# LINKSYS®

# **LINKSYS®**

Linksys products are available in more than 50 countries, supported by 12 Linksys Regional Offices throughout the world. For a complete list of local Linksys Sales and Technical Support contacts, visit www.linksys.eu



# **Small Business Product Guide**

Summer 2007

### **Linksys - for Business Efficiency and Peace of Mind**

For business efficiency and peace of mind Linksys Business Solutions offer leading edge technologies at prices well within the reach of budget minded businesses. They reduce operational complexity and deployment costs while increasing network performance and reliability. Linksys products are well equipped to mitigate the threats endangering today's networks. Strong security features help block attacks originating from outside and within the organisation. Linksys Business Solutions are backed by tech support, competitive warranties and provide far-reaching investment protection through the Linksys to Cisco Trade-Up Program.

## www.linksys.eu



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For business efficiency and peace of mind

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## Support

77 Linksys Business Support



## **Linksys Business Series - Introduction**

Linksys makes it easy to buy, build and manage small business networks with or without an IT staff. Whether a small business designs their own network, or works with a Value Added Reseller (VAR) or other trusted advisor, Linksys Small Business products can be combined to meet their changing business requirements. With this vast array of offerings, small businesses can choose affordable **Business Series** networking products, which includes the **Linksys Voice System (LVS)**, for proven and reliable data and voice solutions, or let their VARs or Service Providers manage their network with a fully-integrated **Linksys One** plug and play solution.

This catalog features an overview of the broad portfolio of Linksys Small Business products. Each product is built specifically for the needs of the small business. They are engineered with built-in security, reliability and other best-in-class features. Combinations of these products provide customizable and scalable data and voice solutions ideal for small businesses at virtually any stage in their development.

Linksys protects a small business investment every step of the way. Many Business Series products are **Linksys One Ready**, and the **Linksys to Cisco Trade-Up Program**\* is there as companies grow into successful enterprises.

#### **Built for the Small Business**

Small businesses need technology solutions that work. Whether a company has one employee or 100, it needs solutions that can keep up with the demands of the business now and be there for them in the future. Consumer-level products, more often than not, do not offer the performance, security or long-term investment protection that a small or growing business requires. And enterprise systems can be too complex and costly for a small business to manage and maintain.

Designed with small businesses in mind, Linksys puts powerful, flexible and scalable data networking and voice technology solutions into the hands of small businesses - at prices they can afford. These products give small businesses solutions they can use to arm their workforce, capture customers, and compete.

#### Quality

A small business can be assured that their investment in a single Linksys Small Business product or entire solution is backed by decades of networking and voice engineering innovations and expertise from the two leaders in the industry – Cisco and Linksys. Rigorous quality standards are enforced throughout the manufacturing and product verification process. In fact, many Small Business products go through extreme system-level durability testing and Numberous usability scenarios based on proven Cisco product testing processes and methods. Linksys Small Business products also feature the latest standards and protocols for security, performance, functionality, and compatibility in addition to features that provide unique performance capabilities small businesses can use today or access in the future.



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#### **Affordability**

With Linksys Small Business products, companies don't have to choose between quality and affordability. One of the many benefits of the Cisco and Linksys leadership positions in the communications technology industry is being able to design, develop and acquire the most innovative solutions, as well as manufacture them at greater volume levels for worldwide consumption. This industry prowess results in robust feature sets in products that are aggressively priced for budget-conscious small businesses.

Competitive pricing combined with innovative data and IP voice capabilities also enables small businesses to enjoy a quicker return-on-investment, while providing a lower total cost of ownership with a Linksys Small Business solution. The affordability of Linksys Small Business products enable small firms to compete and grow by enhancing employee productivity and providing secure access to the company network for remote employees.

#### Security

Security is one of the most critical business concerns today. No small business network should be without the most advanced security measures available. Business data and communications systems need protection from security breaches of all kinds. Powerful security protocols and features are built right into Linksys Small Business products to keep a small business' wired and wireless network safe.

They include advanced firewall features, Intrusion Prevention to block viruses, Denial of Service, and other harmful attacks, encryption and authentication standards, and Intrusion Detection to discover rogue access points and clients. When employed in a small business network, these features offer the best available level of protection for a small business' confidential information and mission-critical data, as well as ensuring that their networks continue to operate at peak performance. Many of these features also enable small businesses to meet rigorous corporate governance and business continuance standards, or meet the requirements for customer or patient confidentiality. By activating and using these security features, companies can concentrate their energies on the day-to-day operation and success of their business.

 $<sup>\</sup>hbox{$^*$ The Linksys to Cisco Trade Up program is only available in the EU countries}$ 

## **Linksys Business Series - Introduction**

#### **Service and Support**

With Linksys Small Business products, small businesses are never alone. If they ever require help, Linksys, their trusted VARs, or their Linksys authorized Service Provider are there to keep their businesses running smoothly. With Linksys **Business Series** products, small businesses get free Linksys technical support as well as free firmware and maintenance releases. Many Linksys Business Series products also include remote management tools, so a company's designated network administrator or IT staff can configure, reconfigure, or troubleshoot the network through control-rich, browser-based user interfaces. With these management controls, network administrators can optimize their company's network for voice, storage, high-bandwidth traffic, and more – all based on the unique requirements of their business. With Linksys Voice System and Linksys One products, Linksys authorized Service Providers provide voice and other services to keep businesses communicating with their employees, their colleagues and their customers.

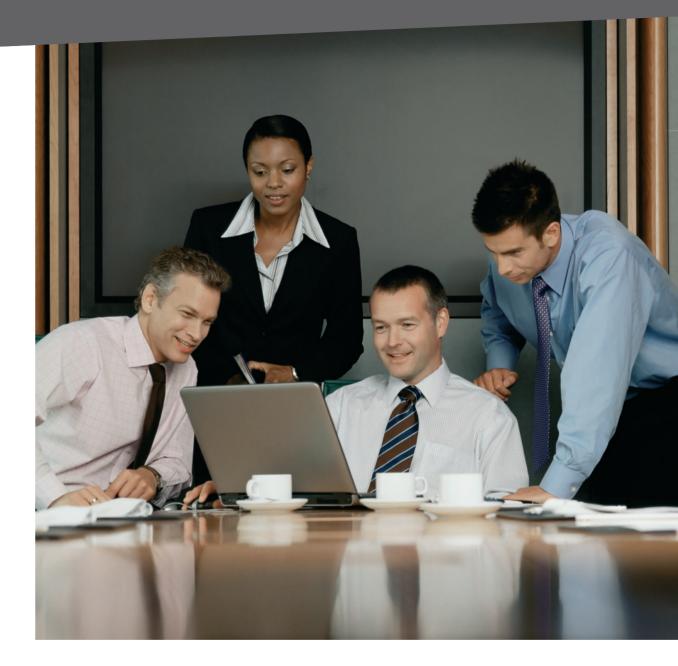
Linksys One solutions also enable VARs to remotely manage a small business' network with expanded remote management controls for each Linksys One device connected - whether the device is a Linksys One Services Router, Linksys One Ready Stackable Gigabit Ethernet Switch or IP Phone. This remote management service and support capability lets small businesses focus on their business and not the Small Business data and voice products that make their company productive.

#### **Investment Protection**

Linksys Small Business products protect a small business' investment in many ways. They can provide immediate solutions for establishing networked workgroups, remote connectivity, network storage solutions – to complete converged data and IP voice platforms with Business Series networking and LVS or Linksys One. With Linksys Small Business products, a small business can upgrade their office piece by piece, or change it all in a day. Small Business products scale up so a business can easily connect new remote offices and add more workers with minimal installation work and expense.

A small business benefits most from technology products that are designed to work together and from products that will be useful even as technology standards or their business changes and evolves. Linksys One Ready products are best-in-class networking products that can operate in any business networking environment. At the same time, small business owners have an added benefit with Linksys One Ready products because they have been engineered to migrate to a remotely-managed, converged Linksys One data and voice solution when their company is ready for it.

Linksys Small Business products will serve virtually any small business reliably for many years to come. Yet when the small business isn't so small anymore, it may need to begin to integrate or upgrade to enterprise-level networking solutions or products. The Linksys to Cisco Trade Up Program\* enables small businesses to trade up to Cisco enterprise-level products within the first three years of their eligible Small Business product purchase. The Linksys to Cisco Trade Up Program\* is unique in the industry and working with a Cisco reseller, small businesses can receive rebates based on the Linksys equipment they exchange for Cisco enterprise products.



#### **Multiple Needs. One Answer**

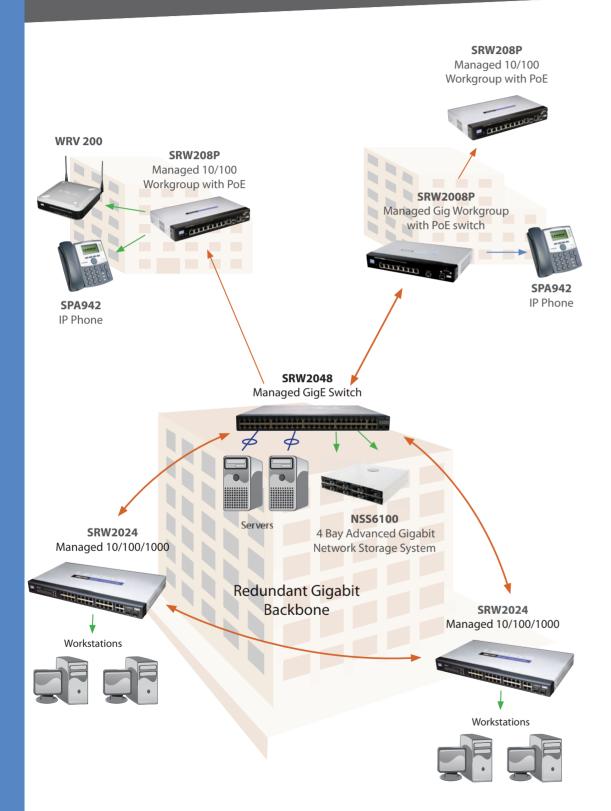
A business is most successful when all of its parts work together to achieve a whole solution. Studies show that a business can achieve a substantial reduction in cost by choosing a single-vendor office system for their business network. Linksys Small Business products are designed from the ground up to work together and optimized to bring small businesses the best possible performance from a single source. Whether they need to integrate new products and expand the capabilities of their networks with voice, storage, and video, add more users, or be prepared to take advantage of future technologies – Linksys enables small businesses to compete, produce and succeed.

<sup>\*</sup>The Linksys to Cisco Trade Up program is only available in the EU countries

## **Networking (LAN) Example**

#### **Key Features:**

- Non-Blocking Architecture
- L2 & L3 QoS/CoS
- Security & Traffic Management
- Fully Managed L2 Features SNMP, Http, Telnet, RMON
- Network Availability Features -Spanning Tree, Link Aggregation, Storm Prevention



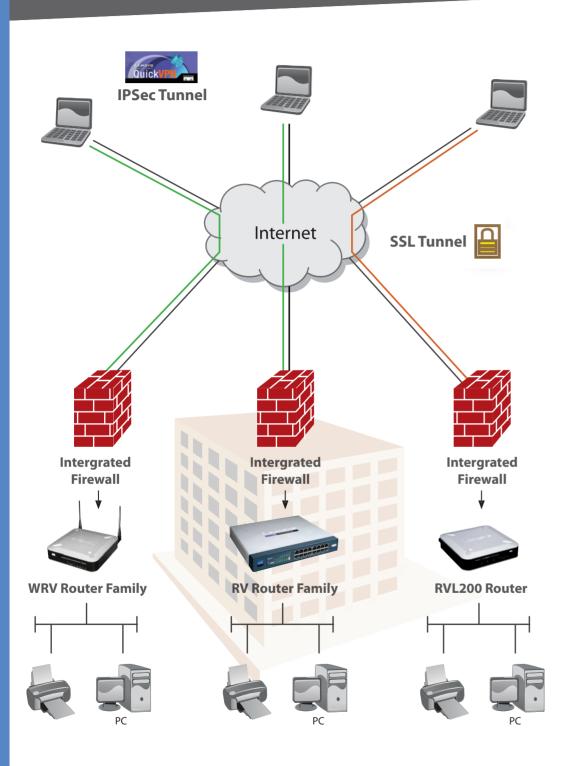
Linksys Small Business products are designed and engineered specifically for networking small businesses at virtually any stage in their development. These feature-rich, affordable solutions enable small businesses and their employees to collaborate, communicate, access data, use peripherals like printers, share applications and compete. Small businesses now have access to features like Ethernet and Gigabit switch non-blocking architecture, link aggregation, and broadcast storm prevention, multiple VLAN mapping and tagging, rackmountable network attached storage, and much more. These products are simple to install, operate and manage, yet give businesses the networking performance they need now and in the future.

| Product  | Description   |                          |                     | LAN             | Features                  |           |               |
|----------|---|--------------------------|---------------------|-----------------|---------------------------|-----------|---------------|
|          |   | 10/100 or<br>10/100/1000 | Link<br>Aggregation | Jumbo<br>Frames | Blocking/<br>Non-Blocking | Managable | MAC Filtering |
| SRW224G4 | 24-port 10/100 +<br>4-Port Gigabit<br>Managed Switch with WebView                   | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW248G4 | 48-port 10/100 +<br>4-Port Gigabit<br>Managed Switch with WebView                   | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW224P  | 24-port 10/100 + 2-Port Gigabit Managed Switch with WebView and Power over Ethernet | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW2016  | 16-Port 10/100/1000 Gigabit Switch<br>with WebView                                  | 10/100/1000              | •                   | •               | •                         | •         | •             |
| SRW2024  | 24-Port 10/100/1000 Gigabit Switch<br>with WebView                                  | 10/100/1000              | •                   | •               | •                         | •         | •             |
| SRW2048  | 48-Port 10/100/1000 Gigabit Switch<br>with WebView                                  | 10/100/1000              | •                   | •               | •                         | •         | •             |
| SRW2008  | 8-Port 10/100/1000 Ethernet Switch<br>with WebView                                  | 10/100/1000              | •                   | •               | •                         | •         | •             |
| SRW2008P | 8-port 10/100/1000 Ethernet Switch<br>with WebView and PoE                          | 10/100/1000              | •                   | •               | •                         | •         | •             |
| SRW208   | 8-Port 10/100 Ethernet Switch with<br>WebView                                       | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW208G  | 8-port 10/100 Ethernet Switch with<br>WebView and Expansion Slots                   | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW208L  | 8-Port 10/100 Ethernet Switch with<br>WebView and 100Base-LX Uplink                 | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW208P  | 8-port 10/100 Ethernet Switch with<br>WebView and PoE                               | 10/100                   | •                   | Mini            | •                         | •         | •             |
| SRW208MP | 8-port 10/100 Ethernet Switch with<br>WebView and Maximum Power PoE                 | 10/100                   | •                   | Mini            | •                         | •         | •             |
| NSS4100  | Network Storage System with four 250GB HDDs   | 10/100/1000              |                     | •               |                           | •         | •             |
| NSS6100  | Network Storage System with four 250GB HDDs   | 10/100/1000              |                     | •               |                           | •         | •             |

# Remote Access (WAN) Example

#### **Key Features:**

- IPSec and SSL VPN
- Wireless Option
- Support for Gateway-to-Gateway



Small businesses often need their networks to go with them when they travel. Or want to connect to a satellite office. Linksys Small Business products enable them to keep in touch with their home office and stay on the job anytime, anywhere they can connect to the Internet. Whether they need wired or wireless connectivity, IPSec or SSL security, there is a Linksys Small Business product that will let them keep their employees productive. In branch offices or on the road, they can communicate knowing that their data will stay safe. And many Small Business products are remotely manageable, so a business' network administrator can monitor, configure or troubleshoot the network through a browser-based user interface.

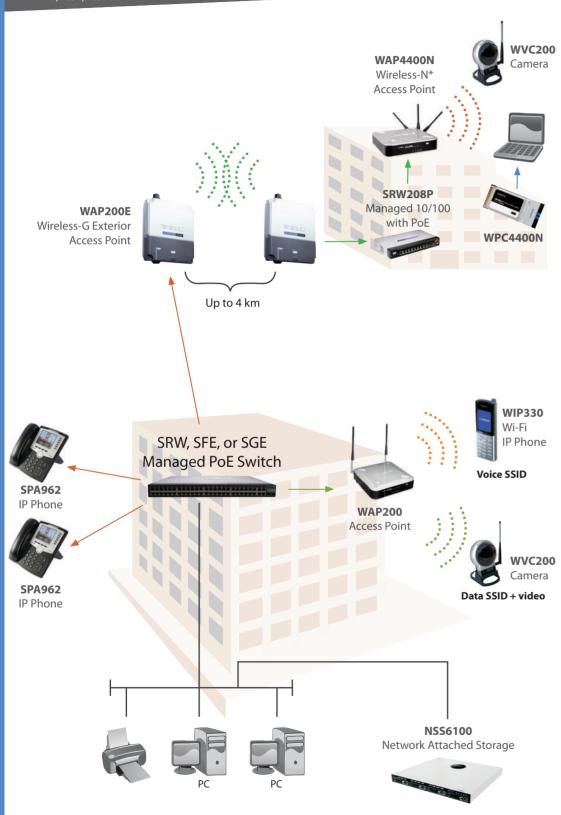
| Product   | Description                                 |                     | Remote Access Features |                   |                           |                   |          |  |  |  |
|-----------|---|---------------------|------------------------|-------------------|---------------------------|-------------------|----------|--|--|--|
|           |   | VPN Pass<br>Through | VPN Termination        | # of Remote Users | Encryption<br>Performance | FW/IDS-IPS/AV/UTM | Dual WAN |  |  |  |
| RV042     | 10/100 4-Port VPN Router                    | •                   | •                      | 50 *              | 59 Mbps                   | FW                | •        |  |  |  |
| RV082     | 10/100 8-Port VPN Router                    | •                   | •                      | 50 *              | 90 Mbps                   | FW                | •        |  |  |  |
| RVS4000   | 4-Port Gigabit Security Router<br>with VPN  | •                   | •                      | 5                 | 2 Mbps                    | FW / IPS          |          |  |  |  |
| RVL200    | 4-Port SSL/IPSec VPN Router                 | •                   | •                      | 10                | 17 Mbps                   | FW                |          |  |  |  |
| WRV200    | Wireless-G VPN Router with<br>RangeBooster  | •                   | •                      | 10                | 30 Mbps                   | FW                |          |  |  |  |
| WRVS4400N | Wireless-N Gigabit Security Router with VPN | •                   | •                      | 5                 | 2 Mbps                    | FW / IPS          |          |  |  |  |

<sup>\*</sup> With QuickVPN 50 user license upgrade

# **Wireless Access Solution Example**

#### **Key Features:**

- 802.11g, Wi-Fi, PoE, 802.11 draft-n
- Multiple SSID->VLAN Mapping
- Security and QoS
- 802.1 x, WPA, WMM
- Multiple AP Modes
- AP,P to P,P to MP



