Cisco Model WAG310G Residential Gateway with VoIP

User Guide

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

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Disclaimer

The maximum performance for wireless is derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions.

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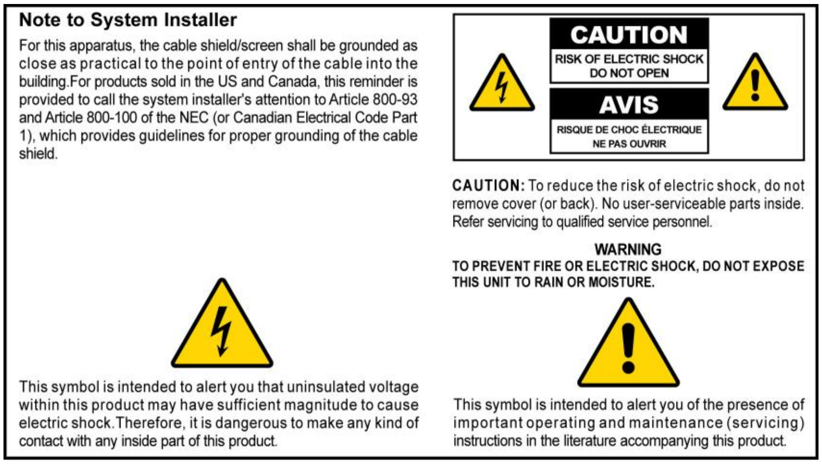
Copyright

Notice to Installers

The servicing instructions in this notice are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so.



Note to System Installer

For this apparatus, the cable shield/screen shall be grounded as close as practical to the point of entry of the cable into the building.For products sold in the US and Canada, this reminder is provided to call the system installer's attention to Article 800-93 and Article 800-100 of the NEC (or Canadian Electrical Code Part 1), which provides guidelines for proper grounding of the cable shield.

This symbol is intended to alert you that uninsulated voltage within this product may have sufficient magnitude to cause electric shock.Therefore, it is dangerous to make any kind of contact with any inside part of this product.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

AVIS

RISQUE DE CHOC ÉLECTRIQUE
NE PAS OUVRIR

CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.

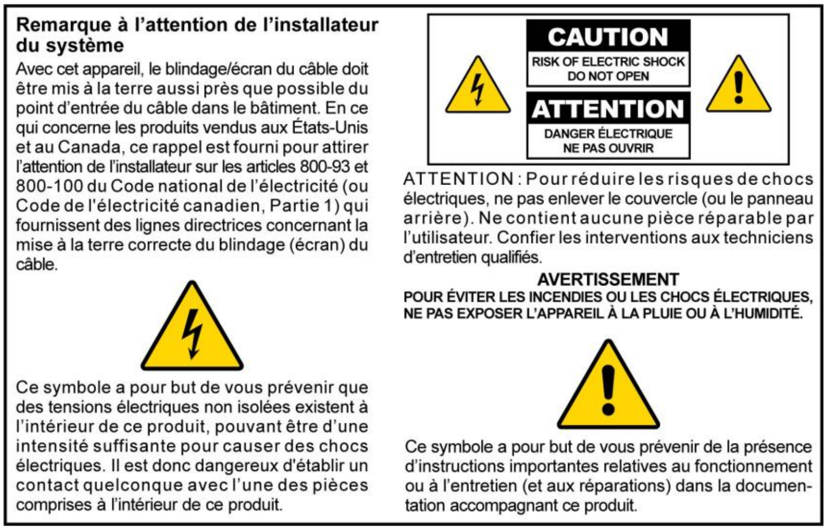
WARNING

TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This symbol is intended to alert you of the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product.

Notice à l'attention des installateurs de réseaux câblés

Les instructions relatives aux interventions d'entretien, fournies dans la présente notice, s'adressent exclusivement au personnel technique qualifié. Pour réduire les risques de chocs électriques, n'effectuer aucune intervention autre que celles décrites dans le mode d'emploi et les instructions relatives au fonctionnement, à moins que vous ne soyez qualifié pour ce faire.



Remarque à l'attention de l'installateur du système

Avec cet appareil, le blindage/écran du câble doit être mis à la terre aussi près que possible du point d'entrée du câble dans le bâtiment. En ce qui concerne les produits vendus aux États-Unis et au Canada, ce rappel est fourni pour attirer l'attention de l'installateur sur les articles 800-93 et 800-100 du Code national de l'électricité (ou Code de l'électricité canadien, Partie 1) qui fournissent des lignes directrices concernant la mise à la terre correcte du blindage (écran) du câble.

Ce symbole a pour but de vous prévenir que des tensions électriques non isolées existent à l'intérieur de ce produit, pouvant être d'une intensité suffisante pour causer des chocs électriques. Il est donc dangereux d'établir un contact quelconque avec l'une des pièces comprises à l'intérieur de ce produit.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION

DANGER ÉLECTRIQUE
NE PAS OUVRIR

ATTENTION : Pour réduire les risques de chocs électriques, ne pas enlever le couvercle (ou le panneau arrière). Ne contient aucune pièce réparable par l'utilisateur. Confier les interventions aux techniciens d'entretien qualifiés.

