dumps the MAC address of any access points found.
wireless network discovery and auditing tool
Monitors status of wireless card.
IBM research prototype of an 802.11 wireless LAN security auditor, running on Linux on an IPAQ PDA. WSA automatically audits a wireless network for proper security configuration, to help network administrators close any vulnerabilities before the hackers try to break in













Name	OS					Prism Chipset	Passive	Cost	Source Code
	WinCE	Linux (ARM)	Palm	Win32	*nix				
Aerosol				X		X			
AirJack					X				
AirMagnet								\$2,500	No
Airopeek				X				\$1500	No
Airosniff					X				
AirScanner	X						Yes	\$	
AirSnort				X	X				
AirTraf					X				
AP Scanner								\$5	
AP Tools				X	X			freeware	No
APsniff				X		X			Yes
AP-Utills					X				Yes
bing		X							
BlackAnt (?)									Yes
buzzme		X							Yes
CEniffer	X							\$	No
Discoverer		X					Yes		?
Ethereal				X	X				
E-Wireless					X				?
FakeAP						X	N/A		?
Grasshopper								\$2,800	

Gwireless					X				Yes
Isomair Wireless Sentry								\$	
Kismet		X			X	X	X	Free	Yes
Kismet Qt/e		X							Yes
Link Ferret				X				\$	No
Mognet	X				X				?
NetChaser (WiFinder)			X						\$10
NetStumbler				X					No
PocketWarrior	X					X			Yes
pong.exe				X					No
Prism2Dump					X	X			Yes
PrismStumbler		X				X			Yes
Radiate					X				Yes
Sniff		X							?
Sniffer Wireless				X				\$10,000	
SNR Monitor				X	X				
ssidsniff									
ssidsniff					X	X			
Stumbverter				X				freeware	
TCPDump					X				



Link	Summary
<a href="http://www.sec33.com/sniph">http://www.sec33.com/sniph</a>	
<a href="http://802.11ninja.net/">http://802.11ninja.net/</a>	
<a href="http://gravitino.net/~bind/code/airosniff/">http://gravitino.net/~bind/code/airosniff/</a>	
<a href="http://airscanner.com/download">http://airscanner.com/download</a>	
<a href="http://airsnort.shmoo.com">http://airsnort.shmoo.com</a>	
<a href="http://airtraf.sourceforge.net/">http://airtraf.sourceforge.net/</a>	
<a href="http://winfingerprint.sourceforge.net/">http://winfingerprint.sourceforge.net/</a>	
<a href="http://www.bretmounet.com/">http://www.bretmounet.com/</a>	
<a href="http://ap-utils.polesye.net/">http://ap-utils.polesye.net/</a>	Wireless Access Point Utilities for Unix
<a href="http://www.killefiz.de/zaurus/">http://www.killefiz.de/zaurus/</a>	Zarus
<a href="http://blackant.net/other/wire">http://blackant.net/other/wire</a>	
<a href="http://www.killefiz.de/zaurus/">http://www.killefiz.de/zaurus/</a>	Zarus
<a href="http://www.epiphan.com/pro">http://www.epiphan.com/pro</a>	
<a href="http://www.killefiz.de/zaurus/">http://www.killefiz.de/zaurus/</a>	Zarus
<a href="http://www.bitshift.org/wirele">http://www.bitshift.org/wirele</a>	
<a href="http://www.blackalchemy.to/">http://www.blackalchemy.to/</a>	

<a href="http://gwifiapplet.sourceforge.net/">http://gwifiapplet.sourceforge.net/</a>	
<a href="http://www.kismetwireless.net/">http://www.kismetwireless.net/</a>	802.11 wireless network sniffer
<a href="http://www.killefiz.de/zarus/">http://www.killefiz.de/zarus/</a>	Zarus
<a href="http://www.linkferret.ws/">http://www.linkferret.ws/</a>	
<a href="http://www.node99.org/">http://www.node99.org/</a>	
<a href="http://www.bitsnbolts.com/">http://www.bitsnbolts.com/</a>	
<a href="http://www.netstumbler.com/">http://www.netstumbler.com/</a>	
<a href="http://www.pocketwarrior.org/">http://www.pocketwarrior.org/</a>	
<a href="http://mobileaccess.de/wlan/">http://mobileaccess.de/wlan/</a>	
<a href="http://www.dachb0den.com/">http://www.dachb0den.com/</a>	
<a href="http://prismstumbler.sourceforge.net/">http://prismstumbler.sourceforge.net/</a>	
<a href="http://www.packetfactory.net/">http://www.packetfactory.net/</a>	
<a href="http://www.defect.org/ipaq/">http://www.defect.org/ipaq/</a>	
<a href="http://www.networkassociates.com/">http://www.networkassociates.com/</a>	
<a href="http://freshmeat.net/projects/">http://freshmeat.net/projects/</a>	
<a href="http://www.bastard.net/~kos/">http://www.bastard.net/~kos/</a>	
<a href="http://www.bastard.net/~Eko/">http://www.bastard.net/~Eko/</a>	
<a href="http://www.sonar-security.com/">http://www.sonar-security.com/</a>	
<a href="http://www.tcpcdump.org/">http://www.tcpcdump.org/</a>	