Once a small business goes wireless, they will wonder how they ever lived without it. Now they can enjoy the freedom to work anywhere, without cables and get the performance they have come to expect from a robust business network—wirelessly. Many Linksys Small Business wireless routers, access points and adapters include features like multiple SSID-to-VLAN mapping, 802.11g or draft 802.11n with Power over Ethernet, VPN security, Quality of Service, WPA and WMM and more. At the same time, these devices are easy to set up, reliable, and include powerful and intuitive management tools. Going wireless has never been so easy or affordable.

| Product   | Description   |                           | Wireless Features  |  |                         |               |  |  |  |
|-----------|---|---------------------------|--------------------|--|-------------------------|---------------|--|--|--|
|           |   | 802.11g/<br>Draft 802.11n | Multiple SSID-VLAN | AP Modes   | Upgradeable<br>Antennas | MAC Filtering |  |  |  |
| WAP200    | Wireless-G Access Point with Power over Ethernet and RangeBooster | 11g                       | •                  | AP, Pt-to-Pt Bridge, Pt-to-Mpt<br>Bridge, Repeater | •                       | •             |  |  |  |
| WAP200E   | Wireless-G Exterior Access Point with  Power over Ethernet        | 11g                       | •                  | AP, Pt-to-Pt Bridge, Pt-to-Mpt<br>Bridge, Repeater | •                       | •             |  |  |  |
| WAP4400N  | Wireless-N Access Point with  Power over Ethernet                 | 11g/11n                   |                    | АР   | •                       | •             |  |  |  |
| WRV200    | Wireless-G VPN Router with<br>RangeBooster                        | 11g                       | •                  |  |                         | •             |  |  |  |
| WRVS4400N | Wireless-N Gigabit Security Router<br>with VPN                    | 11g/11n                   |                    | АР   | •                       | •             |  |  |  |
| WPC4400N  | Wireless-N Notebook Adapter                                       | 11g/11n                   |                    |  |                         |               |  |  |  |

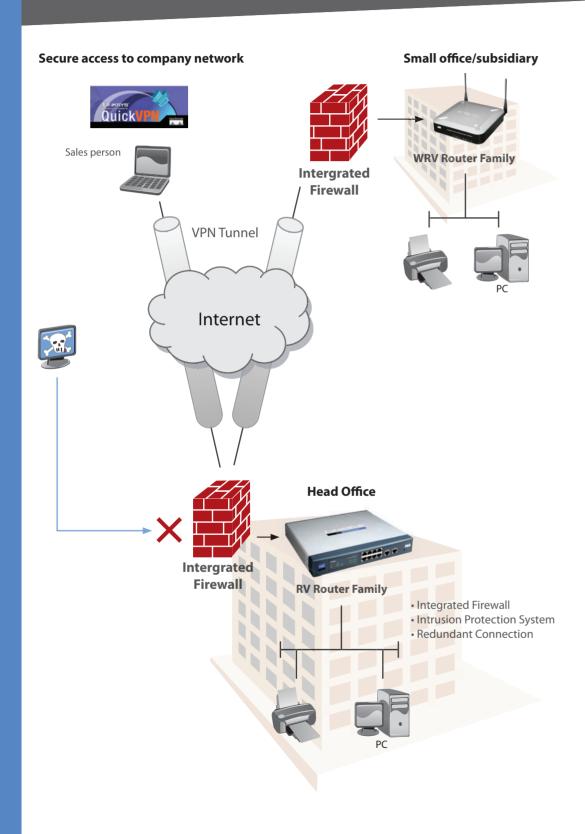
 $<sup>{}^*\</sup>text{The Linksys Wireless-N products are based on the 802.11n draft specification, which is a pre-standard definition of the standard definition of the s$ 

# **Security/VPN Solution Example**

#### **Key Features:**

- Protection against:
- Intruder Attempt
- DoS/DDoS
- Worm Attacks
- Web Attacks

- IP Fragmentation
- Trojan Horse/Back Door
- Port Scan
- Buffer Overflow
- Vulnerabilities Attacks



The safety of a business' data and office system has never been so important. Why trust important files to just anyone? Linksys Small Business routers offer Integrated SPI Firewall protection for defense against outside intrusions of all kinds. Linksys VPN technology ensures secure Site-to-Site connectivity over the Internet and supports up to 50 remote user sites. Network administrators can manage the network from the Web either in-house or remotely. Linksys products protect small business networks with sophisticated security measures against the latest system threats, yet won't compromise ease of use and networking performance.

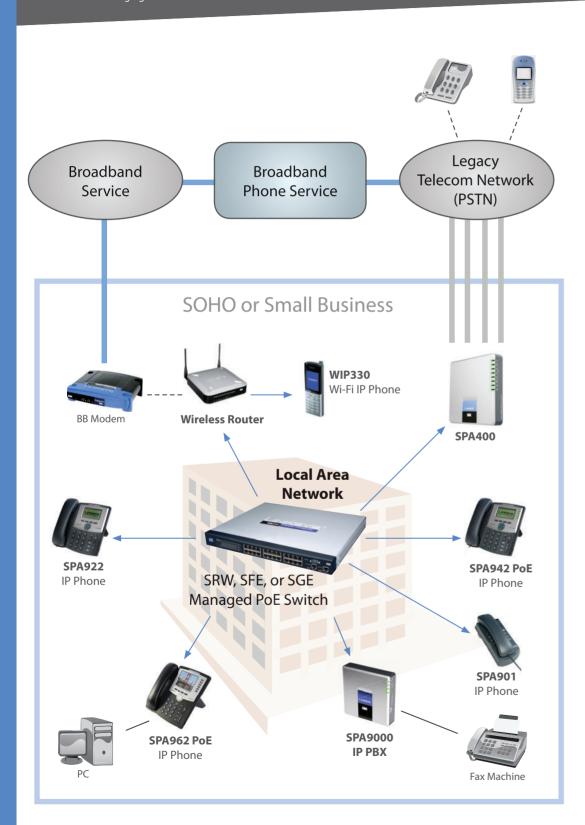
| Product   | Description                                 |        |       | Security F | eatures |                  |
|-----------|---|--------|-------|------------|---------|------------------|
|           |   | 802.1x | VLANs | IPSEC VPN  | SSL VPN | Radius / TACCAS+ |
| RV042     | 10/100 4-Port VPN Router                    |        |       | •          |         |                  |
| RV082     | 10/100 8-Port VPN Router                    |        |       | •          |         |                  |
| RVS4000   | 4-Port Gigabit Security Router with VPN     | •      | •     | •          |         | •                |
| RVL200    | 4-Port SSL/IPSec VPN Router                 |        | •     | •          | •       | •                |
| WRV200    | Wireless-G VPN Router with RangeBooster     |        | •     | •          |         |                  |
| WRVS4400N | Wireless-N Gigabit Security Router with VPN | •      | •     | •          |         | •                |

# **Voice Solution Example**

#### **Key Features:**

- Auto Configuration with SPA9000 IP PBX
- Multi-Line VoIP Phone System
- Call Transfer
- Call Parking
- Intercom and Paging

- Multi-Line Conferencing
- Hunting
- Shared Lines
- Call Forwarding



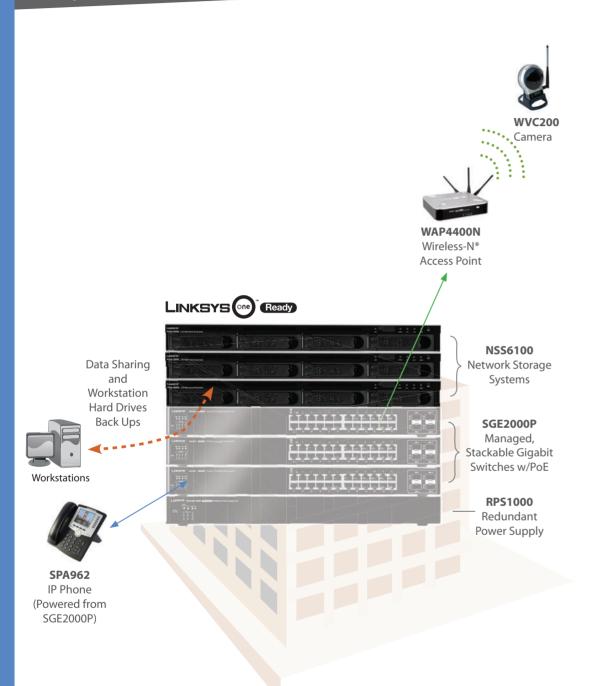
Small businesses that need the sophistication of a high-end office phone system, but want the convenience and lower cost of Voice over IP can choose the Linksys Voice System which gives them both. The LVS network has an IP PBX at its heart, voice gateways that lets small businesses leverage their existing PSTN (Public Switched Telephone Network) service, and a wide range of IP Phones priced for any budget. Run phones, fax, wireless products, and broadband service from one network — it's easy, and it saves businesses money every day.

| Product | Description   |           | Voice Over IP |                   |           |                             |                           |  |
|---------|---|-----------|---------------|-------------------|-----------|-----------------------------|---------------------------|--|
|         |   | L2/L3 QoS | PoE           | Port-based<br>QoS | Web Mngt. | Downloadable<br>.XML Config | Multi-Language<br>Support |  |
| SPA901  | 1-Line IP Telephone   |           |               |                   | •         | •                           | •                         |  |
| SPA921  | 1-Line IP Telephone with 1 Ethernet Port and<br>Hi-Res Display                          | •         | •             | •                 | •         | •                           | •                         |  |
| SPA922  | 1-Line IP Telephone with 2-Port Ethernet Switch,<br>PoE and Hi-Res Backlit Display      | •         |               |                   | •         | •                           | •                         |  |
| SPA941  | 2 or 4-Line IP Telephone with 1 Ethernet Port and<br>Hi-Res Display                     | •         | •             | •                 | •         | •                           | •                         |  |
| SPA942  | 2 or 4-Line IP Telephone with 2 Port Ethernet Switch,<br>PoE and Hi-Res Backlit Display | •         | •             | •                 | •         | •                           | •                         |  |
| SPA962  | 6-Line IP Telephone with 2-Port Ethernet Switch   | •         |               | •                 | •         | •                           | •                         |  |
| SPA9000 | IP Telephony System   |           |               |                   | •         | •                           | •                         |  |
| SPA400  | Internet Telephony Gateway with 4 FXO Ports   | •         |               |                   | •         | •                           | •                         |  |

## **Network Attached Storage Example**

#### **Key Features:**

- 1U 19" Rack-Mountable Intelligent Chassis
- 4 Hot-Swappable SATA Hard Drive Bays
- Support for PC/Mac (SMB/CIFS) and Linux/Unix (NFS) clients
- Support for RAID 0,1,5,10, and JBOD configurations
- Dual Gigabit Ethernet Interfaces
- Flash-based Storage for OS/applications (eliminates dependence on system drives)
- Network-based Storage Aggregation
- Volume Encryption



The intelligent chassis design of the Linksys Network Storage System (NSS) series of products gives IT managers, VARs and integrators the flexibility to configure or reconfigure a storage system for specific business requirements. A Linksys Business Series NSS product can be optimized for performance, capacity and/or reliability depending on the size and type of SATA (Serial ATA) drives selected or included. Supporting as many as 15 or 75 concurrent CIFS users, Linksys Business Series NSS products bring robust Network Attached Storage (NAS) within reach of today's budget-minded small businesses or workgroups in larger organizations.

Linksys Business Series NSS devices are ideal for storing, backing up, sharing and archiving critical company or customer information on an on-going basis. The feature set of the rack-mountable Linksys NSS series set it apart from entry-level, desktop NAS systems. At the same time, its competitive pricing gives small businesses the opportunity to realize substantial cost savings when compared with more expensive and inflexible server arrays.

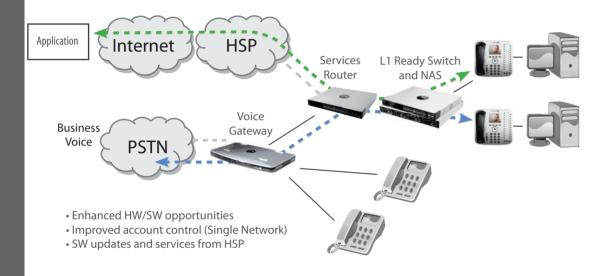
Unlike other NAS systems that need to contain operating system software on one or more hard drives, each Linksys NSS product features a unique and intelligent chassis that contains the Linux OS that controls the system. This gives the NSS system the flexibility to be configured without connected drives and reconfigured at any time, even hot swapping and resorting hard drives to different storage bays.

| Product | Description                                 | Network Storage Stystem Features |                                |                 |                                      |                         |                      |                              |
|---------|---|----------------------------------|--------------------------------|-----------------|--------------------------------------|-------------------------|----------------------|------------------------------|
|         |   |                                  | 75<br>Concurrent<br>CIFS Users | Chassis<br>Only | Includes (4)<br>250GB Hard<br>Drives | Preconfigured<br>RAID 5 | Linksys One<br>Ready | Max. Unformatted<br>Capacity |
| NSS4000 | 4-Bay Rack-mountable Network Storage System | •                                |                                | •               |                                      |                         | •                    | 3TB                          |
| NSS4100 | 4-Bay Rack-mountable Network Storage System | •                                |                                |                 | •                                    | •                       | •                    | 3ТВ                          |
| NSS6000 | 4-Bay Rack-mountable Network Storage System |                                  | •                              | •               |                                      |                         | •                    | 3TB                          |
| NSS6100 | 4-Bay Rack-mountable Network Storage System |                                  | •                              |                 | •                                    | •                       | •                    | 3TB                          |

 $<sup>{}^{*}\</sup>text{The Linksys Wireless-N products are based on the 802.11n draft specification, which is a pre-standard definition of the standard definition of the$ 

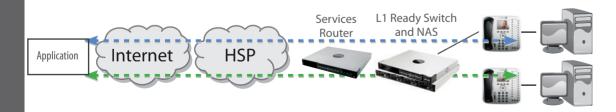


## **Network Consolidation**





## **Service Consolidation**



- Expanded service opportunities
- Config back up at HSP
- SW updates and services from HSP

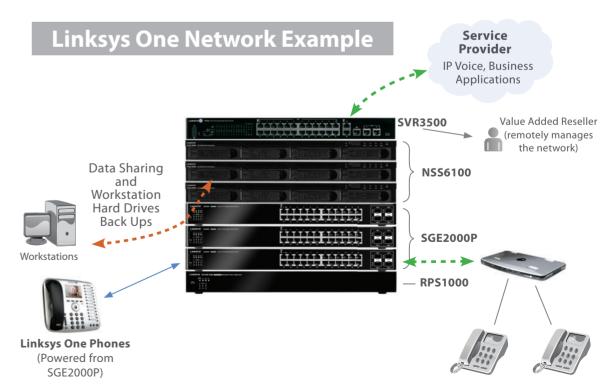
Linksys One is part of the Linksys portfolio of solutions for Small Business. It can be configured as a remotely managed data networking solution or as a complete converged, hosted data/voice solution. It can be customized to a small business' needs. It can grow as the business grows with additional Linksys One Ready network switches (SFE and SGE), Linksys One Ready Network Storage System (NSS) products, Linksys One IP phones, and other Linksys One devices that instantly connect to the system.

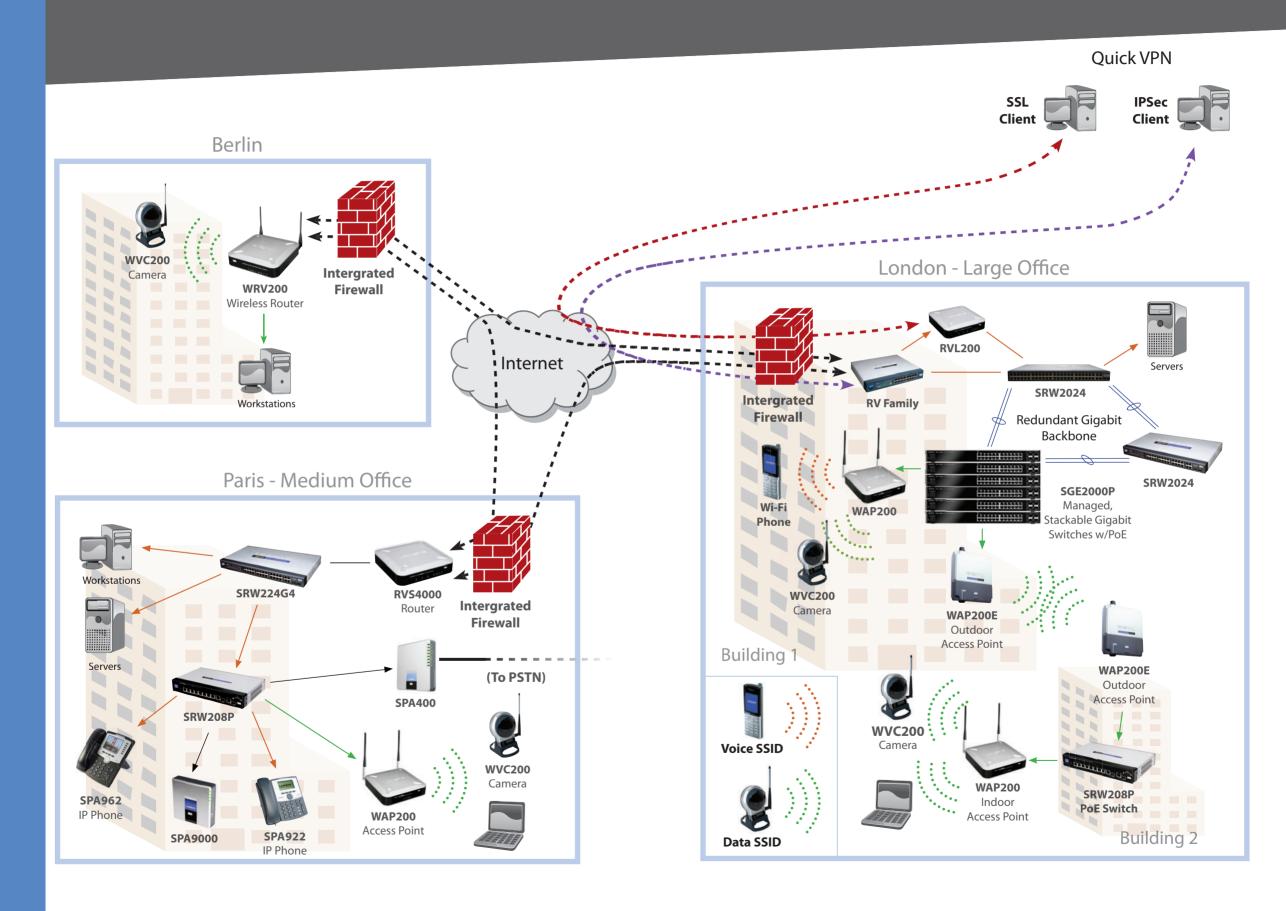
Now small businesses, instead of piecing together different and sometimes incompatible networking products, phones and other devices, can have an integrated solution that's designed to work together. With a Linksys One solution, small businesses also have a single trusted contact, a Linksys One VAR, who provides quick installation, training, and remote management, together with an authorized Service Provider that can deliver low cost, business applications and IP phone service.