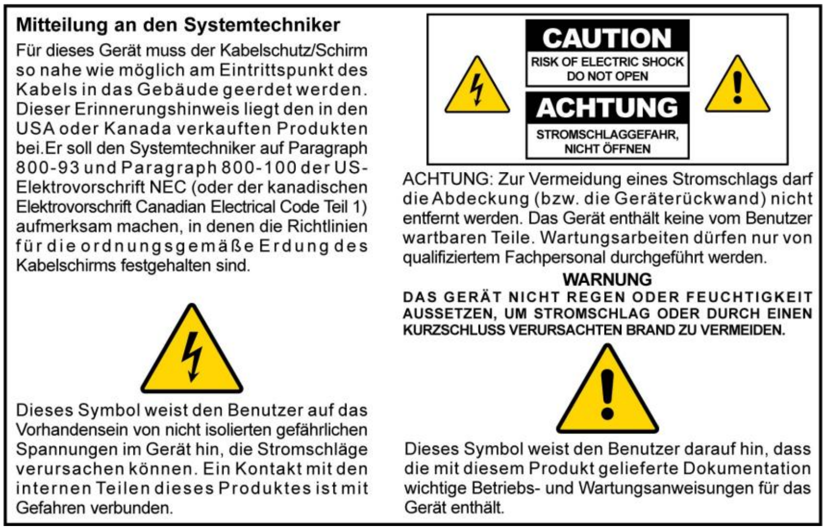
AVERTISSEMENT

POUR ÉVITER LES INCENDIES OU LES CHOCS ÉLECTRIQUES, NE PAS EXPOSER L'APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

Ce symbole a pour but de vous prévenir de la présence d'instructions importantes relatives au fonctionnement ou à l'entretien (et aux réparations) dans la documentation accompagnant ce produit.

Mitteilung für CATV-Techniker

Die in dieser Mitteilung aufgeführten Wartungsanweisungen sind ausschließlich für qualifiziertes Fachpersonal bestimmt. Um die Gefahr eines elektrischen Schlags zu reduzieren, sollten Sie keine Wartungsarbeiten durchführen, die nicht ausdrücklich in der Bedienungsanleitung aufgeführt sind, außer Sie sind zur Durchführung solcher Arbeiten qualifiziert.



Mitteilung an den Systemtechniker

Für dieses Gerät muss der Kabelschutz/Schirm so nahe wie möglich am Eintrittspunkt des Kabels in das Gebäude geerdet werden. Dieser Erinnerungshinweis liegt den in den USA oder Kanada verkauften Produkten bei.Er soll den Systemtechniker auf Paragraph 800-93 und Paragraph 800-100 der US-Elektrovorschrift NEC (oder der kanadischen Elektrovorschrift Canadian Electrical Code Teil 1) aufmerksam machen, in denen die Richtlinien für die ordnungsgemäße Erdung des Kabelschirms festgehalten sind.

Dieses Symbol weist den Benutzer auf das Vorhandensein von nicht isolierten gefährlichen Spannungen im Gerät hin, die Stromschläge verursachen können. Ein Kontakt mit den internen Teilen dieses Produktes ist mit Gefahren verbunden.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ACHTUNG
STROMSCHLAGGEFAHR,
NICHT ÖFFNEN

ACHTUNG: Zur Vermeidung eines Stromschlags darf die Abdeckung (bzw. die Geräterückwand) nicht entfernt werden. Das Gerät enthält keine vom Benutzer wartbaren Teile. Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal durchgeführt werden.

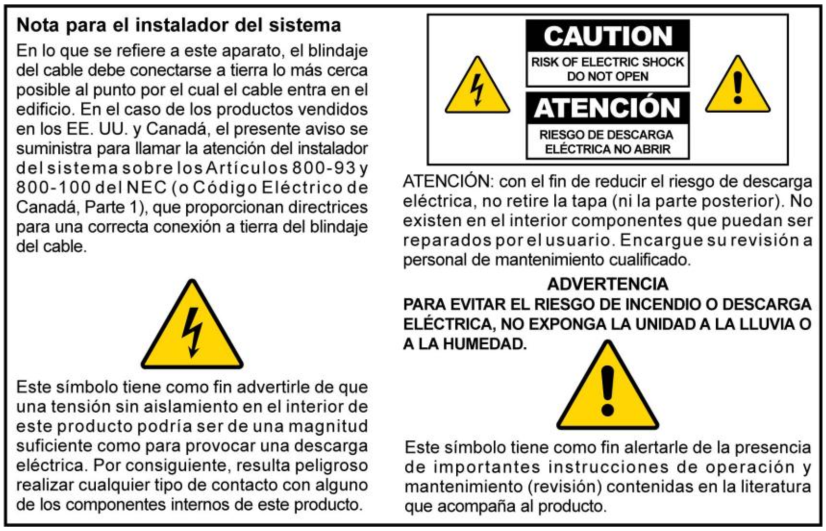
WARNUNG

DAS GERÄT NICHT REGEN ODER FEUCHTIGKEIT AUSSETZEN, UM STROMSCHLAG ODER DURCH EINEN KURZSCHLUSS VERURSACHTEN BRAND ZU VERMEIDEN.

Dieses Symbol weist den Benutzer darauf hin, dass die mit diesem Produkt gelieferte Dokumentation wichtige Betriebs- und Wartungsanweisungen für das Gerät enthält.

Aviso a los instaladores de sistemas CATV

Las instrucciones de reparación contenidas en el presente aviso son para uso exclusivo por parte de personal de mantenimiento cualificado. Con el fin de reducir el riesgo de descarga eléctrica, no realice ninguna otra operación de reparación distinta a las contenidas en las instrucciones de funcionamiento, a menos que posea la cualificación necesaria para hacerlo.



Nota para el instalador del sistema

En lo que se refiere a este aparato, el blindaje del cable debe conectarse a tierra lo más cerca posible al punto por el cual el cable entra en el edificio. En el caso de los productos vendidos en los EE. UU. y Canadá, el presente aviso se suministra para llamar la atención del instalador del sistema sobre los Artículos 800-93 y 800-100 del NEC (o Código Eléctrico de Canadá, Parte 1), que proporcionan directrices para una correcta conexión a tierra del blindaje del cable.