<a href="http://www.teletronics.com/ti">http://www.teletronics.com/ti</a>	
<a href="http://www.thehackerschoice">http://www.thehackerschoice</a>	
<a href="http://www.thc.org/download.php?t=r&amp;d=thc-ts20.zip">http://www.thc.org/download.php?t=r&amp;d=thc-ts20.zip</a>	
<a href="http://www.thehackerschoices/waproamd/">http://www.thehackerschoices/waproamd/</a>	
<a href="http://sourceforge.net/project">http://sourceforge.net/project</a>	
<a href="http://packages.debian.org/">http://packages.debian.org/</a>	
<a href="http://www.cqire.net/tools08">http://www.cqire.net/tools08</a>	
<a href="http://www.wellenreiter.net/">http://www.wellenreiter.net/</a>	
<a href="http://wepcrack.sourceforge.net/">http://wepcrack.sourceforge.net/</a>	
<a href="http://bloke.co.uk/tools.html">bloke.co.uk/tools.html</a>	
<a href="http://www.killefiz.de/zarus">http://www.killefiz.de/zarus</a>	Zarus
<a href="http://researchweb.watson.it">http://researchweb.watson.it</a>	
<a href="http://serious.net/wlanfe.php">http://serious.net/wlanfe.php</a>	
<a href="http://www.linux-wlan.com/ir">http://www.linux-wlan.com/ir</a>	
<a href="http://tobi.tildesoftware.net/ir">http://tobi.tildesoftware.net/ir</a>	
<a href="http://www.sklogicsoftware.com/znetmeter/znetmeter.html">http://www.sklogicsoftware.com/znetmeter/znetmeter.html</a>	Zarus

Description
802.11(a/b/g/*) device driver API, and 802.11 development environment. Raw 802.11 frame injection and reception
Sniffer
Airosniff can be used to assist in the identification of wireless networks by sniffing SSIDs. Airosniff, for the Cisco Aironet card allows one to seek out wireless networks, auto-config the card for sniffing and perform access point vendor identification.
An 802.11b Ethernet sniffer for the PocketPC.
a standard real-time data gathering tool for solving location specific problems, as well as operating as a long-term data gathering tool for your wireless networked organization
Rogue access point detection
Uses SNMP to configure various AP's
automates network port scanning. Bing makes a list of active IPs on the network and presents a menu to choose which IP to port scan (requires nmap)
Two scripts used for War Driving
Support program for Kismet Wireless LAN sniffer
Ethernet Sniffer
Passive sniffer
monitor the signal quality of an 802.11-compliant wireless networking card
Generates thousands of counterfeit 802.11b access points

Wireless strength monitoring applet
Includes GPSMap which can tack along the traveled path, draw a rectangle around the extream points of the network, Draw a point at the estimated center of the network.
Has "drone" support where multiple Kismet drones can feed info into a central Kismet server.
A GUI for kismet
Packet Sniffer and Protocol Analyzer
A security tool that unveils password, WEP-Keys, MAC addresses and more from most current 22MBit AccessPoints. You even don't have to know the IP of the AP
puts a Prism2Card into the wireless equivelent of promiscuous mode
scans for beaconframes from accesspoints
802.11 frame capturing, creation and injection
Cycles through the channels looking for beacon packets and dumps the MAC address of any access points found.
Pearl script that collects, stores, and shows information about SNR on your wireless links
Discovers access points
discover access points and save captured traffic
allows you to import Network Stumbler's summary files into Microsoft's MapPoint 2002 maps
Logs all Ethernet traffic.

Misc commerical projects
RUT (aRe yoU There, pronounced as 'root'). It gathers information from local and remote networks. It offers a wide range of network discovery tools: ap lookup on an IP range, spoofed DHCP request, RARP, BOOTP, ICMP-ping, ICMP address mask request, OS fingerprinting, high-speed host discovery etc.
a tool for mapping your city for wavelan networks with a GPS device
A WLAN roaming daemon for IEEE 802.11b
for systems administrators that want to audit and evaluate their wireless network installations
allows you to watch signal and noise levels, packet statistics, device configuration and network parameters of your wireless network hardware
MAC etc
wireless network discovery and auditing tool
An 802.11 Intrusion Detection System
Monitors status of wirless card.
IBM research prototype of an 802.11 wireless LAN security auditor, running on Linux on an IPAQ PDA. WSA automatically audits a wireless network for proper security configuration, to help network administrators close any vulnerabilities before the hackers try to break in
A GUI for Wlan-ng wireless networking
Heard of this tool, but not sure hot to get it.
Strength monitoring applet for X
t can monitor various types of ethernet connection, such as Wireless (802.11b) LAN and USB (Zaurus cradle) LAN. It displays network statistic in a line graph

Vendor	Cost	Desc
Airpath Wireless	?	WiBOSS™ Lite Platform for free hotspots and WiBOSS Management Platform for pay as you go hotspots.
<b>Boingo</b>	\$695/ \$799	Hot Spot in a Box for small hotspots (5 or fewer locations). Clients use Bongngo Software? Boingo appears to be pretty popular, I've noticed in a numerous cities across the country. Also offeres Wisp-In-A-Box solution, which allows you to offer one's own brand of hotspot service, but I think Hotspot in a box is relivent for us.
Café.com		
ControlAP	\$149	
cool cloud		Schlotzsky
HOTSPOTZZ	\$250	Receive receiving 25% of all subscriptions that take place at your location.
Deep Blue Wireless	\$599 or \$200 and \$50 per month	Located in Menlo Park so they are probably not cheap! They provide all equipment, installation, customer service, and automated authentication and billing. The shop retains 33% of all gross revenue generated through the location
Sputnik	\$495	2 AP Hotspots + Sputnik Control Center software.
SurfandSip	\$300 + \$50 monthly fee	Internet-Cafe-In-a-Box
T-Mobile	?	Upper end service provider
Trustive	?	Higher end service prvider based in Europe, but common in the States.
UberSpots		Local company based here in SLO. Out of Business?
<b>Wayport</b>	?	Upper end service provider
wifi-texas	?	Couldn't find a price, but pobably resonable. They are not just in Texas, I've seen them at various places outside of Texas. I think the Deli chan Schlotzsky's uses them.