Linksys One has powerful security, Quality of Service (QoS) and reliability built right into the solution, so a small business can focus on their business. This unique technology leverages years of Cisco and Linksys experience in building secure voice and data networks, and brings that expertise to the Linksys One solution.

As a small business grows, the Linksys One solution can grow with them. New employees can be connected to computers and phones in minutes. The Linksys One network updates itself and can automatically incorporate new Linksys One devices and applications to provide smarter ways for companies to transact business. This level of integration enables small businesses to scale their system cost effectively with simple moves, adds and changes.

Linksys Business Series SFE and SGE Stackable Switches and Network Storage Systems (NSS) are Linksys One Ready devices. That means they already include the necessary firmware to be integrated into a Linksys One network. All that a small business needs to do is to supplement their data network with a Linksys One Services Router (and Linksys One IP Phones if they want voice). The Linksys One Services Router will instantly discover the Linksys One Ready Switches and NSS devices and include them on the network.





Wireless Routers Access Points



#### WRVS4400N

Wireless-N\* Gigabit Security Router with VPN

- Wireless-N\* offers greater speed and coverage than Wireless-G, while at the same time being backwards compatible with 802.11b and -g devices
- SPI Firewall, and Intrusion Prevention secure the work from outside threats
- QuickVPN IPSec VPN tunnel support provides secure remote user connectivity
- Support for WMM provides improved QoS over wireless connections for better video and voice performance



#### **WRV200**

Wireless-G VPN Router with RangeBooster

- RangeBooster (MIMO) technology for dramatically increased range
- SPI Firewall, Encryption, and VPN support makes your network secure
- Multiple BSSIDs and VLANs provide separate secure networks
- Enhanced QoS for both Wireless and wired provide improved quality voice/video



#### WRT54G3G-EM

Wireless-G Router for 3G/UMTS Broadband

- All-in-one Internet-sharing Router, 4-port Switch, and Wireless-G (802.11g) Access Point
- Shares 3G/UMTS or GPRS Internet connection and other resources with Ethernet wired and Wireless-G clients
- Includes PC Card slot for 3G/UMTS data card (available separately)
- High security: Wi-Fi Protected Access™ (WPA/WPA2 Personal), wireless MAC address filtering, powerful SPI firewall



#### **WAP4400N**

Wireless-N\* Access Point with Power over Ethernet

- Complies with IEEE draft 802.11n standards while at the same time being backwards compatible with 802.11b and -g devices
- Standards-based PoE (IEEE 802.3af) or External DC power
- MIMO technology uses multiple radios to create a robust signal that travels farther and reduces dead spots
- Support for WMM provides improved QoS over wireless connections for better video and voice performance



#### **WAP200**

Wireless-G Access Point with Power over Ethernet and RangeBooster

- Standards-based POE (IEEE 802.3af) or External DC power
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Advanced wireless security using Wi-Fi Protected Access™ (WPA2) with up to 256-bit encryption, and new Security Monitoring Feature gives your business the visibility and protection it needs
- Support for WMM provides improved QoS over wireless connections for better video and voice performance.



## **Wireless Bridge**

#### **WET200**

Wireless-G Ethernet Bridge

- 5-port Wireless bridge provides seamless bridging for the Small Business
- Standards-based POE (IEEE 802.3af) or External DC power provides flexible installation
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Advanced wireless security using Wi-Fi Protected Access™
   (WPA2) with up to 256-bit encryption and support for WMM
   provides improved QoS over wireless connections for better
   video and voice performance.

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 $<sup>{}^{*}\</sup>text{The Linksys Wireless-N products are based on the 802.11n draft specification, which is a pre-standard definition of the standard definition of the$ 

Exterior Access Point Adapters



#### **WAP200E**

Wireless-G Exterior Access Point with Power over Ethernet

- Add high-speed Wireless-G MIMO access to the exterior areas of your small business network
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Weather-proof housing (NEMA IP53 compliant), internal highgain antennas, and Power-over-Ethernet enable safe, simple, exterior installations
- Advanced security with WPA encryption, logging, and MAC address filtering



#### **WUSB200**

Wireless-G Business USB Network Adapter with RangeBooster

- High-speed Wireless-G USB Adapter, with RangeBooster performance enhancement
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Advanced wireless security using Wi-Fi Protected Access™ (WPA2) with up to 256-bit encryption, and new Security Monitoring Feature gives your business the visibility and protection it needs
- Also interoperates with standard Wireless-G and Wireless-B



#### **WPC4400N**

Wireless-N\* Notebook Adapter



- High-speed Wireless-N\* Notebook Adapter for your business.
- MIMO technology uses multiple radios to create a robust signal that travels farther and reduces dead spots
- Significantly faster than Wireless-G, but can also connect to Wireless-G and –B networks
- Advanced wireless security using Wi-Fi Protected Access™ (WPA2) with up to 256-bit encryption, and New AP/Client detection gives your business the visibility and protection it needs



#### **WMP200**

Wireless-G Business PCI Adapter with RangeBooster

- High-speed Wireless-G for your desktop PC, with Range-Booster performance enhancement
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Advanced wireless security using Wi-Fi Protected Access<sup>™</sup> (WPA2) with up to 256-bit encryption, and New Security Monitoring Feature gives your business the visibility and protection it needs
- Also interoperates with standard Wireless-G and Wireless-B



#### **WPC200**

Wireless-G Business Notebook Adapter with RangeBooster

- High-speed Wireless-G Notebook Adapter, with Range-Booster performance enhancement
- RangeBooster technology for up to twice the range, reduced dead spots, and up to 35% more throughput than standard Wireless-G
- Advanced wireless security using Wi-Fi Protected Access™ (WPA2) with up to 256-bit encryption, and new Security Monitoring Feature gives your business the visibility and protection it needs
- Also interoperates with standard Wireless-G and Wireless-B



## **Wireless Camera**

#### **WVC200**

Wireless-G PTZ Internet Camera with Audio

- Sends high-quality live video to your network wirelessly. Pan/Tilt/Zoom gives flexible control remotely from a Web Browser
- $\bullet \ {\sf Capacity} \ {\sf to} \ {\sf view} \ {\sf images} \ {\sf even} \ {\sf in} \ {\sf low} \ {\sf light} \ {\sf environments}$
- Automatically sends email alerts with video clips upon motion detection
- Supports up to ten simultaneous remote users
- Monitor up to 16 cameras with included software

 $<sup>{}^{*}\</sup>text{The Linksys Wireless-N products are based on the 802.11n draft specification, which is a pre-standard definition of the standard definition of the$ 

Wired Routers Wired Routers



#### **RVS4000**

**Gigabit Security Router** 

- Gigabit networking to support high-bandwidth applications
- SPI Firewall, and Intrusion Prevention secure the work from outside threats
- QuickVPN IPSec VPN tunnel support provides secure remote user connectivity
- QoS provide improved quality voice/video quality



#### **RV042**

10/100 4-Port VPN Router

- A high-reliability Internet connection-sharing 4-port switch for small business
- Features dual Internet ports for load balancing and connection redundancy
- Securely connects up to 50 remote office or traveling users to your office network via VPN
- Advanced SPI firewall protects your PCs from most known Internet attacks



#### **RVL200**

4-Port SSL/IPSec VPN Router

- SSL VPN gives users flexible and secure access to your network from anywhere
- Integrated Stateful Packet Inspection (SPI) Firewall makes your network secure
- Web based interface gives simplified configuration while SNMP provide additional management
- · QoS provide improved quality voice/video quality



#### **RV082**

10/100 8-Port VPN Router

- A high-reliability Internet connection-sharing 8-port switch for small business
- Features dual Internet ports for load balancing and connection redundancy
- Securely connects up to 100 remote office or traveling users to your office network via VPN
- Advanced SPI firewall protects your PCs from most known Internet attacks



#### **QVPN50**

50 user VPN Tunnel License for WRV54G RV042, RV082, RV016

- Built-in QuickVPN feature enables 5 easy-to-set-up incoming VPN connections (client software enclosed)
- VPN "tunnels" create secure links between traveling or off-site users and your home or small office network



- Gigabit

#### **SD2005**

5-Port 10/100/1000 Gigabit Switch

- 5 Autosensing 10/100/1000, half/full duplex, switched ports
- Forwards and filters packets at non-blocking, fullwire speed
- All ports have auto speed negotiation and auto MDI/MDI-X crossover detection
- Linksys reliability and limited lifetime warranty



#### **SD205**

5-Port 10/100 Switch

- 5 Autosensing 10/100 switched ports with auto MDI/MDI-X crossover detection
- Up to 200Mbps full duplex bandwidth at each port
- Compact size fits into any environment -- includes wall-mount slots
- Address Learning and Aging, and Data Flow Control for enhanced transmission



#### **SD2008**

8-Port 10/100/1000 Gigabit Switch

- 8 Autosensing10/100/1000, half/full duplex, switched ports
- · Forwards and filters packets at non-blocking, full wire speed
- All ports have auto speed negotiation and auto MDI/MDI-X crossover detection
- Linksys reliability and limited lifetime warranty



#### **SD208**

8-Port 10/100 Switch

- 8 Autosensing 10/100 switched ports with auto MDI/MDI-X crossover detection
- Up to 200Mbps full duplex bandwidth at each port
- Compact size fits into any environment -- includes wall-mount slots
- Address Learning and Aging, and Data Flow Control for enhanced transmission reliability



**SD216** 

16-Port 10/100 Switch

- 16 Autosensing 10/100 switched ports with auto MDI/MDI-X crossover detection
- Up to 200Mbps full duplex bandwidth at each port
- Compact size fits into any environment -- includes wall-mount slots
- Address Learning and Aging, and Data Flow Control for enhanced transmission reliability



#### **SRW2008**

8-Port 10/100/1000 Gigabit Switch with WebView

- Supports 8 10/100/1000 ports with 2 shared mini-GBIC slots
- Included Access Control Lists (ACL) for granular security and QoS configuration
- Features a 16 Gbps, non-blocking switch core
- Fully manageable through the WebView web interface or console port



#### **SRW2008P**

8-Port 10/100/1000 Gigabit Switch with WebView and PoE

- Supports 8 10/100/1000 ports with 2 shared mini-GBIC slots
- Offers Standards-based IEEE 802.3af PoEsupporting 4 ports at 15.4W per port or 8 ports at 7.8W
- Features a 16 Gbps, non-blocking switch core
- Fully manageable through the WebView web interface or console port



#### SRW2008MP

8-Port 10/100/1000 Gigabit Switch with WebView and Maximum Power PoE

- Supports 8 10/100/1000 ports with 2 shared mini-GBIC slots
- Offers Standards-based IEEE 802.3af PoE supporting 8 ports at 15.4W per port
- Features a 16 Gbps, non-blocking switch core
- Fully manageable through the WebView web interface or console port



#### **SRW208**

8-Port 10/100 Fthernet Switch with WebView

Common Features

- Simplified, web based user management for more intelligent networking. Forwards and filters packets at non-blocking, full wire speed.
- 802.1x port authentication and MAC address filtering brings network security down to the switch port level
- Advance QoS enables the network to be optimized for your networked applications, including voice, video and data storage
- Rate limiting, policing, shaping, and multicast support provide advanced traffic management



#### SRW208L

8-Port 10/100 Ethernet Switch with WebView and 100 Base-L Uplink

• Feature set as SRW208 + Gigabit and 100Base-LX interfaces provide flexible uplink options



#### **SRW208G**

8-Port 10/100 Ethernet Switch with WebView and Expansion Slots

• Feature set as SRW208 + Gigabit Copper and mini-GBIC interfaces provide flexible uplink options



#### SRW208P / SRW208MP

8-Port 10/100 Ethernet Switch with WebView and PoE

- Feature set as SRW208 + Standards-based IEEE 802.af PoE SRW208P: Up to 4 ports at 15 4. W or up to 8 ports at 7.5 W. SRW208MP: Up to 8 ports at 15 4. W
- Dual gigabit uplinks provide increased bandwidth and and redundancy down to the switch port level

- 10/100



- Gigabit

#### **SR2016**

16-Port 10/100/1000 Switch

- 16 Autosensing 10/100/1000 half/full duplex, switched ports
- Forwards and filters packets at non-blocking, full wire speed
- All ports have auto speed negotiation and auto MDI/MDI-X crossover detection
- Linksys reliability and limited lifetime warranty



#### **SR216**

16-Port 10/100 Switch

• 16 Autosensing 10/100 full duplex, auto MDI/MDI-X ports

**Unmanaged Rackmount Switches** 

- Runs at non-blocking, full wire speeds up to 200Mbps
- · Address Learning and Data Flow Control for transmission reliability
- Suitable for both desktop or rackmount installations



#### SR2024

24-Port 10/100/1000 Gigabit Switch

- 24 Autosensing 10/100/1000, half/full duplex, switched ports, and two mini-GBIC xpansion ports
- Forwards and filters packets at non-blocking, full wire speed
- All ports have auto speed negotiation and auto MDI/MDI-X crossover detection
- · Linksys reliability and limited lifetime warranty



#### **SR224**

24-Port 10/100 Switch

- 24 Autosensing 10/100 full duplex, auto MDI/MDI-X ports
- Runs at non-blocking, full wire speeds up to 200Mbps
- Address Learning and Data Flow Control for transmission reliability
- Suitable for both desktop or rackmount installations



#### SR2024C

24-Port 10/100/1000 Gigabit Switch

- 24-port Gigabit switch with 2 Mini-GBIC expansion ports in a compact form factor
- · Forwards and filters packets at non-blocking, full wire speed
- All ports have auto speed negotiation and auto MDI/MDI-X crossover detection
- · Linksys reliability and limited lifetime warranty



#### **SR224G**

24-Port 10/100 + 2-Port Gigabit Switch

- + 2 MiniGBIC
- 24 autosensing 10/100 full duplex, auto MDI/MDI-X ports
- Two Gigabit (10/100/1000BaseTX) MDI/MDI-X port, and two mini GBIC expansion port
- · Address Learning and Data Flow Control for transmission reliability
- · Linksys reliability and limited lifetime warranty

#### SRW2016

16-Port 10/100/1000 Gigabit Switch with WebView / SNMP



- 16 Autosensing 10/100/1000 full duplex, auto MDI/MDI-X ports
- Two mini-GBIC expansion ports for fiber expansion
- WebView remote monitoring and configuration via web browser
- 64 VLANs, 8-port trunking groups, console port, 802.1p CoS support



24-Port 10/100/1000 Gigabit Switch with WebView / SNMP



- 24 Autosensing 10/100/1000 full duplex, auto MDI/MDI-X ports
- Two mini-GBIC expansion ports for fiber expansion
- WebView remote monitoring and configuration via web browser
- 64 VLANs, 8-port trunking groups, console port, 802.1p CoS support



24-port 10/100/1000 + 2 Shared Mini Gigabit Switch with WebView / SNMP with PoE



- 24 Gigabit Ethernet + 2 shared Gigabit Ethernet
   (2 combo SFP) PoE supports 12 or 24-ports
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering
- IGMP snooping, L2/L3 COS, queuing & scheduling makes solution ideal for Voice/Video
- Intelligent traffic management with Rate Limiting, Policing, Shaping, and Storm control

#### **SRW2048**

48-port 10/100/1000 + 4 shared mini-Gigabit Switch with WebView / SNMP



- Optimized to be your network core with very high performance and density
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering
- IGMP snooping, L2/L3 COS, queuing & schedulingmakes solution ideal for Voice/Video
- Intelligent traffic management with Rate Limiting, Policing, Shaping, and Storm control



#### SRW224P

24-port 10/100 + 2-Port Gigabit Switch with Power over Ethernet (PoE) and WebView / SNMP

- Delivers reliable power over 10/100 Ethernet ports using IEEE 802.3af standard
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering
- IGMP snooping, L2/L3 COS, queuing & scheduling makes solution ideal for Voice/Video
- Intelligent traffic management with Rate Limiting, Policing ACLs, and Storm control



#### SRW224G4

24-port 10/100 + 4-Port Gigabit Switch with WebView / SNMP

- Optimized for growing businesses with 4 expandable Gigabit ports
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering
- IGMP snooping, L2/L3 COS, queuing & scheduling makes solution ideal for Voice/Video
- Intelligent traffic management with Rate Limiting, Policing, Shaping, and Storm control



#### SRW224G4P

24-port 10/100 + 4-port Gigabit Switch with WebView and Power over Ethernet

- Optimized to be your network core with 24 10/100 Ethernet, 2 shared Gigabit combo and 2 giga ports
- Standards-based IEEE 802.3af PoE Up To 12 Ports @ 15.4W. Total PoE power is 180 W.
- Solution ideal for Voice/Video with IGMP snooping, L2/L3 policy filters
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filterin

# Managed Rackmount Switches (WebView and SNMP) 10/100



#### **SRW248G4**

48-port 10/100 + 4-Port Gigabit Switch with WebView / SNMP

- Optimized for growing businesses with 4 expandable Gigabit ports
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering
- IGMP snooping, L2/L3 COS, queuing & scheduling makes solution ideal for Voice/Video
- Intelligent traffic management with Rate Limiting, Policing, Shaping, and Storm control



#### SRW248G4P

48-port 10/100 + 4-port Gigabit Switch with WebView/SNMP and Power over Ethernet

- Optimized to be your network core with 48 10/100 Ethernet, 2 shared Gigabit combo and 2 giga ports
- Standards-based IEEE 802.3af PoE Up To 24 Ports @ 15.4W. Total PoE power is 375 W.
- Solution ideal for Voice/Video with IGMP snooping, L2/L3 policy filters
- Secure management via SSH/SSL and secure user control via 802.1x & MAC filtering



MGBLH1

Gigabit Ethernet LH Mini-GBIC SFP Transceiver

- Easy-to-install Mini-GBIC (or SFP) module
- Can achieve distances up to 500 meters or 40 kilometers



#### MGBSX1

Gigabit Ethernet LH Mini-GBIC SFP Transceiver

- Easy-to-install
- Can achieve distances up to 220 or 550 meters



#### MGBT1

Gigabit Ethernet 1000 Base-T Mini-GBIC SFP Transceiver

- Easy-to-Install
- Maximum distance is 100 meters (328 feet)





#### RPS1000

380W Redundant Power Supply Unit

- Increases system availability of converged voice, video and data networks.
- Delivers power supply redundancy to select Business Series Linksys One Ready products.
- Six Redundant Power Supply ports provides power one port at a time
- Provides backup power to Linksys One Ready Stackable Switches and Network Storage System devices

- 10/100

- Gigabit



#### **SGE2000**

24-port 10/100/1000 Gigabit Switch

- Fully resilient stacking provides optimized growth with simplified management
- Granular QoS options makes solution ideal for improved application experience
- Maximum security and control of traffic with policing, shaping, ACLs, and QoS
- Linksys One Ready simple, automated installation with Linksys One Services Routers present.



#### SGE2000P

24-port 10/100/1000 Gigabit Ethernet Switch with PoE

- Fully resilient stacking provides optimized growth with simplified management
- Provides IEEE 802.3af PoE power to IP phones, surveillance cameras, or APs
- Maximum security and control of traffic with policing, shaping, ACLs, and QoS
- Linksys One Ready simple, automated installation with Linksys One Services Routers present.