Este símbolo tiene como fin advertirle de que una tensión sin aislamiento en el interior de este producto podría ser de una magnitud suficiente como para provocar una descarga eléctrica. Por consiguiente, resulta peligroso realizar cualquier tipo de contacto con alguno de los componentes internos de este producto.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATENCIÓN
RIESGO DE DESCARGA
ELÉCTRICA NO ABRIR

ATENCIÓN: con el fin de reducir el riesgo de descarga eléctrica, no retire la tapa (ni la parte posterior). No existen en el interior componentes que puedan ser reparados por el usuario. Encargue su revisión a personal de mantenimiento cualificado.

ADVERTENCIA

PARA EVITAR EL RIESGO DE INCENDIO O DESCARGA ELÉCTRICA, NO EXPONGA LA UNIDAD A LA LLUVIA O A LA HUMEDAD.

Este símbolo tiene como fin alertarle de la presencia de importantes instrucciones de operación y mantenimiento (revisión) contenidas en la literatura que acompaña al producto.

Contents

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Power Source Warning

A label on this product indicates the correct power source for this product. Operate this product only from an electrical outlet with the voltage and frequency indicated on the product label. If you are uncertain of the type of power supply to your home or business, consult your service provider or your local power company.

The AC inlet on the unit must remain accessible and operable at all times.

Ground the Product

⚠ **WARNING: Avoid electric shock and fire hazard! If this product connects to coaxial cable wiring, be sure the cable system is grounded (earthed). Grounding provides some protection against voltage surges and built-up static charges.**

Protect the Product from Lightning

In addition to disconnecting the AC power from the wall outlet, disconnect the signal inputs.

Verify the Power Source from the On/Off Power Light

When the on/off power light is not illuminated, the apparatus may still be connected to the power source. The light may go out when the apparatus is turned off, regardless of whether it is still plugged into an AC power source.

Eliminate AC Mains Overloads

⚠ **WARNING: Avoid electric shock and fire hazard! Do not overload AC mains, outlets, extension cords, or integral convenience receptacles. For products that require battery power or other power sources to operate them, refer to the operating instructions for those products.**

Provide Ventilation and Select a Location

- Remove all packaging material before applying power to the product.
- Do not place this apparatus on a bed, sofa, rug, or similar surface.
- Do not place this apparatus on an unstable surface.
- Do not install this apparatus in an enclosure, such as a bookcase or rack, unless the installation provides proper ventilation.
- Do not place entertainment devices (such as VCRs or DVDs), lamps, books, vases with liquids, or other objects on top of this product.
- Do not block ventilation openings.

Protect from Exposure to Moisture and Foreign Objects

⚠ **WARNING: Avoid electric shock and fire hazard! Do not expose this product to dripping or splashing liquids, rain, or moisture. Objects filled with liquids, such as vases, should not be placed on this apparatus.**

⚠ **WARNING: Avoid electric shock and fire hazard! Unplug this product before cleaning. Do not use a liquid cleaner or an aerosol cleaner. Do not use a magnetic/static cleaning device (dust remover) to clean this product.**

⚠ **WARNING: Avoid electric shock and fire hazard! Never push objects through the openings in this product. Foreign objects can cause electrical shorts that can result in electric shock or fire.**

Service Warnings

⚠ **WARNING: Avoid electric shock! Do not open the cover of this product. Opening or removing the cover may expose you to dangerous voltages. If you open the cover, your warranty will be void. This product contains no user-serviceable parts.**

Check Product Safety

Upon completion of any service or repairs to this product, the service technician must perform safety checks to determine that this product is in proper operating condition.

Protect the Product When Moving It

Always disconnect the power source when moving the apparatus or connecting or disconnecting cables.

Telephone Equipment Notice

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric stock and injury to persons, including the following:

1. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.

2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

3. Do not use the telephone to report a gas leak in the vicinity of the leak.

⚠ **CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.**

SAVE THESE INSTRUCTIONS

20090915_Modem No Battery_Safety

United States FCC Compliance

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against such interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the service provider or an experienced radio/television technician for help.

Any changes or modifications not expressly approved by Cisco Systems, Inc., could void the user's authority to operate the equipment.

The information shown in the FCC Declaration of Conformity paragraph below is a requirement of the FCC and is intended to supply you with information regarding the FCC approval of this device. *The phone numbers listed are for FCC-related questions only and not intended for questions regarding the connection or operation for this device. Please contact your service provider for any questions you may have regarding the operation or installation of this device.*

Declaration of Conformity

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: 1) the device may not cause harmful interference, and 2) the device must accept any interference received, including interference that may cause undesired operation.

Wireless-G ADSL2+ Gateway with VoIP
Model WAG310G
Manufactured by:
Cisco Systems, Inc.
5030 Sugarloaf Parkway
Lawrenceville, Georgia 30044 USA
Telephone: 678-277-1120

Canada EMI Regulation

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la class B est conforme à la norme NMB-003 du Canada.

RF Exposure Statements

Note: This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 7.9 inches (20 cm) between the radiator and your body.

US

This system has been evaluated for RF exposure for humans in reference to ANSI C 95.1 (American National Standards Institute) limits. The evaluation was based in accordance with FCC OET Bulletin 65C rev 01.01 in compliance with Part 2.1091 and Part 15.27. The minimum separation distance from the antenna to general bystander is 7.9 inches (20 cm) to maintain compliance.