Less Networks    Free        Freenet software from a company based in Austin

Link
<a href="http://www.boingo.com/">http://www.boingo.com/</a> <a href="http://www.boingo.com/hso/hsiab.html">http://www.boingo.com/hso/hsiab.html</a> <a href="http://www.boingo.com/hso/wisp.html">http://www.boingo.com/hso/wisp.html</a>
<a href="http://www.cafe.com/index.php?d=services">http://www.cafe.com/index.php?d=services</a> <a href="http://controlap.com/purchase.jsp">http://controlap.com/purchase.jsp</a>
<a href="http://www.hotspotzz.com/">http://www.hotspotzz.com/</a>
<a href="http://www.deepbluewireless.com/index.html">http://www.deepbluewireless.com/index.html</a>
<a href="http://www.sputnik.com/">http://www.sputnik.com/</a>
<a href="http://www.surfandsip.com/ps_local.htm">http://www.surfandsip.com/ps_local.htm</a>
<a href="http://www.trustive.com/servicepg/files/home.php">http://www.trustive.com/servicepg/files/home.php</a>
<a href="http://www.uberspots.net/">http://www.uberspots.net/</a> <a href="http://www.wayport.com">http://www.wayport.com</a>
<a href="http://www.wifi-texas.com/">http://www.wifi-texas.com/</a>

**Hotspot Listings:**

<http://www.boingo.com/search.html>

<http://www.wi-fihotspotlist.com/browse/>

<http://www.prontonetworks.com>  
 and  
<http://www.prontonetworks.com/prontocompatibleproducts.html>  
<http://www.lessnetworks.com/>

Name	OS	Cost	Link	Vendor
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Hotspot OSS				Pronto Networks
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Aprisa				Pronto Networks
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Wi-Fi switches			<a href="http://www.vivato.net/index.html">http://www.vivato.net/index.html</a>	Vivato
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P-560 54Mb/s Hotspot-in-a-box				Gemtek
Internet Plug and Play Server Gateway		749.00		Reliawave

		1,599.99	<a href="http://www.demarctech.com/products/reliawave-rwh/reliawave-ipnpsg-ii.html">http://www.demarctech.com/products/reliawave-rwh/reliawave-ipnpsg-ii.html</a>	Reliawave
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SNMP-24B+2G 24 Port Bandwidth Control Switch	549.99	<a href="http://www.demarctech.com/store/catalog/product_info.php?products_id=80">http://www.demarctech.com/store/catalog/product_info.php?products_id=80</a>	Reliawave
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Wireless PnP Subscriber Gateway	549.99	<a href="http://www.demarctech.com/products/reliawave-rwh/reliawave-ipnpap.html">http://www.demarctech.com/products/reliawave-rwh/reliawave-ipnpap.html</a>	Reliawave
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24 Port Ethernet Intelligent Switch	419.99	<a href="http://www.demarctech.com/products/reliawave-rwh/reliawave-eis24.html">http://www.demarctech.com/products/reliawave-rwh/reliawave-eis24.html</a>	Reliawave
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Wavelink Mobile Manager		<a href="http://www.proxim.com/products/software/manager/index.html">http://www.proxim.com/products/software/manager/index.html</a>	Proxim
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FirstSpot		<a href="http://www.patronssoft.com/firstspot/">http://www.patronssoft.com/firstspot/</a>	Patronssoft
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Wireless  
Gateway™ (AG-  
2000w)

<http://www.nomadix.com/products/ag.asp> Nomadix

HotSpot  
Gateway™ (HSG)

<http://www.nomadix.com/products/hsg.asp> Nomadix

Universal  
Subscriber  
Gateway II (USG  
II)

<http://www.nomadix.com/products/usg.asp> Nomadix

## Description

of multi-vendor edge devices.

**Subscriber Management:** allows for bulk provisioning of existing users as well as NOC managed user provisioning. Provides real-time session, subscriber and network information. Includes customer care functionality, including subscriber self-care, incident tracking and account adjustment and refund.

**Service Creation:** enables definition of different service plan profiles, including usage-based, flat rate plans, peak/off-peak billing, and location-specific plans. Handles multiple payment options, including credit cards and pre-paid cards, and allows definition of different Classes of Service.

**Multiple Authentication Realms:** provides Radius AAA and 802.1x support as well as multiple authentication options through external sources, including Radius, SIM, SMS, MSN Passport, etc.

**Billing and Mediation:** enables rating and billing mediation into existing postpaid billing systems, including XML, AAA, and IPDR formats and supports pre-paid billing.

**Remote Network Management:** allows real-time viewing and management of the Wi-Fi network edge elements. Manages real-time session quality and network information. Stores all subscriber and network (QoS) Quality of Service data for customer care and network maintenance. Provides ability to set alert thresholds for edge elements and generate automatic email alerts.

**Roaming Services:** manages roaming agreements with major aggregators, including iPass, GRIC and Boingo and offers Inter-WISP roaming. Provides integrated clearing, settlement and reconciliation.

Aprisa is a complete, low-cost, easy-to-install back office appliance that enables a cost-effective build out of public hotspots. Using a web-based administration utility. licensed to work with 25, 50 or 100 hotspot controllers.

Wi-Fi switches have the same properties as Ethernet switches - parallel network operation, extended range and support of standard client adapters - applied for the first time to Wi-Fi networks with extraordinary results.

Vivato's switches use phased-array radio antennas to create highly directed, narrow beams of Wi-Fi transmissions. The Wi-Fi beams are created on a packet-by-packet basis. Vivato calls this technology PacketSteering™.