#### SFE2000

24-port 10/100 Ethernet Switch

- Fully resilient stacking provides optimized growth with simplified management
- Granular QoS options makes solution ideal for improved application experience
- Maximum security and control of traffic with policing, shaping, ACLs, and QoS
- Linksys One Ready simple, automated installation with Linksys One Services Routers present.



#### SFE2000P

24-port 10/100 Ethernet Switch with PoE

- Fully resilient stacking provides optimized growth with simplified management
- Provides IEEE 802.3af PoE power to IP phones, cameras, or APs
- Maximum security and control of traffic with policing, shaping, ACLs, and QoS
- Linksys One Ready simple, automated installation with Linksys One Services Routers present.

## **Network Attached Storage**



#### NSS4000

4 Drive Bay Gigabit Network RAID Storage System Chassis

- Driveless 4 Drive Bay Chassis Design Allows For Flexible Hard Drive Configurations Options
- 4 Drive Bay Network Storage System Chassis Supporting RAID 0/1/1+Spare/5/5+Spare/10 and File Encryption Support
- Microsoft Distributed File System Support & Network Virtualization of RAID Sets Across Linksys Network Attached Storage Systems\*\* (requires at least 1 NSS6000/6100)
- Advanced Data Protection & Security Features: On Disk File Encryption (AES), VLANs, SMART Drive Support, File Journaling, Global Spares, & Snapshot)
- Dual Gigabit LAN Interfaces Supporting: VLANs, QoS
- Supports up to 15 concurrent, connected CIFS (Windows, Macintosh, Linux) users.



#### **NSS4100**

4 Bay Gigabit Network Storage System Chassis With 1.0TB RAID

- 4 Drive Bay Chassis Design Allows For Flexible Hard Drive Configurations - Includes (4) 250GB High Duty Cycle SATA HDs
- 4 Drive Bay Network Storage System Chassis Supporting RAID 0/1/1+Spare/5/5+Spare/10 and File Encryption Support (Preconfigured RAID 5)
- Microsoft Distributed File System Support & Network Virtualization of RAID Sets Across Linksys Network Attached Storage Systems\*\* (requires at least 1 NSS6000/6100)
- Advanced Data Protection & Security Features:
   On Disk File Encryption (AES), VLANs, SMART
   Drive Support, File Journaling, Global Spares,
   & Snapshot)
- Dual Gigabit LAN Interfaces Supporting: VLANs, QoS
- Supports up to 15 concurrent, connected CIFS (Windows, Macintosh, Linux) users.



#### **NSS6000**

4 Drive Bay Advanced Gigabit Network RAID Storage System Chassis

- Driveless 4 Drive Bay Chassis Design Allows For Flexible Hard Drive Configurations Options
- 4 Drive Bay Network Storage System Chassis Supporting RAID 0/1/1+Spare/5/5+Spare/10 and File Encryption Support
- Microsoft Distributed File System Support & Network Virtualization of RAID Sets Across Linksys Network Attached Storage Systems\*\* (requires at least 1 NSS6000/6100)
- Advanced Data Protection & Security Features: On Disk File Encryption (AES), VLANs, SMART Drive Support, File Journaling, Global Spares, & Snapshot)
- Dual Gigabit LAN Interfaces Supporting: VLANs, QoS
- Supports up to 75 concurrent, connected CIFS (Windows, Macintosh, Linux) users.



#### NSS6100

4 Bay Advanced Gigabit Network Storage System Chassis With 1.0 TB RAID

- 4 Drive Bay Chassis Design Allows For Flexible Hard Drive Configurations - Includes (4) 250GB High Duty Cycle SATA HDs
- 4 Drive Bay Network Storage System Chassis Supporting RAID 0/1/1+Spare/5/5+Spare/10 and File Encryption Support (Preconfigured RAID 5)
- Microsoft Distributed File System Support & Network Virtualization of RAID Sets Across Linksys Network Attached Storage Systems\*\* (requires at least 1 NSS6000/6100)
- Advanced Data Protection & Security Features: On Disk File Encryption (AES), VLANs, SMART Drive Support, File Journaling, Global Spares, & Snapshot)
- Dual Gigabit LAN Interfaces Supporting: VLANs, QoS
- Supports up to 75 concurrent, connected CIFS (Windows, Macintosh, Linux) users.

## **Linksys One Routers and Gateways**





#### PHM1200

Linksys One Manager Phone

- Simple, automated installation with Linksys One Services Routers
- High-resolution, color, backlit display, full-duplex speakerphone
- 2-port 10/100 switch with ability to accept IEEE802.3af PoE
- Integrated call processing features with security, management, QoS



#### PHB1100

Wired IP Phone Business Set

- Simple, automated installation with Linksys One Services Routers
- Monochrome, graphical blue backlit display,
   24 feature buttons, full-duplex speakerphone
- 2-port 10/100 switch with ability to accept IEEE802.3af PoE powered by upstream switch (SVR3000)
- Integrated call processing features with voice mail, automated attendant, and phone applications



#### SVR200

Linksys One Wireless Services Router

- SoHO/Micro Branch Office
- (1) 10/100 WAN Port & (1) ADSL2+ (Annex A)
- (4) 10/100 LAN Ports
- Hardware Security Co-Processor
- Power Budget For Up To (3) Fully Powered LAN Supporting 802.3af PoE
- (1) FXS Port & (1) FXO Port
- Integrated Wireless AP, 802.11g



#### SVR3500

Linksys One Services Router with 24-Port 10/100 LAN

- Medium/Large "All-in-One" Branch Office Services Router
- (1) T1/E1 WAN Ports & (1) 10/100 Ethernet WAN
- (24) 10/100 Fully Powered PoE Ports
- Dual 10/100/1000 Uplinks
- SPI Firewall With NAT and ALG
- DNS & DHCP Services
- VPN With HW Accelerated 3DES/AES Encryption



#### **VGA2000**

Linksys One Analog Voice Gateway, 1FXS, 1FXO

- Simple, automated installation with Linksys One Services Routers
- One analog phone or FAX connection, one analog connection to the public telephone network
- Accepts IEEE802.3af PoE from connected Linksys One switch port
- Integrated call processing features with security, management, QoS



#### **VGA2100**

Analog Voice Gateway, 3 FXO

- Simple, automated installation with Linksys One Services Routers
- Provides three simultaneous analog connections to the public telephone network
- Accepts IEEE 802.3af PoE from connected Linksys One switch port
- Integrated call processing features with security, management, QoS



Analog Voice Gateway, 2 FXS



- Simple, automated installation with Linksys One Services Routers
- Provides two simultaneous analog connections to FAX machines or analog phone stations
- Accepts IEEE 802.3af PoE from connected Linksys One switch port
- Integrated call processing features with security, management, QoS

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## **Linksys Voice System - LVS**

## IP Phones with Power over Ethernet



#### **SPA962**

6-Line IP Phone with Color Display and PoE

- Full featured six line business class IP Phone supporting Power over Ethernet 802.3af
- Connect directly to an Internet Telephone Service Provider or connect to an IP PBX
- Dual switched Ethernet ports, Speakerphone, Caller ID, Call Hold, Conferencing, and more
- Appealing Four Inch, True Color Liquid Crystal Display (LCD)



#### **SPA932**

32 Button Attendant Console for the SPA962 IP Phone

- Easy to install and designed exclusively for the SPA962 IP Phone
- 32 programmable buttons simplify dialing and call transfers
- Multi-colored LEDs monitor the status of each configured voice line via busy lamp field (BLF)
- Linking two Attendant Consoles supported for a total of 64 buttons



#### **SPA942**

2 or 4-Line IP Telephone with 2 Port Ethernet Switch, PoE and Hi-Res Backlit Display

- Full featured one-line business IP Phone supporting Power over Ethernet 802.3af
- Connect directly to an Internet Telephone Service Provider or connect to an IP PBX
- Dual switched Ethernet ports, Speakerphone, Caller ID, Call Hold, Conferencing, and more
- Easy installation and secure remote provisioning.
   Menu based and web based configuration



SPA942UPG Four (4) Line License Upgrade

• Enables SPA942 upgrade from 2 to 4 lines



# Linksys Voice System - LVS IP Phones

#### **SPA941**

2 or 4-Line IP Telephone with 1 Ethernet Port and Hi-Res Display

- Affordable and full featured two or four line business IP Phone
- Connect directly to an Internet Telephone Service Provider or connect to an IP PBX
- Up to four lines. Speakerphone, Caller ID, Call Hold, Transfer, Conferencing, and more
- Easy installation and secure remote provisioning. Menu based and web based configuration

#### SPA941UPG

SPA941 Four (4) Line License Upgrade

• Enables SPA941 upgrade from 2 to 4 lines



#### **SPA922**

1-Line IP Telephone with 2-Port Ethernet Switch, PoE and Hi-Res Backlit Display

- Full featured one-line business IP Phone supporting Power over Ethernet 802.3af
- Connect directly to an Internet Telephone Service Provider or connect to an IP PBX
- Dual switched Ethernet ports, Speakerphone, Caller ID, Call Hold, Conferencing, and more
- Easy installation and secure remote provisioning.
   Menu based and web based configuration.



#### **SPA921**

1-Line IP Telephone with 1 Ethernet Port and Hi-Res Display

- Full featured one-line business IP Phone
- Connect directly to an Internet Telephone Service Provider or connect to an IP PBX
- Speakerphone, Caller ID, Call Hold, Transfer, Conferencing, and more
- Easy installation with secure remote provisioning. Menu based and web based configuration



SPA901

1-Line IP Telephone

- Small, affordable, single line business class IP Phone
- Connect directly to an Internet telephone service provider or connect to an IP PBX
- Wall mount or table top phone
- Easy installation with secure remote provisioning.
- Menu based and web based configuration



**WIP330** 

Wireless-G IP Phone with Browser

- Make low-cost high quality VoIP calls from wireless hotspots
- Easy set-up on wireless network
- Superior range and performance with 802.11q
- Integrated Web browser



WBP54G

Wireless-G Bridge for Phone Adapters

- Put your IP Phone wherever you want, with no cabling hassle
- Connects your IP Phone to your Wireless-G network
- Shares power with the IP Phone only one AC adapter necessary
- Wireless connection protected by WEP, WPA or WPA2 encryption



**MB100** 

Wall Mount Bracket for Linksys 900 Series Phones

- Mounting Bracket for Linksys IP Phones
- Enables a phone to be mounted on a wall
- Convenient tray to hold optional Wi-Fi bridge or PoE dongle
- Universal design fits all Linksys 900 Series IP Phones



PoES5

5 Volt Power over Ethernet Split

- Simplifies your Linksys IP Phone installation by combining power and VoIP onto one cable
- $\bullet \ {\sf Can\ also\ be\ use\ with\ many\ Linksys\ VoIP\ Products}$
- Works with a standard category 5 Ethernet cable
- Easy to install, no tools, no software



**SPA2102** 

Single Port Router with 2 Phone Ports

- Ready voice adapter solution for VoIP
- Supports international standards for voice and data networking
- Reliable voice and fax operation
- Large scale deployment and management



#### PAP2T

Internet Phone Adapter with 2 Ports for Voice-over-IP

- Enables feature-rich telephone service over your broadband Internet connection
- Two standard telephone ports for analog phones or use one of the ports for a fax machine, each with an independent phone number
- High quality, clear sounding voice service simultaneous with Internet use
- Compatible with all common telephone features: Caller ID, Call Waiting, Voicemail, etc.



SPA3102

Voice Gateway with Router

- Intelligent call routing gateway solution for VoIP
- Route PSTN calls to a VoIP service provider
- Independent configurable dial plans
- Large-Scale deployment and management



#### **SPA8000**

8-Port Telephony Gateway

- Toll Quality Voice and Carrier-Grade Feature Support
- Large-Scale Deployment and Management
- Ironclad Security



#### **SPA400**

Internet Telephony Gateway with 4 FXO Ports

- Functions as an analog line gateway for a Linksys Voice System VoIP Network
- Integrated voicemail application server with up to 32 voicemail accounts
- Perfectly suited to connect up to 4 analog lines
- Enables Linksys Voice System users to leave and playback voicemail messages



#### **SPA9000**

**IP Telephony System** 

- IP PBX system with high-end features comparable to traditional large business voice services
- Initial support of 4 SIP compatible IP Phones per SPA9000 is upgradeable to 16 with an easy to install license key
- Powerful self-configuration capabilities enabled with Linksys IP Phones
- Works with most Internet Telephone Service Providers

#### SPA9000UPG

SPA9000 License Upgrade to Sixteen (16) IP Phones

• Enables SPA9000 to upgrade from 4 to 16 IP Phones supported

|                     |  | Rackmount Managed Switches |             |             |                |              |         |             |             |  |
|---------------------|--|----------------------------|-------------|-------------|----------------|--------------|---------|-------------|-------------|--|
|                     |  |                            | Gigabit     | nc.         | -CATHOUTE IVIA | nagea switch | 10/100  |             |             |  |
|                     |  | SRW2016                    | SRW2024     | SRW2048     | SRW224G4       | SRW224G4P    | 5RW224P | SRW248G4    | SRW248G4P   |  |
|                     | 10/100/1000  | 16                         | 24          | 48          | 4              | 3111224041   | 2       | 4           | 3111240041  |  |
|                     | 10/100   | 10                         | 27          | 40          | 24             | 24           | 24      | 48          | 48          |  |
| Ports               | Mini GB Expansion Slot                                   | 2                          | 2           | 4           | 2              | 2            | •       | 40          | 2           |  |
|                     | Combo SFP  | 2                          | 2           | 4           | 2              | 2            | 2       |             | 2           |  |
|                     | PoE  |                            |             |             |                | •            | •       |             | •           |  |
| D. F.               | Ports @ 7.5 Watt   |                            |             |             |                |              |         |             |             |  |
| PoE                 |  |                            |             |             |                | 24           | 24      |             | 48          |  |
|                     | Ports @ 15,4 Watt  |                            |             |             |                | 12           | 12      |             | 24          |  |
| Spanning Tree       | Spanning Tree  |                            |             | •           | •              | •            | •       | •           | •           |  |
| Protocols           | Rapid Spanning Tree                                      |                            |             | •           | •              | •            | •       | •           | •           |  |
|                     | Multiple Spanning Tree                                   |                            |             | •           | •              | •            |         | •           | •           |  |
| Link Aggrega-       | Link Aggregation   | + (8)                      | + (8)       | + (8)       | + (8)          | + (8)        | + (8)   |             | + (8)       |  |
| tion                | Port Trunking Groups                                     | 8                          | 8           | 8           | 8              | 8            | 4       | 8           | 8           |  |
|                     | LACP   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | CoS 802.1p   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | COS 802.1q   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | VLAN   | + (256 gr.)                | + (256 gr.) | + (256 gr.) | + (256 gr.)    | + (256 gr.)  | + (128) | + (256 gr.) | + (256 gr.) |  |
|                     | GVRP   |                            |             | •           | •              | •            |         | •           | •           |  |
|                     | IGMP Snooping  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
| Quality of          | Strict Priority  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
| Service,<br>VLAN    | Weighted Round Robin                                     | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Rate Limiting  |                            |             | •           | •              | •            | •       | •           | •           |  |
|                     | Multicast/Broadcast/<br>Unknown Unicast Storm<br>control | +/+/-                      | -/+/-       | +/+/-       | +/+/+          | +/+/+        | +/+/-   | +/+/-       | +/+/+       |  |
|                     | DiffServ   |                            |             |             |                | •            | •       |             |             |  |
|                     | Number of Priority Queues                                | 4                          | 4           | 4           | 4              | 4            | 4       | 4           | 4           |  |
|                     | Radius Support   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
| Authentication      | 802.1 x  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | TACACS+  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Unmanaged  |                            |             |             |                |              |         |             |             |  |
|                     | Managed  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Web View   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | SSH/SSL  |                            |             |             |                | •            | -/+     |             | •           |  |
|                     | Telnet   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
| Management          | SNMP   |                            | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Port Mirroring   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Cable Analysis   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | RMON   | •                          | •           |             | •              | •            | •       | •           | •           |  |
|                     | SNTP   | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | MAC Addresses  | 8k                         | 8k          | 8k          | 4k             | 8k           | 8k      | 4k          | 8k          |  |
| MAC Addresses       | Packet Memory  |                            |             |             |                |              |         |             |             |  |
| and Frame size      | -  | 2MB                        | 2MB         | 6MB         | 6MB            | 3Mb          | 4MB     | 6MB         | 6Mb         |  |
|                     | Jumbo Frames   | + (10k)                    | + (10k)     | + (10k)     |                | + (10k)      | + (9k)  |             | + (10k)     |  |
|                     | 19" Rack Mountable                                       | •                          | •           | •           | •              | •            | •       | •           | •           |  |
| Mounting<br>Option, | Internal Power Supply                                    | •                          | •           | •           | •              |              | •       | •           |             |  |
| Power Supply        | External Power Supply                                    |                            |             |             |                | •            |         |             | •           |  |
| and Fan             | Fan  | •                          | •           | •           | •              | •            | •       | •           | •           |  |
|                     | Fanless  |                            |             |             |                |              |         |             |             |  |

| Desktop Managed Switches |              |              |              |              |              |              |              |  |  |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|--|
|                          | Gigabit      |              |              |              | 10/100       |              |              |  |  |
| SRW2008                  | SRW2008P     | SRW2008MP    | SRW208       | SRW208P      | SRW208MP     | SRW208G      | SRW208L      |  |  |
| 8                        | 8            | 8            |              | 2            | 2            | 2            | 1            |  |  |
|                          |              |              | 8            | 8            | 8            | 8            | 8            |  |  |
|                          |              |              |              |              |              |              |              |  |  |
| 2                        | 2            | 2            |              | 2            | 2            | 1            |              |  |  |
|                          | •            | •            |              | •            | •            |              |              |  |  |
|                          | 8            | 8            |              | 8            | 8            |              |              |  |  |
|                          | 4            | 8            |              | 4            | 8            |              |              |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| + (4)                    | + (4)        | + (4)        | + (4)        | + (4)        | + (4)        | + (4)        | + (4)        |  |  |
| 4                        | 4            | 4            | 4            | 4            | 4            | 4            | 4            |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| + (4096 IDs)             | + (4096 IDs) | + (4096 IDs) | + (4096 IDs) | + (4096 IDs) | + (4096 IDs) | + (4096 IDs) | + (4096 IDs) |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| •                        | •            |              | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
|                          | -            |              |              |              |              |              |              |  |  |
| +/+/+                    | +/+/+        | +/+/+        | +/+/+        | +/+/+        | +/+/+        | +/+/+        | +/+/+        |  |  |
|                          |              |              |              |              |              |              |              |  |  |
| 4                        | 4            | 4            | 4            | 4            | 4            | 4            | 4            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        |              |              |              |              | •            |              |              |  |  |
|                          | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        |              |              |              |              |              |              |              |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| +/+                      | +/+          | +/+          | +/+          | +/+          | +/+          | +/+          | +/+          |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| •                        | •            | •            | •            | •            | •            | •            | •            |  |  |
| 8k                       | 8k           | 8k           | 8k           | 8k           | 8k           | 8k           | 8k           |  |  |
| 2MB                      | 2MB          | 2MB          | 2MB          | 2MB          | 2MB          | 2MB          | 2MB          |  |  |
|                          |              |              |              |              |              |              |              |  |  |
|                          |              |              |              |              |              |              |              |  |  |
|                          |              |              |              |              |              |              |              |  |  |
| •                        | •            |              | •            | •            | •            |              | •            |  |  |
|                          |              |              |              |              |              |              |              |  |  |
| •                        | •            |              | •            | •            | •            |              | •            |  |  |