Canada

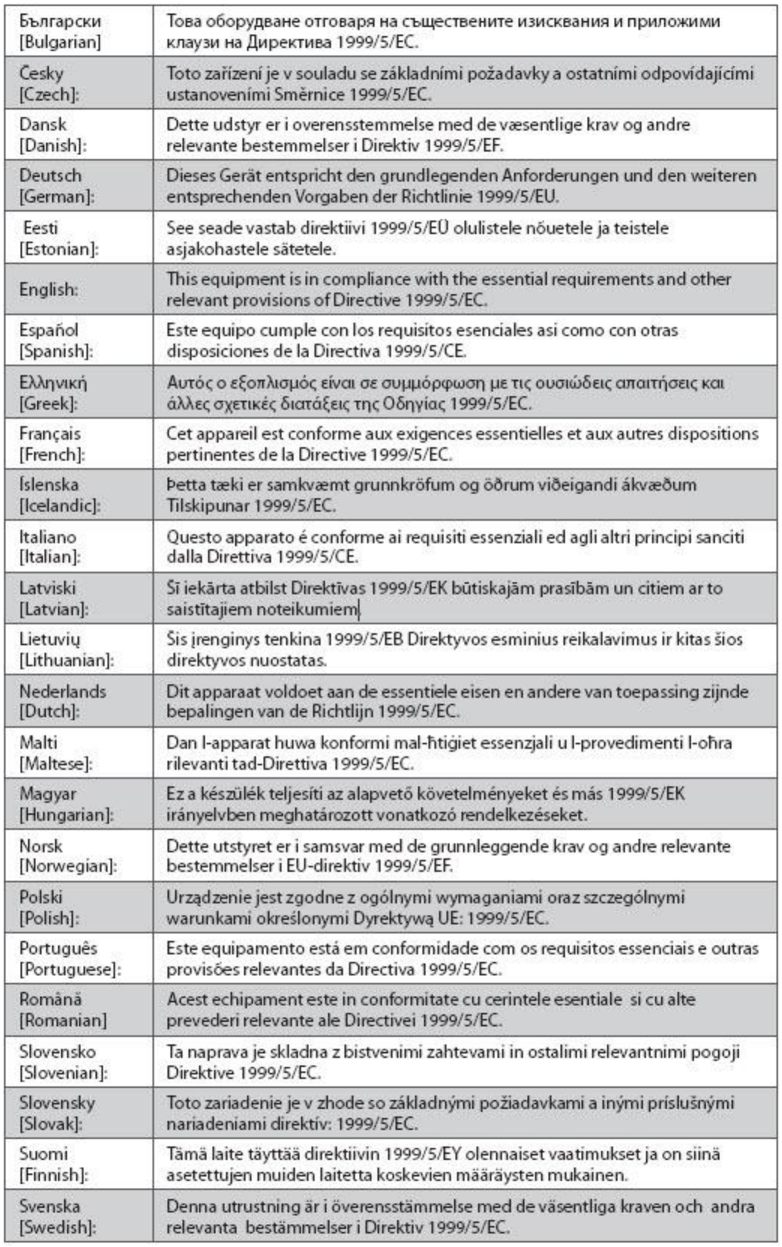
This system has been evaluated for RF exposure for humans in reference to Canada Health Code 6 (2009) limits. The evaluation was based on evaluation per RSS-102 Rev 4. The minimum separation distance from the antenna to general bystander is 7.9 inches (20 cm) to maintain compliance.

20100527 FCC DSL_Domestic

CE Compliance

Declaration of Conformity with Regard to the EU Directive 1999/5/EC (R&TTE Directive)

This declaration is only valid for configurations (combinations of software, firmware and hardware) supported or provided by Cisco Systems for use within the EU. The use of software or firmware not supported or provided by Cisco Systems may result in the equipment no longer being compliant with the regulatory requirements.



Български [Bulgarian]	Това оборудване отговаря на съществените изисквания и приложими клаузи на Директива 1999/5/EC.
Česky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 1999/5/EC.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.
Eesti [Estonian]:	See seade vastab direktiivi 1999/5/EÜ olulistele nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales asi como con otras disposiciones de la Directiva 1999/5/CE.
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιώδεις απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 1999/5/EC.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC.
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 1999/5/EC.
Italiano [Italian]:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 1999/5/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.
Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiele eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1999/5/EC.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-ħtiġiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 1999/5/EC.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.
Norsk [Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 1999/5/EC.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.
Română [Romanian]	Acest echipament este in conformitate cu cerintele esentiale si cu alte prevederi relevante ale Directivei 1999/5/EC.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 1999/5/EC.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 1999/5/EC.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 1999/5/EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.
Svenska [Swedish]:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

Note: The full declaration of conformity for this product can be found in the Declarations of Conformity and Regulatory Information section of the appropriate product hardware installation guide, which is available on Cisco.com.

The following standards were applied during the assessment of the product against the requirements of the Directive 1999/5/EC:

- Radio: EN 300 328
- EMC: EN 301 489-1 and EN 301 489-17
- Safety: EN 60950 and EN 50385

The CE mark and class-2 identifier are affixed to the product and its packaging. This product conforms to the following European directives:

CE (!) -1999/5/EC

National Restrictions

This product is for indoor use only.

France

For 2.4 GHz, the output power is restricted to 10 mW EIRP when the product is used outdoors in the band 2454 - 2483,5 MHz. There are no restrictions when used in other parts of the 2,4 GHz band. Check http://www.arcep.fr/ for more details.

Pour la bande 2,4 GHz, la puissance est limitée à 10 mW en p.i.r.e. pour les équipements utilisés en extérieur dans la bande 2454 - 2483,5 MHz. Il n'y a pas de restrictions pour des utilisations dans d'autres parties de la bande 2,4 GHz. Consultez http://www.arcep.fr/ pour de plus amples détails.

Italy

This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization." Please check http://www.comunicazioni.it/it/ for more details.

Questo prodotto è conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all 'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale". Consultare http://www.comunicazioni.it/it/ per maggiori dettagli.

Latvia

The outdoor usage of the 2.4 GHz band requires an authorization from the Electronic Communications Office. Please check http://www.esd.lv for more details.