Unlike current wireless LAN broadcasting, Vivato's switched beam is focused in a controlled pattern and pointed precisely at the desired client device. These narrow beams of Wi-Fi enable simultaneous Wi-Fi transmissions to many devices in different directions, thus enabling parallel operations to many users - the essence of Wi-Fi switching.

integrated Access Controller for public access networks. It combines a high-speed wireless LAN Access Point, an IP Router, a 4-port LAN Switch and a complete Access Controller for Wi-Fi Hotspots in one box. One single P-560 can serve up to 100 simultaneous users (depending on SW license), takes control over authentication, accounting and routing to the Internet as well as to the operator's central.

can immediately recognize new users on the network and remember returning users plus redirect their browser to a proprietary Web page. That is to say, user needn't change their network configuration for access the Internet, just plug and play a true captive portal

rack mountable intelligent gateway integrated with a 4-port port-based V-LAN switch and capable of supporting up to 1024 simultaneous users. Designed for use in the medium to large environment such as large hotels, university campuses and airports, the Internet Subscriber Server II acts as an hotspot access controller and provides plug and play instant Internet access, advanced security & network management

The SNMP-24B+2G is compliant with RFC1213(RMON groups 1, 2, 3, 9), RFC1493 (Bridge MIB), and RFC1643(Ether-Like MIB) SNMP standards. It features a full array of management function including Spanning Tree, IGMP Snooping, LACP Trunking, 802.1Q Port-Based VLAN, 802.1p Priority, Access and Security control, GVRP Automatic VLAN Assignment, 802.1v Protocol Based VLAN, RMON, and even the latest 802.1x authentication protocol. The Ingress and Egress control allows administrators to limit the incoming and outgoing bandwidth of each port separately in 100K increments. All management functions can be configured through WEB browser, SNMP Management software, Telnet, or the dedicated Console Port. advanced security & network management. The Wireless PnP Subscriber Gateway, which simplified the setup, control, security and management of hotspot Internet access by integrating all the key components you need into a single, easy-to-install and intelligent device, is designed for service providers and system integrator to enhance service performance, increase business exposure and cooperative business operation. With its IP Plug and Play technology, it accepts any client configuration for log-on; The Wireless PnP Subscriber Gateway immediately recognizes new end-users on the network, remembers returning users and redirects their browser to customized Web pages. There's no need for end-users to change any of their default network, e-mail, or browser settings or load any special software to access Hotspot services. It's completely plug and play with any browser!The Wireless PnP Subscriber Gateway is an ideal hotspot solution to be deployed at the venue supporting 100 simultaneous users in a broadband-enabled environment such as hotels, coffee shops, airports, conference facilities and other sites that commonly host business travelers, and offers instant high-speed Internet connections without requiring user configuration to connect to the facility's network and No Extra MIS staff needed.

"Perfect solution for Hotel, Airport, Campus, Apartment, Public Information Station, and WISP!!!". a 24-port intelligent switch that includes V-LAN function and flow control feature. This switch allows a mixing and matching of Ethernet/Fast Ethernet and full/half duplex transit modes. It allows administrators to control each ports bandwidth for managing the network's performance and VLAN function for security. Powerful and versatile, this device presents the most effective way to meet demands of MDU/MTU network for ISP and WISP

centralized management of "Proxim ORiNOCO equipment"

A Windows-based Wi-Fi Hotspot Management software designed to track and secure your WLAN visitor-based networks or hotspots in a centralized way. Based on captive portal technology, FirstSpot allows users to login only utilizing a web browser. FirstSpot™ has been deployed throughout the US, Europe, Middle East, and Asia Pacific. Web-based login, no extra client required

- Exception Free Web Site support (can handle wildcard sub-domain name format. e.g. \*.google.com)
- Instant keyword support (i.e. type "logout" in browser to bring up logout windows)
- Time-limited pre-paid account support
- work with Ethernet based network as well as WLAN
- Bandwidth Throttling - to limit bandwidth consumption of individual user (new in 2.1!)
- Anonymous Mode - no need to login, just press the button in the greeting page to surf (new in 2.1!)
- Completed Credit card (PayPal) support (new in 2.1!)
- User Self sign-up (new in 2.1!)
- Improved login page customization - you can now change the picture as well as text in the greeting page, plus language pack feature for ease of translating to other language (new in 2.1!)
- Support individual login page for each network segment (new in 2.1!)
- Better user reporting - client IP/MAC is now in the user report (new in 2.1!)
- Password offloading - interface to utilize external password encryption program (new in 2.1!)
- "Access minutes remaining" is being shown in the InfoBox (new in 2.1!)

the ideal "HotSpot in a Box" for small, single cell deployments as it incorporates the patented and patent-pending functionality of the NSE with high performance Wi-Fi radio technology. The included Power over Ethernet (PoE) Injector further reduces and simplifies deployments on a per site basis.

- The AG-2000w is a dual band, tri-mode device supporting IEEE 802.11b/g/a standards for maximum rollout flexibility for both the user and the provider. The AG-2000w offers several Module Upgrades and contains a full suite Public-access features that can be tailored to create the ideal Wi-Fi service offering or enable a wholesale provider to quickly provide broadband access over a large footprint to many retail providers.
- The AG-2000w is the perfect solution for providers deploying in the following HotSpot locations:  
Coffee shops, Hotels, service stations
- The AG-2000w employs one fast Ethernet port to interface with the router (network side) and is offered in two basic configurations; one that supports IEEE 802.11b/g or one that support IEEE 802.11b/g/a on the subscriber side. The AG-2000w is designed to work with a centralized provisioning system to provide problem free service to the end user, while providing a cost effective solution that can enable a variety of billing models and interface to a provider's infrastructure

a turnkey, cost-effective platform designed for small to medium-sized Public-access HotSpots. The HSG is transport agnostic and enables the deployment of wired, wireless or hybrid networks supporting up to 150 simultaneous users.

The HSG is deployed at the venue supporting from 50 to 150 simultaneous users in a broadband-enabled environment and offers several NSE Module and User Count Upgrades so it can grow as your network and users change. The HSG is a dedicated network appliance providing maximum uptime and reliability unlike competitive offerings that are server-based that can be plagued with long reboot and set up times or run Operating Systems that are susceptible to virus attacks. Good for Hotels, Service Stations, Truck Stops, Train Stations, Subway Stations, Marinas

a turnkey, high performance platform designed for large Public-access HotSpots. The USG II is transport agnostic and enables the deployment of wired, wireless or hybrid networks supporting up to 2,000 simultaneous users.