| _                    |  | Layer 2-    | - Stackable Swi | tches - Rackm | ountable   |
|----------------------|--|-------------|-----------------|---------------|------------|
| NKSYS (Ready)        |  | Gio         | jabit           | 10/           | 100        |
|                      |  | SGE2000     | SGE2000P        | SFE2000       | SFE2000    |
|                      | 10/100/1000  | 24          | 24              | 4             | 4          |
|                      |  |             |                 | 24            | 24         |
| DiffServ             |  |             |                 | 2             | 2          |
|                      |  | 4           | 4               |               |            |
|                      |  | · ·         | •               |               | •          |
| PoF                  |  |             | 24              |               | 24         |
|                      |  |             | 12              |               | 12         |
|                      |  | •           | •               | •             | •          |
|                      | <u> </u>   | •           | •               | •             | •          |
| Protocols            |  | •           | •               | •             | •          |
|                      |  |             |                 |               |            |
| 11.1 4               |  | + (8)       | + (8)           | + (8)         | + (8)      |
| Link Aggregation     |  | 8           | 8               | 8             | 8          |
|                      |  | -           |                 |               | •          |
|                      |  | •           | •               | •             | •          |
|                      |  | •           | •               | •             | •          |
|                      |  | + (256 gr.) | + (256 gr.)     | + (256 gr.)   | + (256 g   |
|                      | GVRP   | •           | •               | •             | •          |
|                      | IGMP Snooping                                      | •           | •               | •             | •          |
|                      | Strict Priority                                    | •           | •               | •             | •          |
| VLAN                 | Weighted Round Robin                               | •           | •               | •             | •          |
|                      | Rate Limiting                                      | •           | •               | •             | •          |
|                      | Multicast/Broadcast/ Unknown Unicast Storm control | +/+/+       | +/+/+           | +/+/+         | +/+/+      |
|                      | DiffServ   | •           | •               | •             | •          |
|                      | Number of Priority Queues                          | 4           | 4               | 4             | 4          |
|                      | Static Layer 3 Routing                             | + (128)     | + (128)         | + (128)       | + (128)    |
|                      | Radius Support                                     | •           | •               | •             | •          |
| Authentication       | 802.1 x  | •           | •               | •             | •          |
|                      | TACACS+  | •           | •               | •             | •          |
|                      | Unmanaged  |             |                 |               |            |
|                      | Managed  | •           | •               | •             | •          |
|                      | Web View   | •           | •               | •             | •          |
|                      | SSH/SSL  | +/+         | +/+             | +/+           | +/+        |
|                      | Telnet   | •           | •               | •             | •          |
|                      | SNMP   | •           | •               | •             | •          |
|                      | Port Mirroring                                     | •           | •               | •             | •          |
| Management           |  | •           | •               | •             | •          |
|                      |  | •           | •               | •             | •          |
|                      |  | •           | •               | •             | •          |
|                      |  | •           | •               | •             | •          |
|                      | <u> </u>   | •           | •               | •             | •          |
|                      |  | •           | •               | •             | •          |
|                      |  | + (max 8)   | + (max 8)       | + (max 8)     | + (max     |
|                      | MAC Addresses                                      | + (IIIax 6) | + (IIIdx 8)     | + (IIIax 6)   | + (IIIax i |
| MAC Addresses        |  | 6 Mb        | 6 Mb            | 5 Mb          | 5 Mb       |
| and Frame size       | Packet Memory                                      |             |                 |               |            |
|                      | Jumbo Frames                                       | + (Mini JF) | + (Mini JF)     | + (Mini JF)   | + (Mini .  |
|                      | 19" Rack Mountable                                 |             |                 |               |            |
| Mounting Option,     | Internal Power Supply                              | •           | •               | •             | •          |
| Power Supply and Fan | External Power Supply                              |             |                 |               |            |
|                      | Fan  | •           | •               | •             | •          |

|   |                        |        | Rackmount Unmanaged Switches |         |       |        |        |  |
|---|------------------------|--------|------------------------------|---------|-------|--------|--------|--|
|   |                        |        | Gigabit 10/10                |         |       | 10/100 | )      |  |
|   |                        | SR2016 | SR2024                       | SR2024C | SR216 | SR224  | SR224G |  |
|   | 10/100/1000            | 16     | 24                           | 24      |       |        | 1      |  |
| Ports                                       | 10/100                 |        |                              |         | 16    | 24     | 24     |  |
|   | Mini GB Expansion Slot |        | 2                            | 2       |       |        | 2      |  |
|   | MAC Addresses          | 8k     | 32k                          | 32k     | 4k    | 4k     | 4k     |  |
| MAC Addresses<br>and Frame size             | Packet Memory          | 1MB    | 1MB                          | 1MB     | 256KB | 1.5MB  | 256KB  |  |
|   | Jumbo Frames           |        | + (9k)                       | + (9k)  |       |        |        |  |
|   | 19" Rack Mountable     |        | •                            | •       | •     | •      | •      |  |
| Mounting Option,<br>Power<br>Supply and Fan | Internal Power Supply  |        | •                            | •       | •     | •      | •      |  |
|   | External Power Supply  | •      |                              |         |       |        |        |  |
|   | Fanless                | •      | •                            | •       | •     | •      | •      |  |

|   |                        |        | Desktop Unmanaged Switches |       |        |       |  |  |
|---|------------------------|--------|----------------------------|-------|--------|-------|--|--|
|   |                        | Gig    | abit                       |       | 10/100 |       |  |  |
|   |                        | SD2005 | SD2008                     | SD205 | SR208  | SD216 |  |  |
|   | 10/100/1000            | 5      | 8                          |       |        |       |  |  |
| Ports                                       | 10/100                 |        |                            | 5     | 8      | 16    |  |  |
|   | Mini GB Expansion Slot |        |                            |       |        |       |  |  |
|   | MAC Addresses          | 8k     | 8k                         | 1k    | 1k     | 4k    |  |  |
| MAC Addresses<br>and Frame size             | Packet Memory          | 128KB  | 128KB                      | 128KB | 128KB  | 256KB |  |  |
|   | Jumbo Frames           |        |                            |       |        |       |  |  |
|   | 19" Rack Mountable     |        |                            |       |        |       |  |  |
| Mounting Option,<br>Power<br>Supply and Fan | Internal Power Supply  |        |                            |       |        |       |  |  |
|   | External Power Supply  | •      | •                          | •     | •      | •     |  |  |
|   | Fanless                | •      | •                          | •     | •      | •     |  |  |

#### SR2024

Unmanaged 24-port Rackmount Gigabit Switch



#### SD2005

Unmanaged Desktop Gigabit Switch



|                                 |   |          |                  | Rackmount I   | OoE Switchos   |                  |             |
|---------------------------------|---|----------|------------------|---------------|----------------|------------------|-------------|
|                                 |   |          | a la : 4         | MacKIIIOUIILI |                | /100             |             |
|                                 |   | SRW2024P | abit<br>SGE2000P | SFE2000P      | 10/<br>SRW224P | 100<br>SRW224G4P | SRW248G4P   |
|                                 | 10/100/1000   |          |                  |               |                | SKW224G4P        | 5KW248G4P   |
|                                 | 10/100/1000   | 24       | 24               | 4             | 2              | 24               | 40          |
| Ports                           | 10/100  |          |                  | 24            | 24             | 24               | 48          |
|                                 | Mini GB Expansion Slot                                | 2        |                  | 2             |                | 2                | 2           |
|                                 | Combo SFP   |          | 4                |               | 2              | 2                | 2           |
| D. F.                           | PoE   | •        | •                | •             | •              | •                | •           |
| PoE                             | Ports @ 7.5 Watt                                      | 24       | 24               | 24            | 24             | 24               | 48          |
|                                 | Ports @ 15,4 Watt                                     | 12       | 12               | 12            | 12             | 12               | 24          |
| Spanning Tree                   | Spanning Tree   | •        | •                | •             | •              | •                | •           |
| Protocols                       | Rapid Spanning Tree                                   | •        | •                | •             | •              | •                | •           |
|                                 | Multiple Spanning Tree                                |          | •                | •             |                | •                | •           |
|                                 | Link Aggregation                                      | 8        | + (8)            | + (8)         | + (8)          | + (8)            | + (8)       |
| Link Aggregation                | Port Trunking Groups                                  | 8        | 8                | 8             | 4              | 8                | 8           |
|                                 | LACP  | •        | •                | •             | •              | •                | •           |
|                                 | CoS 802.1p  | •        | •                | •             | •              | •                | •           |
|                                 | COS 802.1q  | •        | •                | •             | •              | •                | •           |
|                                 | VLAN  | + (256)  | + (256 gr.)      | + (256 gr.)   | + (128)        | + (256 gr.)      | + (256 gr.) |
|                                 | GVRP  | •        | •                | •             |                | •                | •           |
|                                 | IGMP Snooping   | •        | •                | •             | •              | •                | •           |
| Quality of Service,             | Strict Priority                                       | •        | •                | •             | •              | •                | •           |
| VLAN                            | Weighted Round Robin                                  | •        | •                | •             | •              | •                | •           |
|                                 | Rate Limiting   | •        | •                | •             | •              | •                | •           |
|                                 | Multicast/Broadcast/ Unknown Unicast<br>Storm control | +/+/+    | +/+/+            | +/+/+         | +/+/-          | +/+/+            | +/+/+       |
|                                 | DiffServ  | •        | •                | •             | •              | •                |             |
|                                 | Number of Priority Queues                             | 4        | 4                | 4             | 4              | 4                | 4           |
|                                 | Static Layer 3 Routing                                |          | + (128)          | + (128)       |                |                  |             |
|                                 | Radius Support  | •        | •                | •             | •              | •                | •           |
| Authentication                  | 802.1 x   | •        | •                | •             | •              | •                | •           |
|                                 | TACACS+   | •        | •                | •             | •              | •                | •           |
|                                 | Unmanaged   |          |                  |               |                |                  |             |
|                                 | Managed   | •        | •                | •             | •              | •                | •           |
|                                 | Web View  | •        | •                | •             | •              | •                | •           |
|                                 | SSH/SSL   | +/+      | +/+              | +/+           | -/+            | •                | •           |
|                                 | Telnet  | •        | •                | •             |                | •                | •           |
|                                 | SNMP  | •        | •                | •             | •              | •                | •           |
|                                 | Port Mirroring  | •        | •                | •             | •              | •                | •           |
| Management                      | Cable Analysis  | •        | •                | •             | •              | •                | •           |
|                                 | RMON  | •        | •                | •             | •              | •                | •           |
|                                 | SNTP  | •        | •                | •             | •              | •                | •           |
|                                 | Linksys One Ready                                     |          | •                | •             |                |                  |             |
|                                 | RPS1000 support                                       |          | •                | •             |                |                  |             |
|                                 | Dual Image  |          | •                | •             |                |                  |             |
|                                 | Stackable   |          | + (max 8)        | + (max 8)     |                |                  |             |
|                                 | MAC Addresses   | 8k       | 8k               | 8k            | 8k             | 8k               | 8k          |
| MAC Addresses<br>and Frame size | Packet Memory   | 6MB      | 6 Mb             | 5 Mb          | 4MB            | 3Mb              | 6Mb         |
| and Frame Size                  | Jumbo Frames  | + (10k)  | + (Mini JF)      | + (Mini JF)   | (9k)           | + (10k)          | + (10k)     |
|                                 | 19" Rack Mountable                                    | •        | •                | •             | •              | •                | •           |
|                                 | Internal Power Supply                                 | •        | •                | •             | •              |                  |             |
| Mounting Option,                | External Power Supply                                 |          |                  |               |                | •                | •           |
| Power Supply and Fan            | Fan   | •        | •                | •             | •              | •                | •           |
|                                 | Fanless   |          |                  |               |                |                  |             |

|           | gabit       |           | /100      |
|-----------|-------------|-----------|-----------|
| SRW2008P  | SRW2008MP   | SRW208P   | SRW208MI  |
| 8         | 8           | 2         | 2         |
|           |             | 8         | 8         |
|           |             |           |           |
| 2         | 2           | 2         | 2         |
| •         | •           | •         | •         |
| 8         | 8           | 8         | 8         |
| 4         | 8           | 4         | 8         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| + (4)     | + (4)       | + (4)     | + (4)     |
| 4         | 4           | 4         | 4         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| (4096IDs) | + (4096IDs) | (4096IDs) | (4096IDs) |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| +/+/+     | +/+/+       | +/+/+     | +/+/+     |
|           |             |           |           |
| 4         | 4           | 4         | 4         |
|           |             |           |           |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
|           | _           |           |           |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| +/+       | +/+         | +/+       | +/+       |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
| •         | •           | •         | •         |
|           |             |           |           |
|           |             |           |           |
|           |             |           |           |
|           |             |           |           |
| 8k        | 8k          | 8k        | 8k        |
| 2MB       | 2MB         | 2MB       | 2MB       |
| 25        | 2.110       | 2.110     | ZIVID     |
|           |             |           |           |
|           |             |           |           |
| •         | •           | •         | •         |
|           |             |           |           |
|           |             |           |           |

#### **SGE2000P**

L2+ Stackable 24-port 10/ 100/ 1000 Gigabit Ethernet Switch with Power over Ethernet



#### SRW248G4P

48-port 10/100 + 4-port Gigabit Switch with WebView/SNMP and Power over Ethernet



#### SRW224G4P

24-port 10/100 + 4-port Gigabit Switch with WebView and Power over Ethernet



#### SRW2008MP

Maximum Power over Ethernet 8-port Desktop Switch



| Feature   | Meaning   | What is it good for?  |
|---|---|---|
| 10/100/1000                                       | Connection Speed in Megabits per second                         | Specifies the max. speed per port at the switch, 100 Mbit is "Fast Ethernet", 1000 Mbit is Gigabit Ethernet   |
| 10/100  | Connection Speed in Megabits per second                         | Specifies the max. speed per port at the switch, 100 Mbit is "Fast Ethernet"  |
| Mini GB Expansion Slot                            | Mini-GBIC (SFP) Module Expansion Slot                           | An expansion slot that can be populated with a Gigabit module, usually used to connect to the network backbone over Fiber   |
| SFP Combo port                                    | A dual media gigabit Ethernet port                              | Provides both a Mini-GBIC expansion slot and a standard 10/100/1000 port, although only one of the interfaces can be active.  |
| PoE   | Power over Ethernet   | To provide power to devices which are connected to the wired network, e.g. IP Phones, usually used to eliminate the power supply  |
| Ports @ 15.4 Watt                                 | Maximum number of ports that can be supplied a minimum of 15.4W | Some devices only need half of the maximum power, some switches offer 7.5 Watt at all ports and 15.4 Watt at half of the ports  |
| Ports @ 7.5 Watt                                  | Maximum number of ports that can be supplied a minimum of 7.5W  | For devices that are using the max. power of 15.4 Watt  |
| Spanning Tree                                     |   | Spanning Tree is used in switched networks to prevent loops, and has been standardized by IEEE 802.1D.  |
| Rapid Spanning Tree                               |   | Rapid Spanning Tree is an evolution of the Spanning Tree Protocol, and was introduced in IEEE 802.1w, and provides for faster spanning tree convergence after a topology change.  |
| Multiple Spanning Tree                            |   | Per-VLAN Multiple Spanning Tree Protocol configures a separate Spanning Tree for each VLAN and blocks the links that are redundant within each Spanning Tree.   |
| Link Aggregation                                  |   | Multiple Links are treated as a single connection. This allows to connect backbones or servers at higher data rates using multiple connections which are aggregated and handled as if they were just one connection.  |
| Port Trunking Groups                              |   | Number of trunking groups that can be used for aggregation.   |
| LACP  | Link Aggregation Control Protocol                               | Network protocol according to 802.3ad for dynamic bonding of physical network connections.  |
| CoS 802.1p  | Class of Service, no bandwidth allocation, Layer 2.             | Class of Service (CoS) is a way of managing traffic in a network by grouping similar types of traffic (for example, e-mail, streaming video, voice, large document file transfer) together and treating each type as a class with its own level of service priority. Unlike Quality of Service (QoS) traffic management, Class of Service technologies do not guarantee a level of service in terms of bandwidth and delivery time; they offer a "best-effort." |
| CoS 802.1q  | Class of Service, Virtual LAN's, Layer 3                        | See description for CoS 802.1p.   |
| VLAN (802.1Q)                                     | Virtual Local Area Netwrok                                      | For example, you can put departments into a VLAN, so bookkeeping has its own Virtual LAN  |
| GVRP  | Generic Vlan Registration Protocol                              | Protocol for dynamic propagation VLAN information among networking devices.   |
| IGMP Snooping                                     | Internet Group Management Protocol                              | IGMP Snooping limits bandwidth-intensive video traffic to only the requestors without flooding to all users.  |
| Strict Priority                                   |   | A port configured to strict priority always gets priority over other ports.   |
| Weighted Round Robin                              |   | Is a best-effort connection scheduling discipline   |
| Rate Limiting                                     |   | Enables the Administrator to limit the bandwidth on specific ports  |
| Multicast/Broadcast/Unknown Unicast Storm Control |   | Controls and prevent the negative effects of broadcast, multicast and unknown unicast storms - these storms can reduce the availabilty and performance of the network.  |
| DiffServ  |   | Traffic is prioritized based on the layer 3 priority. Typically, end-station applications set the priority of the packets sent into the network.  |
| Number of Priority Queues                         |   | An abstract data type that supports priority within the networks.   |
| Static Layer 3 Routing                            |   | The switch supports static layer 3 routing, this feature is very useful because now the routing decision can be made at the switch level  |
| Radius Support                                    | Remote Authentication Dial-In User Service                      | Used in bigger installation to have one Authentification tool for all users, there is normally one Radius Sever in the company, there is also a RADIUS protocol which provides security and authentification.   |
| 802.1 X   |   | Authenification standard for IEEE802 networks   |
| TACACS+   | Terminal Access Controller Access Control System                | TACACS+ allows a separate access server (the TACACS+ server) to provide the services of authentication, authorization, and accounting independently. Each service can be tied into its own database or can use the other services available on that server or on the network.   |
| Unmanaged   |   | The switch does not provide any management functions  |
| Managed   |   | The device provides management interfaces in order to setup and maintain the device, VLAN's, QoS and other features are setup here.   |
| Web View  |   | Management of the device using a standard web browser (e.g. IE or Firefox)  |
| SSH/SSL   | Secure Shell / Secure Socket Layer                              | Secure way of managing the switch when connecting over Telnet or the Web GUI  |
| Telnet  |   | Used used for administration purposes. A text-based interface (Menu-based access) for diagnostic and basic configuration purposes.  |
| SNMP  | Simple Network Management Protocol                              | The protocol is used by network management systems for monitoring network-attached devices for conditions that warrant administrative attention.  |
| Port Mirroring                                    |   | All the traffic of specific port is mirrored to another port, this is useful for maintenance and trouble shooting.  |
| Cable Analysis                                    |   | Advanced feature to detect cabling errors.  |
| RMON  | Remote Monitoring   | To get statistical data from network devices and also usable for network management.  |
| SNTP  | Simple Network Time Protocol                                    | Updates time of switches from a central time server.  |
| Linksys One Ready                                 |   | The switch is Linksys One Ready. It can be deployed in a stand alone fashion. As soon as the switch is connected to a Linksys One Installation, it will automatically become part of this Linksys One installation, incl. auto upgrades, auto provisioning and auto QoS settings  |
| RPS1000 support                                   | Redundant Power Supply  | This product is supported by the RPS 1000 product. The RPS1000 provides redundant power supply for up to 6 devices  |
| Dual Image  |   | The Switch can have 2 images at the same point in time. This provides the ability to upgrade the FW without taking the switch out of service  |
| Stackable   |   | Switches can be stacked into one logical unit. Up to 8 switches can be stacked (ring or chain). This provides the user with the option to manage 1 logical switch instead of 8 individual ones.   |
| MAC Addresses                                     | Media Access Control Addresses                                  | The uniques address associated with each networks device. MAC addresses are usually permanantly "burned" into the hardware.   |
| Packet Memory                                     |   | Memory to buffer packets  |
| Jumbo Frames                                      |   | Bigger than usual frames, provides better utilization of the network due to reduced transmission overhead, often used for Server to Server communications.  |
| 19" Rack Mountable                                |   | The device can be directly mounted in a standard 19" rack.  |
| Internal Power Supply                             |   | No external power supply needed, the device is directly connected with 110 or 230 Volts, usually used for 19" rack mountable devices.   |
| External Power Supply                             |   | External power supply, usually used for desktop class products  |
| Fan   |   | Used to cool the inside of the device   |
| Fanless   |   | No fan is needed in the device, which can reduce the noise emitted by the device  |
|   |   |   |