2,4 GHz frekvenču joslas izmantošanai ārpus telpām nepieciešama atļauja no Elektronisko sakaru direkcijas. Vairāk informācijas: http://www.esd.lv.

Note: The regulatory limits for maximum output power are specified in EIRP. The EIRP level of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

Antennas

Use only the antenna supplied with the product.

20090312 CE_Gateway

About This Guide

Introduction

This installation and operation guide applies to the WAG310G series residential gateway. The WAG310G series residential gateway connects to the DSL network in your home to deliver data, video, voice, and wired (Ethernet) or wireless gateway capabilities all from one device. Use this guide to install the residential gateway in your home.

Purpose

This document provides the information you need to install and operate the WAG310G series residential gateway.

Audience

This guide is written for subscribers who have purchased a residential gateway and want to experience high-speed Internet and high-quality digital telephone service can use this guide for background information and basic operation.

Document Version

This is the fifth formal release of this document. In addition to minor text and graphic changes, the following table provides the technical changes to this document.

Description	See Topic
Changes include updates to screens and descriptions for the user setup.	See ***Setup*** (on page 15).

1

Introducing the WAG310G

Introduction

Thank you for choosing the Cisco® Wireless-G ADSL2+ Gateway with VoIP (WAG310G). The WAG310G combines an ADSL/2/2+ modem, 1 Ethernet WAN port, Wireless-G access point, 4-port Ethernet switch, USB host port, and an analog telephone adapter (ATA) with 2 FXS ports and 1 FXO port. The WAG310G can be connected to the Public Switched Telephone Network (PSTN), which is the network that traditional phone service uses, so you can make calls using the traditional service or Voice over IP (VoIP).

You can also use the Residential Gateway to share resources such as computers and storage. Various security features help to protect your data and your privacy while you are online. Security features include WPA2 security, a Stateful Packet Inspection (SPI) firewall, and NAT technology. Configuring the Residential Gateway is easy using the provided browser-based utility.

The WAG310G meets the needs of a variety of deployment architectures with both an Ethernet WAN interface or a high-speed ADSL/2/2+ interface supporting up to 8 PVCs and support for advanced features like QoS and IGMP to help create the framework to enable data, voice and IP video services.

In This Chapter

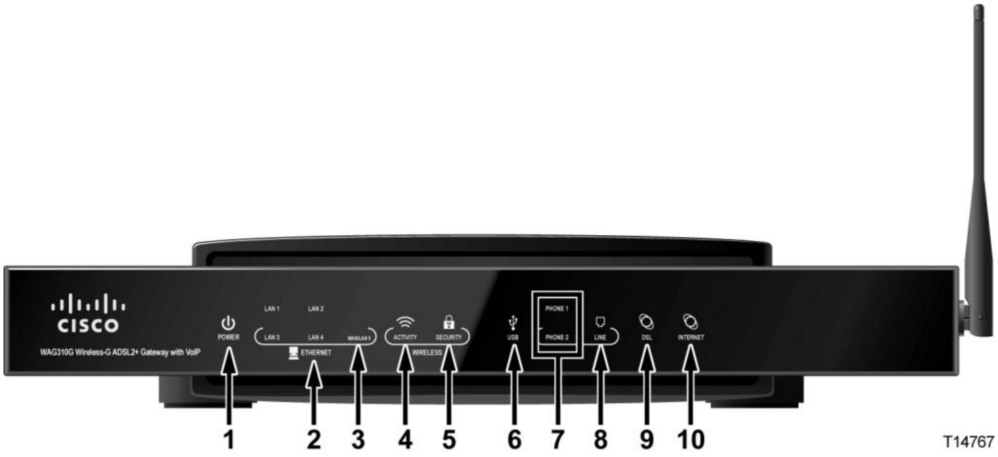
Benefits and Features

The WAG310G offers the following benefits and features:

- **Full routing functionality**. The residential gateway router provides broadband transfer speeds available between your home network and the service provider's network for multi-user sharing. The high-performance router distributes data seamlessly to all devices in the network without a noticeable effect to performance or speed.
- **True firewall capability**. The residential gateway firewall includes both standard NAT/PAT security and Stateful Packet inspection to defend against external attacks.
- **High-quality data, voice, and IPTV services**. The residential gateway combines an ADSL2+, 4-port Ethernet switch, bridge and router functionality with VoIP and Wi-Fi into one integrated platform
- **Compact design**. The residential gateway is compact enough to sit on a desktop and versatile enough to be wall mounted in an out of the way location. The residential gateway can also stand vertically.
- **Flexible networking**. The residential gateway combines a variety of home networking technologies in one box: Ethernet, 802.11 b/g wireless, and VoIP.
  - **Ethernet**. Ethernet is a network standard for data transmission using either coaxial or twisted pair cable over a LAN (local area network). The information can be transmitted at speeds of 10 to 100 Mbps. If the home or office is wired for Ethernet, use one of the four LAN interfaces on the residential gateway to create a broadband network.
  - **802.11 b/g Wireless**. The residential gateway includes an integrated wireless access point that allows you to roam wirelessly throughout your home or office.
- **ADSL high speed data access**. Asymmetric Digital Subscriber Line (ADSL) provides high-access transmission speeds for delivery of video, voice, and data services to homes over ordinary copper telephone wire.

What's on the Front Panel?

The front panel of your residential gateway provides LED status indicators that indicate the operational state of your gateway. Refer to the following diagram for a description of the front panel.



1 **Power** (Green/Red)—The Power LED lights up when the residential gateway is powered on. It flashes during during bootup and flash test. The LED becomes red during a malfunction.

2 **Ethernet LAN 1-4** (Green)—These numbered LEDs, corresponding with the numbered Ethernet ports on the residential gateway's back panel, serve two purposes. If the LED is solid, the residential gateway is connected to a device through that port. It flashes to indicate network activity over that port.