The USG II runs the NSE Core and offers several NSE Module and User Count Upgrades so it can grow as your network and users change. The USG II is a dedicated network appliance providing maximum uptime and reliability unlike competitive offerings that are server-based that can be plagued with long reboot and set up times or run Operating Systems that are susceptible to virus attacks. For hotels, Convention Centers, Schools, RV Parks, Airports

Name	Link	Interface	Notes	Antenn
				Built In
Sapphire GPS	<a href="http://www.sapphire-gps.com/">http://www.sapphire-gps.com/</a>	USB/Serial	Tiny GPS Receiver	X
Emtac BT GPS (Sold as Socket in US)		BlueTooth	Good signal strength. The iPAQ Bluetooth manager seems to be a bit buggy. Almost GPS utopia but not quite	X
GlobalSat BT308			Emtac on steroids. Extended battery life	X
Navman 4400			Receiver will run for 30 hours on 3xAAA batteries. Has had a problem of lock-ups on iPAQ.	X
TomTom BT			comes close to the Emtac/BT GPS in performance	X
NAVMAN GPS 3450			Hardware and Software very much improved over the original.	

External	Size	Software
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?

X CRUX-View (config tool)  
No Mapping Software

? GPSInfo utility

X SmartST Pro

X TomTom Navigator  
Software

SmartST Professional

**GPS Hardware TTFF (Time To First Fix)**

	<b>Cold Test 1</b>	<b>Cold Test 2</b>	<b>Cold Test 3</b>	<b>Cold Test 4</b>	<b>Cold Test 5</b>	<b>Cold Test Average</b>	<b>Warm Test</b>
CoPilot CF	1m 22s	1m 8s	56s	1m 17s	54s	1m 07s	52s
Emtac Sleeve/CoPilot	40s	37s	42s	37s	46s	40.4s	10s
Emtac/Socket BT GPS	47s	53s	42s	36s	38s	43.2s	10s
Garmin eTrex	39s	44s	40s	41s	43s	41.4s	8s
Garmin eTrex Summit	38s	41s	45s	39s	42s	41.0s	8s
Garmin eTrex Vista	37s	57s	32s	35s	38s	39.8s	17s
Garmin GPSMap76	42s	34s	23s	56s	32s	37.4s	12s
Garmin GPSMap76S	32s	53s	32s	39s	36s	38.4s	11s
Garmin Geko 101	1m 37s	45s	38s	44s	41s	53s	15s
Garmin Geko 201	34s	45s	38s	43s	40s	40s	19s
HaiCom 302 CF	50s	33s	1m 25s	36s	1m 25s	57.8s	23s
HaiCom 303 MMF	42s	1m 05 s	41s	1m 02 s	1m 18s	57.6s	36s
Holux GM-210	42s	38s	35s	37s	42s	38.8s	30s
Holux GM-270	54s	1m 07 s	1m 03s	50s	1m 12s	61.2s	39s
Holux GM-270U	46s	49s	42s	1m 01 s	49s	49.4s	35s
LeadTek 9531 / 9532	29s	37s	39s	41s	43s	37.8s	9s
Magellan Meridian Range of GPS	38s	53s	43s	33s	35s	40.4s	18s
Magellan SporTrak Range of GPS	37s	47s	46s	41s	41s	42.4s	19s
Navman 3000 (ROM 2.0.0)	49s	52s	1m 33s	3m 23s	8m 5s	2m 56s	20s
Navman 3400/3420 (ROM 2.1.2)	1m 33s	2m 30s	1m 32s	52s	1m 17s	1m 32.8s	20s
Navman 3450 (ROM 2.1.2)	57s	50s	1m 09s	48s	1m 0s	56.8s	20s
Navman 4400	53s	1m 03s	1m 19s	54s	53s	1m 00.4s	0s
Pretec Compact CF	1m 28s	2m 47s	57s	45s	1m 2s	1m 23s	1m 16s
Pretec Compact LP CF	3m 48s	5m 32s	4m 59s	1m 53s	4m 02s	4m 04s	52s
Rikaline X5	41s	41s	34s	41s	42s	39.5s	39s
Rikaline X6	34s	60s	44s	48s	57s	48.6s	38s
RoyalTek Onyx	1m 28s	1m 39s	2m 23s	1m 38s	1m 35s	1m 46s	1m 24s
RoyalTek Sapphire RGM	1m 02s	1m 0s	56s	41s	55s	54.8s	37s
RoyalTek RBT-3000	57s	46s	43s	41s	55s	48.4s	30s
RoyalTek RGM-2000	48s	52s	40s	45s	39s	44.8s	33s
SysOnChip CF Plus (SIRFXTrac)	40s	30s	33s	38s	39s	36s	30s
TFAC MG30 Mouse	1m17s	1m 26s	1m 38s	1m 36s	2m 11s	1m 37s	34s
TomTom Bluetooth GPS	48s	52s	46s	59s	51s	51.2s	37s

	<b>Fastest TTFF Cold Tests</b>	<b>Slowest TTFF Cold Tests</b>	<b>Manufacturer Stated Times</b>	<b>Warm TTFF Tests</b>	<b>Manufacturer Stated Times</b>	<b>Hot TTFF Tests</b>	<b>Manufacturer Stated Times</b>
CoPilot CF	54s	1m 22s	Not Stated	52s	N/A	16s	N/A