|                   |                                   | Wired Routers |       |         |        |
|-------------------|-----------------------------------|---------------|-------|---------|--------|
| Product           |                                   | RV042         | RV082 | RVS4000 | RVL200 |
|                   | 10/100                            | 2             | 2     |         | 1      |
|                   | 10/100/1000                       |               |       | 1       |        |
| WAN Ports/DMZ     | Load Balancing                    | •             | •     |         |        |
|                   | DMZ                               | + (1)         | + (1) | •       | •      |
|                   | 10/100                            | 4             | 8     |         | 4      |
| LAN Ports         | 10/100/1000                       |               |       | 4       |        |
|                   | UPnP                              | •             | •     | •       | •      |
|                   | Wireless AP                       |               |       |         |        |
|                   | 802.11b & g                       |               |       |         |        |
| Wireless          | 802.11n                           |               |       |         |        |
|                   | RangeBooster                      |               |       |         |        |
|                   | IP Filtering                      | •             | •     | •       |        |
|                   | Port Filtering                    | •             |       | •       | •      |
|                   | DHCP Server/Client                | •             | •     | •       | •      |
|                   | PPPoE                             | •             | •     | •       | •      |
|                   | PPtP                              |               |       | •       | •      |
|                   | NAT                               | •             | •     | •       | •      |
|                   | PAT                               | •             | •     | •       | •      |
| Routing & Network | DNS Relay                         | •             | •     | •       | •      |
|                   | Dyn DNS                           | •             | •     | •       | •      |
|                   | ARP                               | •             | •     | •       | •      |
|                   | ICMP                              | •             | •     | •       | •      |
|                   | TCP IP                            | •             | •     | •       | •      |
|                   | IPX                               | •             | •     |         |        |
|                   | RIP v1/RIP v2                     | +/+           | +/+   | +/+     | +/+    |
|                   | SPI Firewall                      | •             | •     | •       |        |
|                   | IP Sec DES/3DES                   | +/+           | +/+   | +/+     | +/+    |
|                   | MD5 / SHA Authenification support | •             | •     | •       | •      |
|                   | IPSec VPN Connections             | 30            | 50    | 5       | 1      |
| Security & VPN    | SSL VPN Connections               |               |       |         | 5      |
|                   | VPN Pass Through                  | •             | •     | •       | •      |
|                   | DOS Prevention                    | •             | •     | •       | •      |
|                   | Quick VPN Client Support          | •             | •     | •       |        |
|                   | External Power Supply             | •             |       | •       | •      |
| Power Supply      | Internal Power Supply             |               | •     |         |        |
|                   | Web                               | •             | •     | •       | •      |
|                   | Telnet                            | •             | •     | •       | •      |
|                   | SNMP                              | •             | •     | •       | •      |
| Administration    | Setup Wizards                     | •             | •     |         | •      |
|                   | Network Monitoring                | •             |       | •       | •      |
|                   | Email Alert                       | •             | •     | •       | •      |

| Wireless | Routers   |
|----------|-----------|
| WRV200   | WRVS4400N |
| 1        |           |
|          | 1         |
|          |           |
| •        | •         |
| 4        |           |
|          | 4         |
| •        | •         |
| •        | •         |
| •        | •         |
|          | •         |
| •        |           |
| •        | •         |
| •        |           |
| •        | •         |
| •        | •         |
| •        | •         |
| •        | •         |
| •        | •         |
| •        |           |
| •        | •         |
| •        | •         |
| •        | •         |
|          |           |
| +/+      | +/+       |
| •        | •         |
| +/+      | +/-       |
| •        | •         |
| 10       | 5         |
|          |           |
| •        | •         |
| •        | •         |
| •        | •         |
| •        | •         |
|          |           |
| •        | •         |
| •        | •         |
| •        | •         |
| •        |           |
|          | •         |
| •        | •         |

RVS4000 Gigabit Security Router



RVL200 4-Port SSL/IPSec VPN Router



WRVS4400N
Wireless-N\* Gigabit Security Router with VPN



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 $<sup>{\</sup>rm *The\,Linksys\,Wireless\text{-}N\,products\,are\,based\,on\,the\,802.11n\,draft\,specification,\,which\,is\,a\,pre\text{-}standard\,definition.}$ 

| Feature                          | Meaning   | What is it good for   |
|----------------------------------|---|---|
| WAN Port / DMZ                   |   |   |
| 10/100                           | Speed in Mbit / second                              | Fast Ethernet Speed, speed on the "public" Interface  |
| 10/100/1000                      | Speed in Mbit / second                              | Gigabit Ethernet Speed, speed on the "public" Interface   |
| Load Balancing                   |   | Device can use more than one broadband connection. This can either be used for backup purposes or to bundle (combine) more than one Internet connection   |
| DMZ                              | De-Militarized Zone                                 | A special zone which is in between the WAN and the LAN, used for example to set up a server that can be reached also from the Internet  |
| LAN Ports                        |   |   |
| UPnP                             | Universal Plug and Play                             | Standard that enables the automatic detection of UPnP devices within a network  |
| VLAN Support (802.1q) port based | Virtual Local Area Network                          | Virtual LAN's, e.g. one VLAN for Finance, one for sales, one for marketing  |
| Wireless                         |   |   |
| Wireless AP                      | AP = Access Point                                   |   |
| 802.11b & g                      |   | Supported standard according to 802.11, b is up to 11 Mbps, g is up to 54 Mbps  |
| RangeBooster                     |   | Technology that provides more Range for the Wireless network  |
| WDS                              | Wireless Distribution System                        | Technology to connect multiple Access Points using the Wireless interface (so no need to install LAN cables between the access points (remark: Cisco has a Wireless Domain Service, this is not the same as a WDS)  |
| Routing & Network                |   |   |
| IP filtering                     | Internet protocol                                   | Standard protocol that is used for the Internet as well as for LAN's  |
| Port Filtering                   |   | Enables the user to filter specific ports   |
| DHCP Server / Client             | Dynamic Host Configuration protocol                 | Provides network settings to clients, e.g. IP address, net mask, DNS Server, - Server means that the device can work as a DHCP server and provide these information to clients, Client means that the device can be configured to receive its address from another DHCP server within the network |
| 'PPPoE                           | Point to Point protocol over Ethernet               | Protocol that is used for example for xDSL, used on the WAN side of the router  |
| РРТР                             | Point to Point Tunneling protocol                   | Another protocol that is used for xDSL on the WAN side  |
| NAT                              | Network Address Translation                         | Used to eliminate the need for public IP address for all devices inside a LAN. The network address of the requesting device is "translated" to the IP address of the router, means that only the router with its public interface is used to the WAN  |
| SIP ALG                          | Session Initiate protocol Application Layer Gateway | ALG's are working as intermediary SIP Proxies and are used to ensure a trouble free SIP signaling and data streams - an ALG can be used to open Firewall ports and mark RTP data and DiffServ Bits  |
| NAT Traversal                    | Network Address Translation                         | NAT implementation to solve the problem of communications between hosts which are in private networks, for example needed for peer to peer application  |
| PAT                              | Port Address Translation                            | Port numbers are translated to another port, usually used for outgoing traffic, the router will "re-translate" the received data to the original port number  |
| DNS Relay                        | Domain Name System                                  | Any device within the public Internet has an IP address. The translation of www.linksys.com to the IP address 66.161.11.20 is done by a DNS Server. A relay means, that the local router acts as a DNS server for the internal devices and forward the requests to a public DNS server            |
| Dyn DNS                          | Dynamic Domain Name System                          | With most ISP's, the IP address changes. Dyn DNS is a service which allows the user to run a server using a Dyn DNS service. The router for example will sent its public IP address to the Dyn DNS service which enables the router to be reached under a chosen name                             |
| ARP                              | Address Resolution Protocol                         | A protocol that is used to relate IP address to Hardware (MAC) addresses  |
| ICMP                             | Internet Control Message Protocol                   | Protocol that is used to exchange of error messages and information messages  |
| TCP IP                           | Transmission Control Protocol Internet Protocol     | TCP is a layer 4 protocol that creates a virtual channel between two endpoint within a network, IP is the first layer which is independent from the transport medium  |
| IPX                              | Internetwork Packet eXchange                        | Proprietary protocol, used for Novell networks, can be compared with IP / UDP   |
| RIP v1 / RIP v2                  | Routing Information Protocol                        | A routing protocol based on the distance vector algorithm, helps routers to dynamically adopt to network changes and to calculate how far another network is away   |
| VLAN Routing                     | Virtual Local Area Network                          | Provides routing functionality between VLAN's   |
| Number of queues at layer 2      |   | Layer 2 is the data link layer, number of queues indicates the max. performance   |
| Application Base QoS             | Quality of Service                                  | Quality of Service can be set per application   |
| IGMP Proxy                       | Internet Group Management Protocol                  | IGMP is used for group communications, e.g. To distribute data from one IP address to multiple IP addresses plus the possibility to create dynamic groups   |

| Feature                            | Meaning   | What is it good for  |
|------------------------------------|---|--|
| Security & VPN                     |   |  |
| SPI Firewall                       | Stateful Packet Inspection  | Firewall which, additionally to the static information in the packet header, also takes to context of the packets into account   |
| IPSec DES / 3DES / AES             | Internet Protocol Security / Date Encryption Standard / 3 Data Encryption Standard / Advanced Encryption Standard | Encryption Algorithm, DES was the first one, developed by IBM, 3DES and AES are more advanced standards  |
| MD5 / SHA Authentification support | Message Digist algorithm 5 / Secure Hash Algorithm  | Algorithm to create check sums in order to verify the integrity of data  |
| VPN connections - IPSEC / GW to GW | Virtual Private Network - Internet Protocol Security / Gateway to Gateway   | Used for example for remote secure access into the corporate network, GW to GW means that the VPN connection exists between two GW's   |
| VPN connections - SSL              | Virtual Private Network - Secure Socket Layer   | A VPN connection based on Secure Socket Layer, SSL is for example what you web browser uses when you access your bank account (IE: the little yellow lock is closed at the lower right corner) |
| VPN Groups                         | Virtual Private Network   | Number of VPN groups   |
| VPN Pass-Through                   | Virtual Private Network   | Pass-Through means that the router is not the end-point and that the VPN is terminated at another point in the network   |
| VPN Endpoint                       | Virtual Private Network   | The router is the end point of the VPN connection  |
| IDS (Intruder Det.)                | Intrusion Detection System  | Used to determine is the networked is attacked   |
| DOS Prevention                     | Denial Of Service   | Prevents a DOS attack, usually a DOS attack is done by sending enormous amount of requests to a server   |
| Quick VPN Support                  | Quick Virtual Private Network   | Linksys Software that allows the user to easy setup and use VPN connections  |
| 802.1x Authentication              |   | Authentication within a network based on 802.1x, for example a RADIUS server can be used to authenticate devices within the network  |
| MAC-based ACL                      | Media Access Controller Access Control List   | Access control based on the MAC address of the device, e.g. computer or server   |
| IP-based ACL                       | Internet Protocol Access Control List   | Access control based on IP data  |
| Content/URL filtering              | Uniform Resource Locator  | Filter that can be set to filter (enable / disable access) to content and / or URL's   |
| IPS                                | Intrusion Prevention System   | An IPS makes access control decisions based on the content   |
| Power Supply                       |   |  |
| PoE support                        | Power over Ethernet   | The device support PoE, means you can connect the device to a PoE switch like the SRW224P and you don't need an external power supply  |
| Administration                     |   |  |
| Web                                |   | A standard web browser like IE can be used to access and configure the router  |
| Telnet                             |   | A command line like access to the device   |
| SNMP v1, v2c                       | Simple Network Management Protocol  | A protocol that allows the remote management of network devices which support SNMP   |
| Setup Wizards                      |   | Wizards will guide the user through the setup process, can also be used to apply changes to the router configuration   |
| Network Monitoring                 |   | Monitors Network activity and traffic  |
| Email Alert                        |   | Sent an email if a pre-defined event happens   |
| Syslog                             |   | De facto standard to log messages and events within an IP network  |

|                                 |   |           | AT        | A´s         |           |
|---------------------------------|---|-----------|-----------|-------------|-----------|
|                                 |   | PAP2T     | SPA1001   | SPA2102     | SPA3102   |
|                                 | G.711 (A-law and u-law)   | •         | •         | •           | •         |
|                                 | G.726 (16/24/32/40 kbps)  | •         | •         | •           | •         |
|                                 | G.729 A   | •         | •         | •           | •         |
| Voice Codecs                    | G.723.1 (6.3 kbps, 5.3 kbps)  | •         | •         | •           | •         |
|                                 | Echo cancelation (G.165/G.168)  | •         | •         | •           | •         |
|                                 | Voice Activity Detection (VAD) with Silence suppression                 | •         | •         | •           | •         |
|                                 | Fax Tone Detection Pass-Through   | •         | •         | •           | •         |
| Fax & DTMF                      | Real Time FAX T.38*   |           |           | •           | •         |
|                                 | Fax Pass-Though - Using G.711   | •         | •         | •           | •         |
|                                 | VoIP to PSTN Service Call Origination and Termination                   |           |           |             | •         |
|                                 | PSTN to VoIP Service Call Origination and Termination                   |           |           |             | •         |
|                                 | Forward Calls to VoIP service - Selective, Authenticated, All           |           |           |             | •         |
|                                 | Forward Calls to PSTN service - Selective, Authenticated, All           |           |           |             | •         |
|                                 | PSTN Line Sharing with Multiple Extensions                              |           |           |             | •         |
|                                 | Advanced Inbound and Outbound Call Routing                              |           |           |             | •         |
| Gateway                         | Sequential Dialing Support  |           |           |             | •         |
|                                 | VoIP to PSTN Gateway Enable/Disable                                     |           |           |             | •         |
|                                 | VoIP Caller Auth Method (None, PIN, HTTP Digest)                        |           |           |             | •         |
|                                 | VoIP PIN Max Retry Setting  |           |           |             | •         |
|                                 | PSTN to VoIP Gateway Enable/Disable                                     |           |           |             | •         |
|                                 | VoIP Caller Auth Method (None, PIN, HTTP Digest)                        |           |           |             | •         |
| Voicemail                       | Support for Network-based voicemail                                     | •         | •         | •           | •         |
|                                 | Password Protected System Reset to Factory Default                      | •         | •         | •           | •         |
|                                 | Password Protected Admin and User Access Authority                      | •         | •         | •           | •         |
|                                 | SIP over TLS  |           |           | •           | •         |
| Cammita                         | sRTP (Pre-standard version)   | •         | •         | •           | •         |
| Security                        | HTTPS provisioning with Factory Installed Client Certificate            | •         | •         | •           | •         |
|                                 | HTTP Digest - Encrypted Authentication via MD5 (RFC 1321)               | •         | •         | •           | •         |
|                                 | Up to 256-bit AES Encryption  | •         | •         | •           | •         |
|                                 | Web Browser Administration & Configuration via<br>Integrated Web Server | •         | •         | •           | •         |
|                                 | Telephone Key Pad Configuration with Interactive Voice Prompts          | •         | •         | •           | •         |
|                                 | Automated Provisioning & Upgrade via HTTPS, HTTP, TFTP                  | •         | •         | •           | •         |
| Provisioning,                   | DHCP option 66 for TFTP provisioning server                             | •         | •         | •           | •         |
| Administration &<br>Maintenance | Asynchronous Notification of Upgrade Availability via SIP NOTIFY        | •         | •         | •           | •         |
|                                 | Non-intrusive, In-Service Upgrades                                      | •         | •         | •           | •         |
|                                 | Report Generation & Event Logging                                       | •         | •         | •           | •         |
|                                 | Stats in BYE Message  | •         | •         | •           | •         |
|                                 | Syslog & Debug Server Records - Per Line Configurable                   | •         | •         | •           | •         |
|                                 | RJ-11 voice ports   | 2         | 1         | 2           | 2         |
|                                 | RJ-45 Ethernet ports  | 1 10BaseT | 1 10BaseT | 2 100 BaseT | 2 100 Bas |
| Hardware                        | 5 volt DC Universal (100-240 Volt) Switching Power<br>Adaptor           | •         | •         | •           | •         |
|                                 | Subscriber Line interface REN   |           |           | -           | 3         |

SPA3102 Voice Gateway with Router



<sup>\*</sup>T.38 support is dependent on fax machine and network / transport resilience