3 **Ethernet WAN/LAN 5** (Green—The WAN/LAN 5 LED corresponds with the WAN/LAN5 port and serves two purposes. If the LED is solid, the residential gateway is successfully connected to a device through that port. It flashes to indicate network activity over that port.

4 **Wireless Activity** (Green)—The Activity LED lights up when the wireless feature is enabled. It flashes when the residential gateway is sending or receiving data over the wireless network.

5 **Wireless Security** (Green/Red)—The Security LED lights up when wireless security is enabled. It flashes during the Wi-Fi Protected Setup process. The LED becomes red when wireless security is not configured (off).
Note: Some countries require by law for wireless networks to be secured. Cisco is not responsible for users who do not adhere to country-specific regulations. Contact your service provider to find out what your country requires.

6 **USB** (Green)—The USB LED lights up when the residential gateway is connected to a device through the USB port. It flashes to indicate USB activity.

7 **Phone 1-2** (Green)— The Phone 1 or 2 LED will be OFF if no service has been configured and registered based on the voice setting for the corresponding phone port. It will be ON if service has been configured and registered for the corresponding phone port. It flashes when the phone is being used.

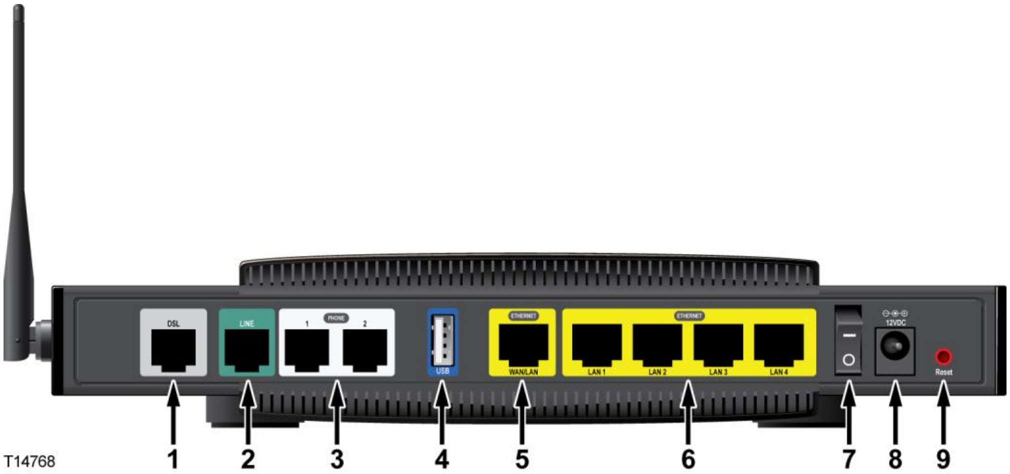
8 **Line** (Green)—The Line LED will flash when it is connected to the Public Switched Telephone Network (PSTN) through the Line port and is being used. Otherwise it'll be OFF.

9 **DSL** (Green)—The DSL LED lights up when there is a DSL connection. It flashes when the residential gateway is establishing the ADSL connection.

10 **Internet** (Green/Red)—The Internet LED lights up when the residential gateway is connected to the Internet. It flashes to indicate network activity over the Internet port. The LED becomes red when the Internet connection fails.

What's on the Back Panel?

The back panel of your residential gateway provides ports, power, and reset mechanisms. Refer to the following diagram for a description of the back panel.



1 **DSL**—The DSL port connects to the ADSL line.

2 **Line**—The Line port connects to either the voice connection on the DSL microfilter or wall jack.

3 **Phone 1-2**— The Phone ports connect standard analog telephones to the residential gateway. The Phone 1 or 2 LED on the front panel lights up when a phone is connected to the corresponding port on the residential gateway's back panel. It flashes when the phone is being used.

4 **USB**—The USB port connects to a USB storage device, such as a USB hard drive or flash disk.

5 **Ethernet WAN/LAN5**—The WAN/LAN5 port can act as a Wide Area Network (WAN) or Local Area Network (LAN) port. As a WAN port, it connects to a broadband modem. As a LAN port, it connects to a wired computer or other Ethernet network device.

6 **Ethernet LAN 1-4**—These Ethernet ports (1, 2, 3, 4) connect the residential gateway to wired computers and other Ethernet network devices.

7 **Power Switch**—Use this switch to power on or off the residential gateway.

8 **Power**—The Power port is where you will connect the 12v/2A power adapter that is included in the box.

9 **Reset—**There are two ways to reset the residential gateway's settings to factory defaults. Either press and hold the Reset button for approximately 30 seconds, or restore the defaults from the Administration > Factory Defaults screen of the residential gateway's web-based utility.

Note: The reset feature removes all previous configuration settings. You will need to manually configure settings that are lost when you perform a reset.

About Wi-Fi Protected Setup

If you have a client device, such as a wireless adapter, that supports Wi-Fi Protected Setup, then you can use Wi-Fi Protected Setup to automatically configure wireless security for your wireless network(s).

Notes:

- Wi-Fi Protected Setup can only be used for the default wireless network. (The residential gateway supports up to four wireless networks. The other three can be configured using the residential gateway's web-based utility.)
- Wi-Fi Protected Setup configures one client device at a time. Repeat the instructions for each client device that supports Wi-Fi Protected Setup.

Method 1

Use this method if your client device has a Wi-Fi Protected Setup button.

1. Click or press the **Wi-Fi Protected Setup** button on the client device. (If Wi-Fi Protected Setup is an on-screen option, then select it.)
2. Click the **Wi-Fi Protected Setup** button on the top panel of the residential gateway.
3. After the client device has been configured, refer back to your client device or its documentation for further instructions.