Emtac Sleeve/CoPilot	37s	46s	Not Stated	10s	N/A	9s	N/A
Emtac/Socket Bluetooth GPS	36s	53s	1m 20s	10s	45s	6s	10s
Garmin eTrex	39s	44s	45s	8s	15s	N/A	N/A
Garmin eTrex Summit	38s	45s	45s	8s	15s	N/A	N/A
Garmin eTrex Vista	32s	57s	45s	12s	15s	N/A	N/A
Garmin GPSMap76	32s	56s	45s	12s	15s	N/A	N/A
Garmin GPSMap76S	32s	53s	45s	12s	15s	N/A	N/A
Garmin Geko 101	38s	1m 37s	45s	15s	15s	13s	N/A
Garmin Geko 201	34s	45s	45s	19s	15s	10s	N/A
HaiCom 302 CF	33s	1m 25s	48s	23s	38s	10s	8s
HaiCom 303 MMF	41s	1m 18s	48s	36s	38s	3s	8s
Holux GM-210	35s	42s	45s	30s	38s	4s	8s
Holux GM-270	50s	1m 12s	45s	39s	38s	4s	8s
Holux GM-270U	42s	1m 01s	45s	35s	38s	3s	8s
LeadTek 9531 / 9532	29s	43s	48s	9s	38s	5s	8s
Magellan Meridian Range of GPS	33s	53s	<2m	18s	<1m	15s	<15s
Magellan SporTrak Range of GPS	37s	47s	<5m	19s	<1m	16s	<15s
Navman 3000	49s	8m 05s	2m 0s	20s	48s	11s	18s
Navman 3400/3420 (ROM 2.1.2)	52s	2m 30s	2m 0s	20s	48s	12s	18s
Navman 3450 (ROM 2.1.2)	48s	1m 09s	2m 0s	20s	48s	11s	18s
Navman 4400	53s	1m 19s	n/a	0s	n/a	0s	n/a
Pretec Compact CF	45s	2m 47s	1m 0s	1m 16s	45s	12s	8s
Pretec Compact LP CF	1m 53s	5m 32s	2m 10s	52s	45s	33s	20s
Rikaline X5	34s	42s	45s	39s	38s	0s	8s
Rikaline X6	34s	1m 00 s	45s	38s	38s	0s	8s
RoyalTek Onyx	1m 28s	2m 23s	45s	3m 0s	45s	17s	20s
RoyalTek Sapphire	41s	1m 02s	45s	37s	38s	10s	45s
RoyalTek RBT-3000	41s	57s	45s	30s	38s	9s	8
RoyalTek RGM-2000	39s	52s	45s	33s	38s	17s	45s
SysOnChip CF Plus (SIRFXTrac)	30s	40s	45s	30s	38s	0s	8s
TFAC MG30	1m 17s	2m 11s	45s	34s	8s	4s	0.1s
TomTom Bluetooth GPS	48s	59s	45s	37s	38s	3s	8s

Hot Test
16s
9s
17s
N/A
13
10
10s
3s
4s
4s
3s
5s
15s
16s
11s
12s
11s
0s
12s
33s
0s
0s
17s
10s
9s
7s
0s
4s
3s



Maps are generally only available for north Amer

<b>Name</b>	<b>Vendor</b>	<b>Type</b>
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CRUX-View		
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SmartST Pro (Navman) Memory-map Fugawi		Street Routing
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Navigator (TomTom)	TomTom	Street Routing
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Deluo Routis	Netropa (many OEM versions)	Street Routing
PowerLOC Destinator 2		Street Routing

Mapopolis		Street Routing
TomTom Maps-on- Line	TomTom	Street Routing

CoPilot Live	TravRoute	Street Routing
Microsoft Pocket Streets 2002	Microsoft	Street Routing

rica and Europe.

**Description**

a series of 6 screens to examine the GPS receiver: GPS Status; Position; Message; WAAS; Low power; and about

**Packaged with**

Emtac BT GPS

Putting it along side TomTom Navigator shows most of the same features which you look for, for instance Favourites, Points of Interests, zooming in and out of maps, and voice navigation. The software is easy to use, and great thought has been put into large buttons, the only thing we would add is that it would be nice on the GPS Status screen to have a touch anywhere to close, rather than having to tap the top right cross/ok button. When your driving in the car, if you wanted to switch to this screen, it's very difficult to press precisely in a small area like this, and this is a welcome feature TomTom have added to their latest GPS Support update. Memeory Hog

Navman

\*  
\*

Very good S/W. The original Pocket PC GPS mapping company. They created Route Planner, TomTom CityMaps and also the re-badged versions of NAVMAN software (SmartPath City & Trips. Allows Points of Interest to be added. Navigator's new features include Voice Navigation, trip re-routing, drive to a destination (without having to enter your start location), POI (Points of Interest)

maps are supplied from MapTech and are clean and very accurate

The maps are highly detailed. The product offers automatic re-routing, voice navigation and much more. Real-time traffice news service offered. But no way to add a point of interest. Mostly Palm Support  
A cheap alternative when visiting a foreign city, and don't need full routing or full map capability.

maps are quite good on the PC, they lack detail on the Pocket PC and there's no support for routing or searching for streets

See Networking Tools

Name	OS	Cost	Link	Vendor	Description
GoBook	XP Tablet PC		<a href="http://www.itronix.com/products/tablet/GoBookTablet.asp">http://www.itronix.com/products/tablet/GoBookTablet.asp</a>	Itronix	The GoBook Tablet PC is a rugged "slate" Tablet PC, that puts the power and flexibility of tablet computing to work in environmentally-challenging situations. Mid-sized, lightweight and ergonomic, the GoBook Tablet PC boasts the rugged and weatherized features you've come to expect from Itronix. With multiple integrated wireless technologies, the GoBook Tablet PC is ready for any wireless network.