#### SPA400

Internet Telephony Gateway with 4 FXO Ports

|              |  | IP PBX  |
|--------------|--|---------|
|              |  | SPA9000 |
|              | SIPv2 Application Server, Proxy, Registrar and Location Server (RFC3261)   | •       |
|              | Multiple Service Provider Line trunks / SIP Account Support (4)  | •       |
|              | Shared Line Appearance (SLA)   | •       |
|              | Automated Attendant (AA)   | •       |
|              | Configurable AA Answer Delay   | •       |
|              | Interactive Voice Response (IVR)   | •       |
|              | Recordable IVR Prompts   | •       |
|              | Automatic Call Distribution (ACD)  | •       |
|              | Configurable Call Routing - Least Cost Routing - Multiple DID Numbers Per VolP Line - Call Routing to Multiple Extensions or Targeted User - Call Hunting - Sequential, Round Robin, Random                  | •       |
|              | Phone Configuration and Management Server - Discovery and Configuration of IP Phones - Assignment of Extension - Assignment of Dial plan - Proxy Logging of SIP Messages - Phone Firmware Upgrade Management | •       |
|              | Corporate Directory with Automatic Update  | •       |
| PBX features | Configuration and Maintenance via Web Interface (Local or Remote - Status Display of All Connections   | •       |
|              | Call Park - User Definable Parking Space Number  | •       |
|              | Call Unpark  | •       |
|              | Call Transfer  | •       |
|              | Call Forward   | •       |
|              | Group Paging   | •       |
|              | Intercom   | •       |
|              | Directed Call Pick Up  | •       |
|              | Group Call Pick Up   | •       |
|              | Music / Information via Streaming Audio Server (SAS) for Calls:  - On Hold  - Parked in the Parking Lot  - Being Transferred   | •       |
|              | Simultaneous Ringing (Find Me Service)   | •       |
|              | Do Not Disturb   | •       |
|              | Voice Mail Integration - Service Provider Based - Voice Mail Notification via SUBSCRIBE / NOTIFY - Forward Call Directly to Voice mail   | •       |
|              | Computer-Telephony Integration (CTI) API   | •       |
|              | Integrated Media Proxy or Direct RTP Routing to ITSP   | •       |
|              | G.711 (A-law and ì-law)  | •       |
|              | G.726 (16/24/32/40 kbps)   | •       |
| Voice codecs | G.729 A  | •       |
|              | G.723.1 (6.3 kbps, 5.3 kbps)   | •       |
|              | Fax Tone Detection Pass-Through  | •       |
| FAX          | Real Time FAX T.38**   | •       |
|              | Fax Pass-Though - Using G.711  | •       |

SPA9000 IP Telephony System



|                                 |  | IP PBX     |
|---------------------------------|--|------------|
|                                 | Dinite Dialed with North and Auto Consul 11                          | SPA9000    |
|                                 | Digits Dialed with Number Auto-Completion                            | •          |
|                                 | Call Hold  | •          |
|                                 | Call Waiting   | •          |
|                                 | Call Transfer - Attended and Blind                                   | •          |
|                                 | Call Conferencing  | •          |
|                                 | Automatic Redial   | •          |
|                                 | Call pickup - selective and group*                                   | •          |
|                                 | Call Swap  | •          |
|                                 | Call Forwarding - Unconditional, No Answer, On Busy                  | •          |
|                                 | Hot Line and Warm Line Automatic Calling                             | •          |
|                                 | Call Log (60 entries each): Made, Answered, Missed Calls             | •          |
|                                 | Personal Directory with Auto-dial (100 entries)                      | •          |
| Voice features*                 | Do Not Disturb   | •          |
| voice reatures                  | URI (IP) Dialing Support (Vanity Numbers)                            | •          |
|                                 | On Hook Default Audio Configuration (Hands Free/Headset)             | •          |
|                                 | Multiple Ring Tones with Selectable Default Ring Tone per Line       | •          |
|                                 | Called Number with Directory Name Matching                           | •          |
|                                 | Calling Number with Name - Directory Matching or via Caller ID       | •          |
|                                 | Subsequent Incoming Calls with Calling Name and Number               | •          |
|                                 | Date and Time with Intelligent Daylight Savings Support              | •          |
|                                 | Call Duration with Call Time Stamp Stored in Call Logs               | •          |
|                                 | Name/Identity (Text) Display at Start Up                             | •          |
|                                 | Distinctive Ringing Based on Calling and Called Number               | •          |
|                                 | Speed Dial Support   | •          |
|                                 | Configurable Dial/Numbering Plan Support - per Line                  | •          |
|                                 | DNS SRV and Multiple A Records for Proxy Lookup and Proxy Redundancy | •          |
|                                 | Password Protected System Reset to Factory Default                   | •          |
|                                 | Password Protected Admin and User Access Authority                   | •          |
|                                 | Provisioning/Configuration/Authentication:                           | •          |
|                                 | SIP over TLS   | •          |
| Security                        | sRTP (Pre-standard version)  | •          |
|                                 | HTTPS with Factory Installed Client Certificate                      | •          |
|                                 | HTTP Digest - Encrypted Authentication via MD5 (RFC 1321)            | •          |
|                                 | Up to 256-bit AES Encryption   | •          |
|                                 | Web Browser Administration & Configuration via Integrated Web Server | •          |
|                                 | Telephone Key Pad Configuration with Interactive Voice Prompts       | •          |
|                                 | Automated Provisioning & Upgrade via HTTPS, HTTP, TFTP               | •          |
|                                 | DHCP option 66 for TFTP provisioning server                          | •          |
| Provisioning,                   | Asynchronous Notification of Upgrade Availability via SIP NOTIFY     | •          |
| Administration &<br>Maintenance | Non-intrusive, In-Service Upgrades                                   | •          |
|                                 | Report Generation & Event Logging                                    | •          |
|                                 | Stats in BYE Message   | •          |
|                                 | Syslog & Debug Server Records - Per Line Configurable                | •          |
|                                 | Per Line and Purpose Configurable Syslog and Debug Options           | •          |
|                                 | RJ-11 voice ports  | 2          |
|                                 | RJ-45 Ethernet ports   | 2 100BaseT |
| Hardware                        | 5 volt DC Universal (100-240 Volt) Switching Power Adaptor           | •          |
|                                 | FXS Subscriber Line interface REN                                    | 3          |

<sup>\*</sup> When used with SPA phones

<sup>\*\*</sup>T.38 support is dependent on fax machine and network / transport resilience.

|           |   | SPA Phones |        |        |        |        |        |
|-----------|---|------------|--------|--------|--------|--------|--------|
|           |   | SPA901     | SPA921 | SPA922 | SPA941 | SPA942 | SPA96  |
|           | Voice Lines   | 1          | 1      | 1      | 2 to 4 | 2 to 4 | 2 to ( |
|           | Line Status - Active Line Indication                                | •          | •      | •      | •      |        | •      |
|           | Menu Driven User Interface  |            | •      | •      | •      | •      | •      |
|           | Shared Line Appearance **   | •          | •      | •      | •      | •      | •      |
|           | Speakerphone  | •          | •      | •      | •      | •      | •      |
|           | Call Hold   | •          | •      | •      | •      |        | •      |
|           | Music on Hold **  | •          | •      | •      | •      | •      | •      |
|           | Call Waiting  | •          | •      | •      | •      | •      | •      |
|           | Caller ID Name and Number and Outbound Caller ID Blocking           |            | •      | •      | •      | •      | •      |
|           | Outbound Caller ID Blocking   | •          | •      | •      | •      |        | •      |
|           | Call Transfer - Attended and Blind                                  | •          | •      | •      | •      |        | •      |
|           | Three Way Call Conferencing with Local Mixing                       | •          | •      | •      | •      | •      | •      |
|           | Connects to External Conference Bridge for Multi-party Conferencing | •          | •      | •      | •      | •      | •      |
|           | Automatic Redial of Last Calling and Last Called Numbers            | •          | •      | •      | •      | •      | •      |
|           | On-Hook Dialing   | •          | •      | •      | •      |        | •      |
|           | Call Pick Up - Selective and Group **                               | •          | •      | •      | •      |        | •      |
|           | Call Park and UnPark **   | •          | •      | •      | •      |        | •      |
|           | Call Swap   | •          | •      | •      | •      |        | •      |
|           | Call Back on Busy   | •          | •      | •      | •      |        | •      |
|           | Call Blocking - Anonymous and Selective                             | •          | •      | •      | •      |        | •      |
|           | Call Forwarding - Unconditional, No Answer, On Busy                 | •          | •      | •      | •      |        | •      |
|           |   | •          | •      | •      | •      |        | •      |
| TELEPHONY | Hot Line and Warm Line Automatic Calling                            | •          | •      | •      | •      | -      | •      |
| FEATURES  | Call Logs (60 entries each): Made, Answered, and Missed Calls       | •          | •      | •      | •      | •      | •      |
|           | Redial from Call Logs   | •          | •      | •      | •      | •      | •      |
|           | Personal Directory with Auto-dial (100 entries)                     | •          | •      | •      | •      | •      | •      |
|           | Do Not Disturb (callers hear line busy tone)                        | •          | •      | •      | •      | •      | •      |
|           | Digits Dialed with Number Auto-Completion                           | •          | •      | •      | •      | •      | •      |
|           | Anonymous Caller Blocking   | •          | •      | •      | •      | •      | •      |
|           | URI (IP) Dialing Support (Vanity Numbers)                           | •          | •      | •      | •      | •      | •      |
|           | On Hook Default Audio Configuration (Speakerphone and Headset)      | •          | •      | •      | •      | •      | •      |
|           | Multiple Ring Tones with Selectable Ring Tone per Line              | •          | •      | •      | •      | •      | •      |
|           | Called Number with Directory Name Matching                          | •          | •      | •      | •      | •      | •      |
|           | Call Number using Name - Directory Matching or via Caller ID        | •          | •      | •      | •      | •      | •      |
|           | Subsequent Incoming Calls with Calling Name and Number              | •          | •      | •      | •      | •      | •      |
|           | Date and Time with Intelligent Daylight Savings Support             | •          | •      | •      | •      | •      | •      |
|           | Call Duration and Start Time Stored in Call Logs                    | •          | •      | •      | •      | •      | •      |
|           | Call Timer  | •          | •      | •      | •      | •      | •      |
|           | Name and Identity (Text) Displayed at Start Up                      | •          | •      | •      | •      | •      | •      |
|           | Distinctive Ringing Based on Calling and Called Number              | •          | •      | •      | •      | •      | •      |
|           | Speed Dialing, Eight Entries  | •          | •      | •      | •      |        | •      |
|           | Configurable Dial/Numbering Plan Support                            | •          | •      | •      | •      |        | •      |
|           | Intercom **   | •          | •      | •      | •      |        | •      |
|           | Group Paging **   | •          | •      | •      | •      | •      | •      |
|           | Computer Telephony Integration (CTI) API support                    |            |        |        | •      |        | •      |
|           | Third party call control (RFC 3725)                                 | •          | •      | •      | •      |        | •      |
| SECURITY  | Password Protected System Reset to Factory Default                  | •          | •      | •      | •      |        | •      |
|           | Password Protected Admin and User Access Authority                  | •          | •      | •      | •      |        | •      |
|           | Provisioning/Configuration/Authentication:                          | •          | •      | •      | •      |        | •      |
|           | SIP over TLS  | -          |        | •      |        |        | •      |
|           |   |            |        | •      |        |        | •      |
|           | sRTP (Pre-standard version)   | •          | •      | •      | •      |        | •      |
|           | HTTP Direct Engranted Authorities via MDE (REC 1321)                |            |        |        |        |        |        |
|           | HTTP Digest - Encrypted Authentication via MD5 (RFC 1321)           | •          | •      | •      | •      | •      | •      |

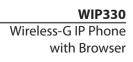
|                                 |  | SPA Phones    |               |                |               |                |               |
|---------------------------------|--|---------------|---------------|----------------|---------------|----------------|---------------|
|                                 |  | SPA901        | SPA921        | SPA922         | SPA941        | SPA942         | SPA962        |
| PROVISIONING,                   | Web Browser Administration & Configuration via Integrated Web Server                         | •             | •             | •              | •             | •              | •             |
|                                 | Telephone Key Pad Configuration with Interactive Voice Prompts                               | •             | •             | •              | •             | •              | •             |
|                                 | Automated Provisioning & Upgrade via HTTP, TFTP  | •             | •             | •              | •             | •              | •             |
|                                 | Asynchronous Notification of Upgrade Availability via SIP<br>NOTIFY                          | •             | •             | •              | •             | •              | •             |
| ADMINISTRATION<br>& MAINTENANCE | Non-intrusive, In-Service Upgrades   | •             | •             | •              | •             | •              | •             |
|                                 | Report Generation & Event Logging  | •             | •             | •              | •             | •              | •             |
|                                 | Stats in BYE Message   | •             | •             | •              | •             | •              | •             |
|                                 | Syslog & Debug Server Records - Per Line Configurable  | •             | •             | •              | •             | •              | •             |
|                                 | Downloadable background image  |               |               |                |               |                | •             |
|                                 | Localization for the User Interface  |               |               | •              |               | •              | •             |
|                                 | G.711 (A-law and u-law)  | •             | •             | •              | •             | •              | •             |
|                                 | G.726 (16/24/32/40 kbps)   | •             | •             | •              | •             | •              | •             |
|                                 | G.729 A  | •             | •             | •              | •             | •              | •             |
|                                 | G.723.1 (6.3 kbps, 5.3 kbps)   | •             | •             | •              | •             | •              | •             |
|                                 | Dynamic Payload  | •             | •             | •              | •             | •              | •             |
| VOICE CODECS                    | Adaptative jitter buffer   | •             | •             | •              | •             | •              | •             |
|                                 | Frame Loss concealment   | •             | •             | •              | •             | •              | •             |
|                                 | Voice Activity Detection (VAD) with Silence suppression                                      | •             | •             | •              | •             | •              | •             |
|                                 | Adjustable Audio frames per packet   | •             | •             | •              | •             | •              | •             |
|                                 | Attenuation/Gain Adjustments   | •             | •             | •              | •             | •              | •             |
|                                 | Codec Name Assignment  | •             | •             | •              | •             | •              | •             |
|                                 | Pixel Based Display: 128x64 Monochrome LCD Graphical Display                                 |               | •             | •              | •             | •              |               |
|                                 | 320 x 240 True Color, Four Inch, Liquid Crystal Display (LCD)                                |               |               |                |               |                | •             |
|                                 | Backlighted screen   |               |               | •              |               | •              | •             |
|                                 | Dedicated Illuminated Buttons for, Audio Mute On/Off,<br>Headset On/Off, Speakerphone On/Off |               | •             | •              | •             | •              | •             |
|                                 | Soft Key Buttons   |               | 4             | 4              | 4             | 4              | •             |
|                                 | Line keys (Tricolor LEDs)  |               |               |                | 4             | 4              | 6             |
|                                 | Four Way Rocking Directional Knob for Menu Navigation  |               | •             | •              | •             | •              | •             |
|                                 | Voice Mail Message Waiting Indicator Light   | •             | •             | •              | •             | •              | •             |
|                                 | Voice Mail Message Retrieval Button  |               | •             | •              | •             |                | •             |
|                                 | Dedicated Hold Button  |               | •             | •              | •             | •              | •             |
| HARDWARE                        | Settings Button for Access to Feature, Set-up, and Configuration Menus                       |               | •             | •              | •             | •              | •             |
|                                 | Volume Control Rocking Up/Down Knob Controls Handset,<br>Headset, Speaker, Ringer            |               | •             | •              | •             | •              | •             |
|                                 | Standard 12-Button Dialing Pad   |               | •             | •              | •             | •              | •             |
|                                 | High Quality Handset and Cradle  | •             | •             | •              | •             | •              | •             |
|                                 | Built-In High Quality Microphone and Speaker   |               | •             | •              | •             | •              | •             |
|                                 | Headset Jack – 2.5 millimeter  |               | •             | •              | •             | •              | •             |
|                                 | RJ-45 Ethernet ports   | 1<br>10 BaseT | 1<br>10 BaseT | 2<br>100 BaseT | 1<br>10 BaseT | 2<br>100 BaseT | 2<br>100 Base |
|                                 | Handset: RJ 7 connector  | •             | •             | •              | •             | •              | •             |
|                                 | Auxiliar port  | Ì             |               |                |               | İ              | •             |
|                                 | 5 volt DC Universal (100-240 Volt) Switching Power Adaptor                                   | •             | •             | •**            | •             | •**            | •**           |
|                                 | LED Test Function  |               | •             | •              | •             | •              | •             |
|                                 | Power over Ethernet (PoE) 802.3af  |               |               | •              |               | •              | •             |
|                                 | Redial Button  | •             |               |                |               |                |               |
|                                 | Volume Control Button Cycles Through Volume Levels. Controls Ringer and Handset Volume       | •             |               |                |               |                |               |



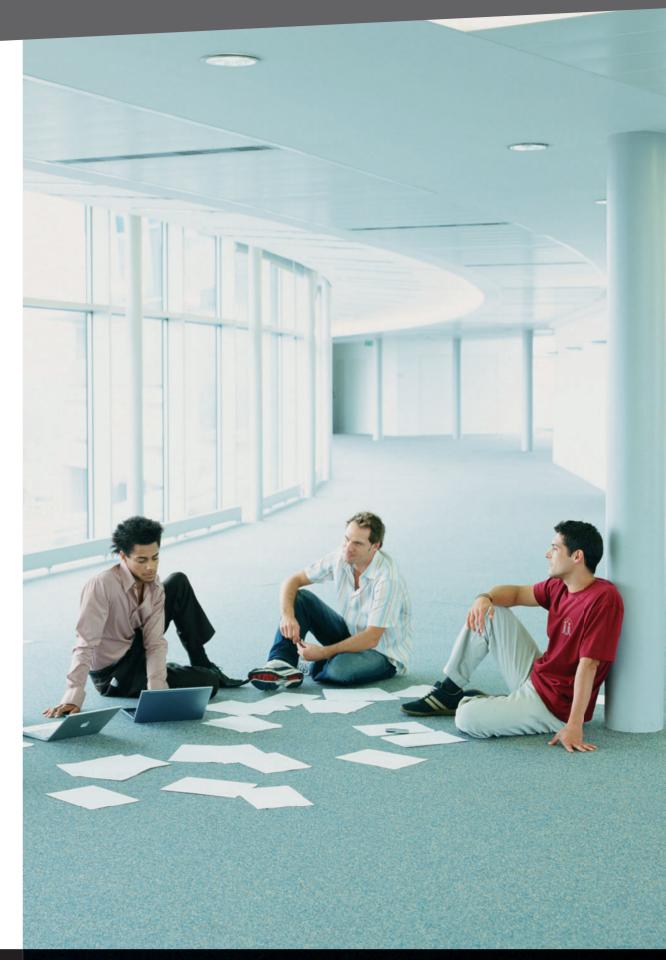
<sup>\*\*</sup>Feature requires support by call server

<sup>\*\*</sup> Power adapter is an optional accessoire (PA100) not included with the product

|                    |  | WiFi Phone |
|--------------------|--|------------|
|                    |  | WIP330     |
|                    | 3-Way Conferencing   | •          |
|                    | Peer-to-Peer Dialing   | •          |
|                    | Call Hold and Resume   | •          |
|                    | Caller ID Presentation   | •          |
|                    | Caller ID Presentation Restriction   | •          |
|                    | Dial by Phone Number   | •          |
|                    | Call Forward   | •          |
|                    | DTMF Tone Detection  | •          |
|                    | Consultation Hold and Transfer   | •          |
|                    | Call Waiting and Retrieve  | •          |
| Telephony features | Mute   | •          |
|                    | Speed Dial   | •          |
|                    | Last Number Redial   | •          |
|                    | Volume Control   | •          |
|                    | Ringtones: True Tones  | •          |
|                    | Phone Book (250 records)   | •          |
|                    | Call History (20 Records)  | •          |
|                    | Language (English/Spainish)  | •          |
|                    | Vibrator (Silent mode)   | •          |
|                    | 10 Profiles  | •          |
|                    | Embedded Web configuration interface (with password protection)                            | •          |
|                    | AES or SSL Encryption  | •          |
| Security           | WEP (64/128)   | •          |
|                    | WPA-PSK Encryption   | •          |
|                    | HTTPS with Factory Installed Client Certificate  | •          |
|                    | G.711 (A-law and u-law)  | •          |
|                    | G.729 A  | •          |
|                    | G.168 Echo Cancellation  | •          |
|                    | Jitter Buffer Control - (default 180ms, max 900ms)   | •          |
| Voice Codecs       | Comfort Noise Generation   | •          |
|                    | Packet Loss Concealment  | •          |
|                    | Speaker and Microphone Volume Control  | •          |
|                    | VAD - Voice Activity Detection   | •          |
|                    | Channels - 11 Channels (US, Canada) , 13 Channels (Europe )                                | •          |
|                    | Access Control - CSMA/CA with ACK  | •          |
|                    | Band - 2.412~2.484 GHz   | •          |
|                    | Transmit Power - 14 dBm for 802.11b/g @ Normal Temp Range                                  | •          |
| Hardware           | Radio Range - Outdoor up to 300m via Embedded Antenna                                      | •          |
|                    | External Interface - One mini-USB Socket (for charging only), One<br>Stereo Ear Phone Jack | •          |
|                    | Display - QVGA TIF 2.2 inch LCD (240*320 pixels) with 65K colors                           | •          |
|                    | Memory - 32MB Flash, 64MB SDRAM  | •          |







**802.11a** An IEEE wireless networking standard that specifies a maximum data transfer rate of 54Mbps and an operating frequency of 5GHz. 802.11a has a higher bandwidth than 802.11b, but a shorter range.