Method 2

Use this method if your client device has a Wi-Fi Protected Setup PIN number.

1. Access the residential gateway's web-based utility.
2. Click the **Wireless** tab.
3. Click the **Wi-Fi Protected Setup** tab.
4. Enter the client PIN number in the PIN field on this screen (the residential gateway's Wi-Fi Protected Setup screen).
5. Click **Register**.

Method 3

Use this method if your client device asks for the residential gateway's PIN number.

1. Enter the PIN number listed on the label on the bottom of the residential gateway.
2. After the client device has been configured, refer back to your client device or its documentation for further instructions.

2

Installing the Residential Gateway

Introduction

You have two options to physically install the residential gateway. The first option is to place the residential gateway horizontally on a surface. The second option is to mount the residential gateway on a wall.

In This Chapter

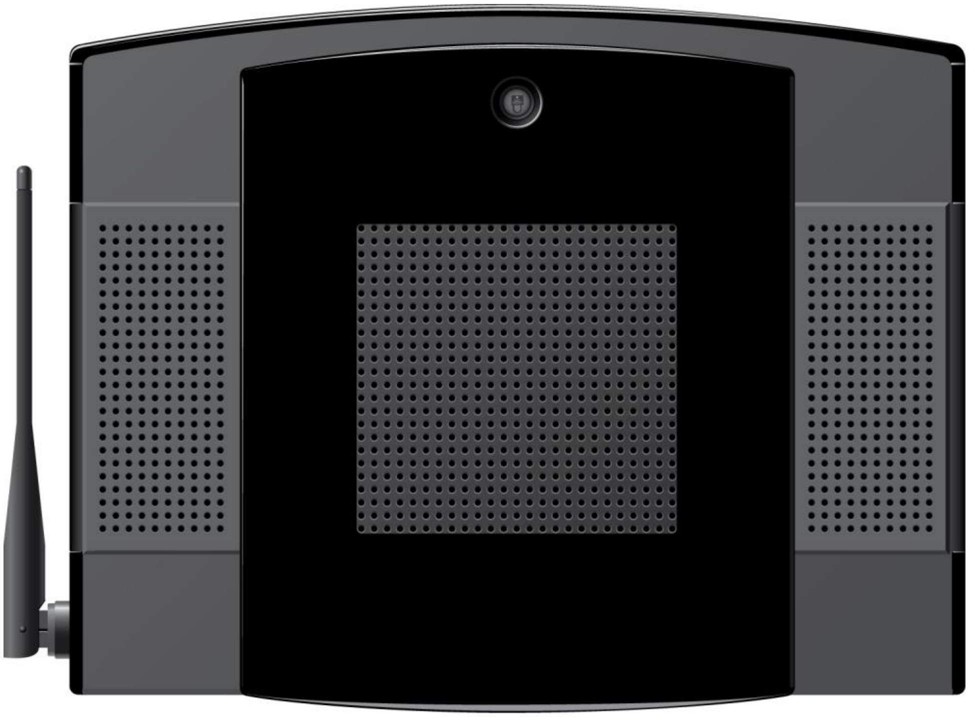
Mounting the Residential Gateway

Mounting the Residential Gateway Vertically

The residential gateway has four rubber feet on its bottom panel. Place the residential gateway on a level surface near an electrical outlet.

Mounting the Residential Gateway to the Wall

To safely wall-mount the residential gateway, the side panel with the antenna must face upward in one of the following configurations illustrated:

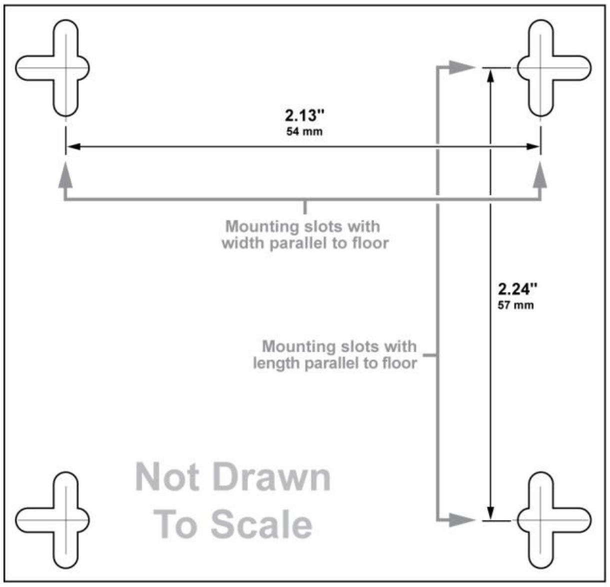


Length parallel to floor

Width parallel to floor

The residential gateway has four wall-mount slots on its bottom panel. Two screws are needed to mount the residential gateway.

The following illustration shows the location and dimensions of the wall-mounting slots on the bottom of the residential gateway. Use the information on this page as a guide for mounting your residential gateway to the wall.



Notes:

- Mounting hardware illustrations are not true to scale.
- Cisco is not responsible for damages incurred by insecure wall-mounting hardware.

Follow these instructions:

1. Determine where you want to mount the residential gateway. Make sure that the wall you use is smooth, flat, dry, and sturdy. Also make sure the location is within reach of an electrical outlet.
2. Drill two holes into the wall. Make sure the holes are 54 mm (21. 3 inches) apart.
3. Insert a screw into each hole and leave 2 mm (0.8 inches) below the head exposed.
4. Maneuver the residential gateway so two of the wall-mount slots line up with the two screws.
5. Place the wall-mount slots over the screws and slide the residential gateway down until the screws fit snugly into the wall-mount slots.

Connecting the Residential Gateway

Make sure that you have the following package contents:

- WAG310G
- RJ-45 Ethernet cable
- RJ-11 phone cable
- Power Adapter
- One analog touchtone telephone, if configuring VoIP service
- Access to a PSTN connection (wall jack).