## Network Management Tool

Name	OS				Cost	Custom-ization	Link	Vendor
	Win 2000	Win XP	Linux	*nix				
OpenNMS								
EMERALD					?			SRI
OpenView					>\$60,000		<a href="http://www.openview.hp.com/about/index.html">http://www.openview.hp.com/about/index.html</a>	HP
Tivoli					>\$50,000			IBM
UniCenter					?			

**Metrics (?)**

- Health and Status
- Control
- Configure
- Manage
- Report
- Scaleable

ols

Description	Supported Hardware
eXpert-BSM provides the most comprehensive knowledge-base for detecting insider misuse, policy violations, privilege misuse or subversion, illegal resource manipulation, and other site policy violations for Sun Solaris operating systems.	
The best NMS tool out there. But expensive as it starts at \$60,000.	

## Network Management Tools

Name	OS				Cost	Custom-ization	Link	Vendor
	Win 2000	Win XP	Linux	*nix				
<b>Wi</b>								
<b>AirDefense Guard</b>				X	Starts at \$25,000 for the Server. Each sensor is ~\$795		<a href="http://www.airdefense.net/products/airdefense_ids.shtml">http://www.airdefense.net/products/airdefense_ids.shtml</a>	AirDefense
<b>AirWave Management Platform (AMP)</b>					\$15,000 per server		<a href="http://www.airwave.com/">http://www.airwave.com/</a>	AirWave
<b>Unicenter Wireless Site Management</b>					? Don't know			Computer Associates
<b>Structured Wireless-Aware Network Solution</b>					\$8,500		<a href="http://www.cisco.com/en/US/netsol/ns340/ns394/ns348/ns337/networking_solutions_package.html">http://www.cisco.com/en/US/netsol/ns340/ns394/ns348/ns337/networking_solutions_package.html</a>	Cisco Systems
<b>AirBeam</b>					?	Little	<a href="http://www.symbol.com/product">http://www.symbol.com/product</a>	Symbol
<b>Wavelink Mobile Manager</b>	X	X			\$1500 for server plus \$110 per AP		<a href="http://www.wavelink.com/wavelink/mobilemanager/">http://www.wavelink.com/wavelink/mobilemanager/</a>	Wavelink

<b>AirMagnet</b>					\$7000 - \$8000 for the basic setup		<a href="http://www.airmagnet.com/">http://www.airmagnet.com/</a>	AirMagnet
<b>Cirond</b>					\$495 plus \$20 per AP		<a href="http://www.cirond.com">www.cirond.com</a>	Cirond
<b>Colubris Networks Management System (CNMS)</b>							<a href="http://colubris.com/Content.asp">http://colubris.com/Content.asp</a>	Colubris
<b>Perfigo</b>					\$5,000		www.perfigo.com	Perfigo

**iPass  
RoamServer**

<http://www.ipass.com/>  
[http://www.ipass.com/platform/platform\\_ps\\_policymgmnt.html](http://www.ipass.com/platform/platform_ps_policymgmnt.html) iPass

**Inspira**

<http://www.prontonetworks.com>  
<http://www.prontonetworks.com/prontoinspira.html> Pronto Networks

**Universal  
Remote  
Control**

<http://www.goremove.com/solutions/urc.php?p=s12> GoRemote

**Nomadix  
Service  
Engine**

<http://www.nomadix.com/products/> Nomadix

**Airespace  
Wireless  
Protection  
System**

[http://www.airespace.com/products/AS\\_wireless\\_protection\\_system.php](http://www.airespace.com/products/AS_wireless_protection_system.php) Airespace

**Tropos  
Control  
Element  
Mgmt System**

<http://www.tropos.com/products/controllems.shtml> Tropos

**Gemtek ?  
Sun ?**

[http://www.gemtek.com.tw/solution\\_enterprise.htm](http://www.gemtek.com.tw/solution_enterprise.htm) Gemtek  
[www.sun.com](http://www.sun.com) Sun

Syniverse  
Mobile Data  
Roaming  
Services

<http://www.syniverse.com/home.cfm> Syniverse

3Com  
Wireless LAN  
Controller  
WX4400

[http://www.3com.com/products/en\\_US/detail.jsp?tab=features&pathtype=purchase&sku=3CRWX440095A](http://www.3com.com/products/en_US/detail.jsp?tab=features&pathtype=purchase&sku=3CRWX440095A) 3Com

BelAir  
Firetide

<http://www.belairnetworks.com/> BelAir  
<http://www.firetide.com/> FireTide

Wireless  
Switch  
Manager

[http://www.3com.com/products/en\\_US/detail.jsp?tab=features&pathtype=purchase&sku=3CWXM10A](http://www.3com.com/products/en_US/detail.jsp?tab=features&pathtype=purchase&sku=3CWXM10A) 3Com

Et							
OpenNMS					Free		
EMERALD					?		SRI
OpenView					>\$60,000	<a href="http://www.openview.hp.com/about/index.html">http://www.openview.hp.com/about/index.html</a>	HP
Tivoli					>\$50,000		IBM
UniCenter					?		Computer Associates

Metrics to  
Consider (?)

Health and  
Status  
Control  
Configure

Manage  
Report  
Rogue AP  
Detection      WiFi Only  
Generate  
Alerts  
RF Monitoring   WiFi Only  
Ethernet  
Monitor  
Proprietary  
Hardware  
Max Number  
Aps              WiFi Only  
Scaleable