**802.11b** An IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

**802.11g** An IEEE wireless networking standard that specifies a maximum data transfer rate of 54Mbps, an operating frequency of 2.4GHz, and backward compatibility with 802.11b devices.

**Draft 802.11n** An IEEE wireless networking standard that specifies a maximum data transfer rate of 300Mbps, an operating frequencies of 2.4GHz and 5GHz, and backward compatibility with 802.11b and 802.11q devices.

**AAA** Authentication, Authorization and Accounting. Confirmation that a user who is requesting services is appropriately authorized, granting specific types of service to a user based on his authentication, and tracking of the consumption of network resources by users

**Access Point** A device that allows wireless-equipped computers and other devices to communicate with each other and with a wired network.

**Adapter** A device that adds network functionality to your PC.

**Ad-hoc** A group of wireless devices communicating directly with each other (peer-to-peer) without the use of an access point.

**ADSL** Asymmetric digital subscriber line. A flavor of DSL where data flow is greater in one direction than the other.

**AES** (Advanced Encryption Standard) A method that uses up to 256-bit key encryption to secure data, or symmetric 128-bit block data encryption.

**Automated Attendant (AA)** An interactive voice system that allows callers to be automatically transferred to their destination in a PBX.

**Backbone** The part of a network that connects most of the systems and networks together, and handles the most data.

**Bandwidth** The transmission capacity of a given device or network.

**Beacon Interval** Data transmitted on your wireless network that keeps the network synchronized.

**Bridge** A device that connects two different kinds of local networks, such as a wireless network to a wired Ethernet network.

**Codec** Coder-Decoder. A device or program that encodes a digital data stream for transmission, storage or encryption and decodes it for user reception. This also includes compression and error correction.

**Client** A computer that receives resources such as files, devices, applications, or processing power from a server

**CSMA/CA(Carrier Sense Multiple Access/Collision Avoidance)** A method of data transfer that is used to prevent data collisions.

**DDNS (Dynamic Domain Name System)** A service that allows a static domain name to be assigned to a dynamic

IP address. (See DNS).

**Default Gateway** A device that forwards Internet traffic from your local area network.

**DHCP (Dynamic Host Configuration Protocol)** A protocol that lets one device on a local network, known as a DHCP server, assign temporary IP addresses to the other network devices, typically computers.

**Dial Plan** Specifies the expected number and pattern of digits for a telephone number. This includes access codes, country codes, area codes and all combinations of digits dialed.

**Digest Access Authentication** A method for a web page to negotiate credentials with a web user using the HTTP protocol. This method allows the user identity to be established without having to send a password in plaintext over the network.

**DMZ** (Demilitarized Zone) Removes the router's firewall protection from one PC, allowing it to be "seen" from the Internet.

**DNS** (Domain Name Server) A server that translate domain names (computer host names and email address) to IP address, and vice-versa

**Domain** A specific name for a network of computers.

**DoS** (**Denial of Service**) A network security term which defines a type of attack designed to prevent legitimate users from access a resource by overwhelming that resource with useless/malicious traffic.

**DSL (Digital Subscriber Line)** An always-on broadband connection over traditional phone lines.

**DSSS (Direct-Sequence Spread-Spectrum)** Frequency transmission with a redundant bit pattern resulting in a lower probability of information being lost in transit.

**DTIM (Delivery Traffic Indication Message)** A message included in data packets that can increase wireless efficiency.

**Dynamic IP Address** A temporary IP address assigned by a DHCP server.

**EAP (Extensible Authentication Protocol)** A general authentication protocol used to control network access. Many specific authentication methods work within this framework.

**EAP-PEAP (Extensible Authentication Protocol- Protected Extensible Authentication Protocol)** A mutual authentication method that uses a combination of digital certificates and another system, such as passwords.

**EAP-TLS (Extensible Authentication Protocol-Transport Layer Security)** A mutual authentication method that uses digital certificates.

**Echo cancellation** Removing echo from a voice communication in order to improve the quality of a telephone link

**Encryption** The encoding of data transmitted over a network. Encrypted data is only readable to its intended receiver.

**Enterprise** In product terms, refers to larger businesses, primarily those with more than 250 employees.

**Ethernet (IEEE 802.3)** An IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Supports data transfer rates of up to 10 Mbps

**Fast Ethernet (IEEE 802.3u)** An IEEE standard that supports data transfer rates of up to 100 Mbps.

**Firewall** Any set of security schemes that prevent unauthorized users from gaining access to a computer network or that monitor transfers of information to and from the network.

**Firmware** The embedded software that runs a networking device.

**Fragmentation** Breaking a packet into smaller units when transmitting over a network medium that cannot support the original size of the packet.

**FTP (File Transfer Protocol)** An application for sending files between computers over a TCP/IP network and the Internet.

**Full Duplex** The ability of a networking device to receive and transmit data simultaneously.

**FXO** Foreign Exchange Office. A telephone interface designed to receive traditional, analog telephone service (POTS). The FXO connects to the FXS telephone exchange interface.

**FXS** Foreign Exchange Station. A telephone interface that provides standard (analog) telephone service: power, a dialing tone, and ringing voltage.

**Gateway** A device that interconnects networks with different, incompatible communications protocols.

**Gigabit Ethernet IEEE802.3z and IEEE 802.3ab)** An IEEE networking standard that supports data transfer rates of 1gigabit per second (1000 Mbps).

**Half Duplex** Data transmission that can occur in two directions over a single line, but only one direction at a time.

**HTTP** Hypertext Transport Protocol. The communications protocol used to exchange documents and media data between computers in the World Wide Web

**HTTP Digest** See Digest Access Authentication

HTTPS Hypertext Transfer Protocol Secure. Normal HTTP interaction and an encrypted Secure Sockets Layer (SSL) or Transport Layer Security (TLS) transport mechanism combined. The only encryption method supported on all internet enabled computers without any specific measures

**IEEE (The Institute of Electrical and Electronics Engineers)** An international non-profit, professional organization directed toward the advancement of the theory and practice of electrical, electronics, communications and computer engineering

**Impedance** In electrical engineering, a measure of opposition to a sinusoidal alternating electric current, as opposed to the resistance in a DC current circuit

**Infrastructure** Currently installed computing and networking equipment.

**Infrastructure** Mode Configuration in which a wireless network is bridged to a wired network via an access point.

**Intrusion attack** A type of internet attack in which an attacker tries to gain or access the information transimitted through the networks.

**Intrusion Prevention System** A mechanism to detect malicious software, such as Internet worms, Trojan Horses, and DDoS, that can't be detected by a conventional firewall.

**IP (Internet Protocol)** A basic protocol used to send data over a network. Allows the sender to transfer data, but does not establish a direct link with the recipient.

**IP Address** The address used to identify a computer or device on a network.

**IPSec (Internet Protocol Security)** A VPN protocol used to implement secure exchange of packets at the IP layer. Most widely used for enabling virtual private networks.

**ISP (Internet Service Provider)** A company that provides access to the Internet.

**ITSP (Internet Telephony Service Provider)** A company that provides voice communication service over the Internet (VOIP).

**LAN (Local Area Network)** The computers and networking products that make up the network in your home or office.

**Layer 2** In an Open Systems Architecture (OSI), the Data Link layer; this layer is responsible for moving data across the physical links in a network, for example with a switch.

**Layer 3** The Network layer of an OSI device; determines network addresses, routes, and quality of service for information transport. A router is a Layer 3 device, but switches can also have Layer 3 capability.

**LEAP (Lightweight Extensible Authentication Protocol)** A mutual authentication method that uses a username and password system.

**Least Cost Routing** The ability to choose alternative routes for telephone calls in order to minimize the cost of telephone calls.

**MAC (Media Access Control)** Address The unique address that a manufacturer assigns to each networking device

**Managed** Switch A network switch with an IP address that lets you monitor and administer your network.

**Mbps (Megabits Per Second)** One million bits per second; a unit of measurement for data transmission.

**MD5** Message-Digest Algorithm 5. A standard cryptographic hash function with a 128-bit key employed in a wide variety of security applications and also commonly used to check the integrity of files.Of late, its safety is in doubt.

**MIMO (Multiple-in, Multiple-out)** A technology that uses multiple radio antennas that can each send and receive more than one wireless signal. 802.11n uses MIMO to increase bandwidth and range.

**Multicasting** Sending data to a group of destinations at once

**NAT (Network Address Translation)** NAT technology translates IP addresses of the local area network to a different IP address for the Internet. Traversal A method of enabling specialized applications, such as Internet phone calls, video, and audio, to travel between your local network and the Internet. STUN is a specific type of NAT traversal.

**Node** A network junction or connection point, typically a computer or work station.

**OFDM (Orthogonal Frequency Division Multiplexing)** Frequency transmission that separates the data stream into a number of lower-speed data streams, which are then transmitted in parallel to prevent information from being lost in transit.

**Packet** A unit of data transmitted over a network.

**Passphrase** Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

**PBX** (**Private Branch Exchange**) A private telephone network used within a business. Users share a certain number of outside lines to make external phone calls.

**PEAP (Protected Extensible Authentication Protocol)** A protocol for transmitting authentication data, including passwords, over 802.11 wireless networks.

**Ping (Packet Internet Groper)** An Internet utility used to determine whether a particular IP address is online.

**PoE** (**Power over Ethernet**) A technology enabling an Ethernet network cable to deliver both data and power.

**POTS** Plain Old Telephone Service. The traditional service providing an analog telephone interface, a full duplex, limited frequency voice path, call-progress tones such as dial tone and ringing signal and subscriber dialing

**PPPOE** (Point to Point Protocol over Ethernet) A type of broadband connection that provides authentication (username and password) in addition to data transport.

**PPTP (Point-to-Point Tunneling Protocol)** A VPN protocol that allows the Point to Point Protocol (PPP) to be tunneled through an IP network. This protocol is also used as a type of broadband connection in Europe.

**Preamble** Part of the wireless signal that synchronizes network traffic.

**PTSN** Public Telephone Switched Network.Standard public phone lines outside a PBX.

**QoS (Quality of Service)** A mechanism which gives priorities to certain types of traffic to ensure the throughput; for example, streaming multimedia.

**RADIUS (Remote Authentication Dial-In User Service)** A protocol that uses an authentication server to control network access.

**REN** Ringer Equivalent Number. A number denoting the electric load a telephone ringer exerts on the line. Used as a measure for the load caused by telephone terminal equipment.

**RJ-45, RJ-11 etc.** Registered Jack Connectors. Standardized physical interfaces for connecting telecommunications or computer networking equipment. The specifications are codified in the US Code of Federal Regulations, 47 CFR 68, subpart F.

**Roaming** The ability to take a wireless device from one access point's range to another without losing the connection.

**RTP** (Real-time Transport Protocol) A protocol that enables specialized applications, such as Internet phone calls, video, and audio, to occur in real time.

**RTS (Request To Send)** A networking method of coordinating large packets through the RTS Threshold setting.

**SIP** Session Initiation Protocol. A control protocol for creating, modifying, and terminating sessions with one or more participants, including Internet telephone calls well as multimedia distribution and conferences

**SIP Notify** This is used to notify a SIP node that an event which has been requested by an earlier "Subscribe" method has occurred.

**SNMP (Simple Network Management Protocol)** A widely used network monitoring and control protocol.

**SOHO (Small Office/Home Office)** Market segment of professionals who work at home or in small offices.

**SPI (Stateful Packet Inspection)** Firewall A technology that inspects incoming packets of information before allowing them to enter the network.

**Spread** Spectrum Wideband radio frequency technique used for more reliable and secure data transmission

**sRTP** Secure Real-Time Transport Protocol. A version of RTP (Real-time Transport Protocol) providing encryption, message authentication and integrity, and replay protection to application such as IP telephony or network video

**SSID (Service Set Identifier)** Your wireless network's

**SSL** (Secure Sockets Layer) An application layer security protocol used to provide authentication and communication privacy of data transmitted over the Internet

**Static IP Address** A fixed address assigned to a computer or device that is connected to a network.

**Static** Routing Forwarding data in a network via a fixed path.

**Subnet Mask** An address code that determines the size of the network.

**Switch 1.** A device that that connects computing devices to host computers, allowing a large number of devices to share a limited number of ports. 2. A device for making, breaking, or changing the connections in an electrical circuit.

**TCP (Transmission Control Protocol)** A network protocol for transmitting data that requires acknowledgement from the recipient of data sent.

TCP/IP (Transmission Control Protocol/Internet Protocol) A network protocol for transmitting data that requires acknowledgement from the recipient of data

**Telnet** A user command and TCP/IP protocol used for accessing remote PCs.

**Throughput** The amount of data moved successfully from one node to another in a given time period.

**TFTP (Trivial File Transfer Protocol)** A version of the TCP/IP FTP protocol that uses UDP and has no directory or password capability.

**Glossary of Terms** 

**TKIP (Temporal Key Integrity Protocol)** A wireless encryption protocol that periodically changes the encryption key, making it harder to decode.

**TLS** (**Transport Layer Security**) Is a protocol that guarantees privacy and data integrity between client/server applications communicating over the Internet.

**Topology** The physical layout of a network.

TX Rate Transmission Rate.

**UDP** (User Datagram Protocol) A network protocol for transmitting data that does not require acknowledgement from the recipient of the data that is sent.

**Unmanaged Switch** A basic switch that works right out of the box and does not allow the user remote network administration capability.

**URI** Uniform Resource Identifier. A string of characters used to identify a resource, mainly to enable interaction over the World Wide Web

**URL** (Uniform Resource Locator) The address of a file located on the Internet. **VOIP or IP** Telephony Voice over Internet Protocol. Technology that enables people to use the Internet to transmit packets of voice data using IP rather than traditional circuit transmissions. Seen as a more affordable voice solution for businesses.

**VLAN (Virtual LAN)** A network of computers that behave as if they are connected to the same wire, though they may actually be physically located on different segments of a LAN.

**Voice Activity Detection (VAD)** VoIP systems can use VAD to perform silence suppression, that is, to filter out voice data packets during periods of silence and thus conserve transmission bandwidth.

**VPN (Virtual Private Network)** A security measure to protect data as it leaves one network and goes to another over the Internet.

**WAN (Wide Area Network)** A group of networked computers in a large geographical area. The best example of a WAN is the Internet.

**WEP (Wired Equivalency Protocol)** WEP is a security protocol for wireless networks. WEP aims to provide security by encrypting data over radio waves so that it is protected as it is transmitted from one end point to another. A shared key (similar to a password) is used to allow communication between the computers and the router. WEP offers a basic, but satisfactory level of security for wireless data transmission.

**Wi-Fi** A brandname of the Wi-Fi Alliance used to describe wireless LAN (WLAN) technology based on the IEEE 802.11 standards.

**Wi-Fi Alliance** A trade group that perform testing, develops specifications, certify interoperability of products, and promotes wireless networking technology. The Wi-Fi alliance own the trademark to "Wi-Fi".

**WLAN (Wireless Local Area Network)** A group of computers and associated devices that communicate with each other wirelessly.

**WPA (Wi-Fi Protected Access)** A security protocol for wireless networks that builds on the basic foundations of WEP.

It secures wireless data transmission by using a key similar to WEP, but the added strength of WPA is that the key changes dynamically. The changing key makes it much more difficult for a hacker to learn the key and gain access to the network.

**WPA2 (Wi-Fi Protected Access 2)** WPA2 is the second generation of WPA security and provides a stronger encryption mechanism through Advanced Encryption Standard (AES), which is a requirement for some government users.

**WPA-Personal** A version of WPA that uses long and constantly changing encryption keys to make them difficult to decode.

**WPA-Enterprise** A version of WPA that uses the same dynamic keys as WPA-Personal and also requires each wireless device to be authorized according to a master list held in a special authentication server.

| Country                      | ntry Technical Support Technical E-mail Support |                                   | Support Hours      |  |  |
|------------------------------|---|-----------------------------------|--------------------|--|--|
| Austria                      | 0800 301045                                     | business.support.at@linksys.com   | Mo-Fri: 9-18       |  |  |
| Belgium                      | 0800 58 047                                     | business.support.be@linksys.com   | Mo-Fri: 9-18       |  |  |
| Czech                        | 800 800 156                                     | support.cz@linksys.com            | Mo-Fri: 9-18       |  |  |
| Denmark                      | 82 33 27 29                                     | support.dk@linksys.com            | Mo-Fri: 9-18       |  |  |
| Finland                      | 0800 52 3062                                    | support.fi@linksys.com            | Mo-Fri: 9-18 (CET) |  |  |
| France                       | 0800 294 607                                    | business.support.fr@linksys.com   | Mo-Fri: 9-18       |  |  |
| Germany                      | 0800 000 1139                                   | business.support.de@linksys.com   | Mo-Fri: 9-18       |  |  |
| Hungary                      | 06 80 204 548                                   | support.hu@linksys.com            | Mo-Fri: 9-18       |  |  |
| Ireland                      | 1800 812 012                                    | business.support.ie@linksys.com   | Mo-Fri: 9-18       |  |  |
| Italy                        | 800 9056 76                                     | support.it@linksys.com            | Mo-Fri: 9-18       |  |  |
| Netherlands                  | 0800 0203595                                    | business.support.nl@linksys.com   | Mo-Fri: 9-18       |  |  |
| Norway                       | 235-00060                                       | support.no@linksys.com            | Mo-Fri: 9-18       |  |  |
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<sup>\*</sup>Support only available in English for these countries.