## ools

Description	Supported Hardware
<b>WiFi NMS and IDS Systems</b>	
<p>AirDefense Guard is a 802.11 a/b/g IDS. Extends the functionality of AirDefense RogueWatch. Monitors the health and status of the network. Tracks WiFi activity and enforces WiFi security policies. Includes distributed sensors and server appliance(s). The sensors monitor WLAN activities and report back to the server appliance.</p> <p>Server is custom hardware running RedHat</p>	<p>Custom sensors. Any SNMP enabled AP?</p>
<p>Collects and monitors the network and RF data from a variety of APs. Designed to be integrated with a Ethernet NMS such as Openview. Can integrate with a RADIUS server. Supports upto 500 APs.</p>	<p>Claims support for APs from Cisco, Proxim ORiNOCO, Symbol, Enterasys, Intel, HP, Compaq, Dell, Avaya, IBM, Nokia, and more</p>
<p>Basic health and status of Wireless components. Monitors both Ethernet and RF. Event and Alert notifications. Special User Mgmt and distributed WEP configuration. Rouge AP detection. Limits access to certain areas (not sure how they do this). Ties into their eTrust package</p>	
<p>No details...</p>	
<p>Manages Spectrum24 devices.</p>	<p>Spectrum24</p>
<p>Health and Status. Rogue AP detection. Remote Management, Event and alert notification. Uses AirMagnet. Offers a plug in for HP Openview. One server per 25 APs.</p>	<p>Cisco, Ericsson, Intel, Nortel, Symbol, and 3Com</p>

IDS, Rogue AP detection.	
Supports up to 50 Aps	Cisco, D-Link, Hawking, Intel, Linksys, Netgear, SMC, 3Com, and U.S. Robotics
Rogue detection via wired and wireless networks. Provides user authentication, encryption, firewall services, and AP configuration tools.	Cisco, Enterasys, and Proxim Orinoco

iPass RoamServer™ software enables IT staff to centrally create and manage tailored connectivity policies that are then enforced at numerous points across the iPass network. IT managers can set profile-based policies for classes of users, dictating which access methods can be used for connecting, what security systems must be in place at the client, and parameters around session length.

Pronto Networks' Inspira is the industry's most comprehensive solution for deploying public Wi-Fi networks. Inspira is a complete, low-cost, easy-to-install back office appliance that enables a cost-effective build out of public hotspots. Using a web-based administration utility, Inspira can be quickly installed at an operator's Network Operations Center (NOC). Once installed, Inspira is ready to unleash the full capabilities of the pre-loaded Wi-Fi service delivery application.

Inspira is licensed to work with 25, 50 or 100 hotspot controllers. Each hotspot controller is designed to download initial configuration and image files from the NOC once plugged in. Absolutely no on-site configuration of the controllers are required, thus saving significant deployment time and costs.

The GoRemote Universal Remote Control is a ground-breaking solution: the industry's first real-time remote network management console for enterprise network managers and administrators.

With The Universal Remote Control, enterprises get unprecedented control over and visibility into remote access to ensure that their mobile/remote workforce stays productive connected, and secure.

The Universal Remote Control functions as a secure web portal that unifies all the functionality that enterprise IT and networking managers need to proactively manage, monitor and support mobile/remote workers - such as administration, remote provisioning, support, and billing - and delivers them through a single, easy-to-use management platform.

The Nomadix Service Engine™ (NSE) addresses the key issues of customer acquisition, provisioning, security and revenue generation faced by providers and venue owners when deploying Wi-Fi Public-access. The NSE also knocks down the barriers encountered by end users accessing these networks by providing a problem-free experience when using the service.

Nomadix offers a full range of Access Gateways running the NSE software. All of our Access Gateways come with the NSE Core software package. Optional NSE Modules and User Configuration Upgrades are also available. Both the NSE Core and NSE Modules are available for license as an embedded software package to run on third party platforms such as access points, switches and routers.

Airespace combines real-time monitoring functionality with advanced analysis capabilities to provide the industry's most advanced and effective Wireless Protection System (WPS). Whether protecting an existing wireless network from unauthorized activity, or preventing the deployment of wireless networks altogether, Airespace's Wireless Protection System is a vital component in protecting business critical networks.

Tropos offers a centralized network manager that provides real-time monitoring and control, allowing remote configuration and software upgrades.

Providing full visibility into the network, the system enables network operators to prevent problems before they occur. The Tropos element management system supports SNMP, allowing operators to monitor the wireless network alongside their wired network.

?

Syniverse is the first to offer an integrated WI-FI Roaming solution that gives you a cost effective, competitive edge in bridging the technical gaps and simplifying the business relationships among a growing number of new roaming partners.

With our centralized network, clearinghouse, and service bureau solutions, we've simplified the complexity of implementing and managing mobile data roaming services by reducing capital outlay and streamlining operations.

Lets Users Connect Securely to the Wireless LAN and Roam

As part of the 3Com® Wireless LAN Mobility System, the 3Com Wireless LAN Controller WX1200 with 3Com Wireless Switch Manager software centrally manages and controls 3Com wireless 3Com wireless LAN Managed Access Points (MAPs) for those networks demanding complex deployments, or with multiple offices or highly secure LAN requirements.

The BelAir Networks solution offers the lowest-cost network deployment for large wireless LANs, and is the only system that can deliver Wi-Fi access over large areas in dense urban environments.

More of mesh network provider? Partners with Nomadix

Required software suite with sophisticated, centralized WLAN pre-deployment planning and configuration tools along with advanced RF optimization and wireless user/group security and access management spanning the entire network. Supports up to 10 wireless switches and/or controllers.

#### Internet NMS and IDS Tools

Open Source tool. No updates for several months.	
eXpert-BSM provides the most comprehensive knowledge-base for detecting insider misuse, policy violations, privilege misuse or subversion, illegal resource manipulation, and other site policy violations for Sun Solaris operating systems.	
The best NMS tool out there. But expensive as it starts at \$60,000.	
NMS like tool focused on configuring nodes and providing user authorization	
NMS tool, not a well review as HP Openview.	



Table 4 – JTAG Programming Port

J1 Pin Signal Description

1 VCC 2.5V from board to cable

2 GND Ground

3 - No connect

4 TCK JTAG clock to CPLD

5 TDO JTAG data from CPLD

6 TDI JTAG data to CPLD

7 TMS JTAG mode select