Perform the following steps to connect the WAG310G.

1. Insert a standard RJ-11 phone cable (included) into the DSL port and connect the other end to the PSTN wall jack.
2. (Optional) Connect a PC or other Ethernet device to the LAN port using a standard RJ-45 Ethernet cable.
3. Insert a standard RJ-11 telephone cable into the PHONE 1 (FXS) port and connect the other end to an analog touchtone telephone.
4. (Optional) You can connect the PHONE 2 (FXS) port to a second analog telephone or a fax machine.
   Note: To prevent an invalid connection to the circuit switched Telco network, do not connect an RJ-11 telephone cable from the PHONE 1 (or PHONE 2) port on the WAG310G to the wall jack.
5. Connect the RJ-11 phone cable (included) to the LINE (FXO) port and connect the other end to your telephone wall jack.
6. Connect the included power adapter to the WAG310G power port, and then plug the power adapter into an electrical outlet. The power LED on the front panel will light up as soon as the device powers on.
7. Power on the WAG310G.
8. Follow the instructions in your owner's manual for your PC or laptop to activate the wireless connection.
   Note: A wireless connection requires a wireless-enabled notebook or a computer with an 802.11b/g wireless network adapter installed.

3

Setup

Introduction

This chapter provides information for using the web-based utility to configure ADSL, Ethernet, and Local Network connections.

You can access the utility via a web browser on a computer connected to the residential gateway.

The web-based utility has these main tabs: Setup, Wireless, Voice, Storage, Security, Access Restrictions, Applications & Gaming, Administration, and Status. Additional tabs will be available after you click one of the main tabs.

This chapter focuses on the configuring the parameters that are accessed via the Setup tab.

Important: The web-based utility pages and the examples shown in this section are for illustration purposes only. Your pages may differ from the pages shown in this guide. The pages shown in this guide also represent the default values for the device.

Notes:

- If you are not familiar with the network configuration procedures detailed in this section, contact your service provider before you attempt to change any of the residential gateway default settings.
- If your service provider supplied you with the residential gateway, then it may be pre-configured for you, and you will not need to make any changes. Contact your service provider for more information.
- For New Zealand residents, refer to the note under PPPoA (RFC 2364).

In This Chapter

Logging in to the Residential Gateway

Complete the following steps to access the web-based utility.

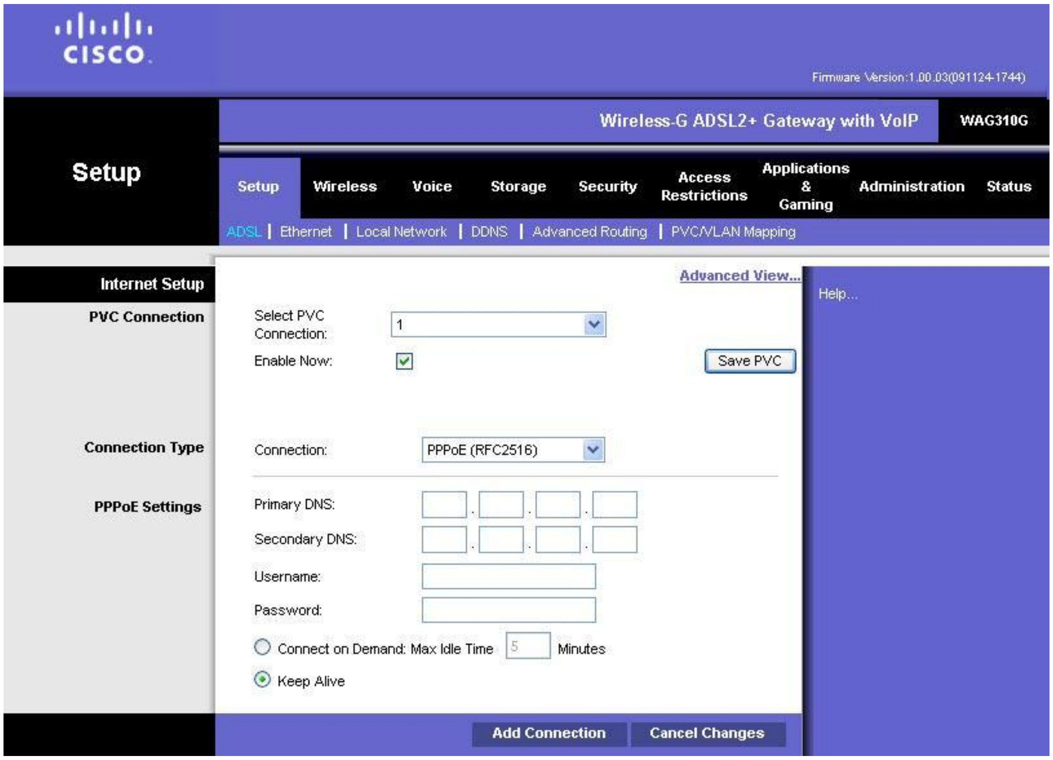
Note: If the residential gateway was supplied by your service provider, then it may restrict access to the web-based utility. Contact your service provider for the login information.

1. Launch the web browser on your computer.
2. Type **192.168.1.1** in the URL Address field. This value is the residential gateway's default IP address.
3. Press **Enter**. A login screen appears.
4. Is this the first time you have opened the web-based utility?
   - If **yes**, type **admin** in the User name and Password fields. (You can change the default values to a new user name and password from the Administration tab's Management screen.)
   - If **no**, enter the user name and password you established previously.
5. Click **OK** to continue. The web-based utility opens. Upon logging into the web-based utility, the Basic Setup screen appears. There are two views available, Basic and Advanced. The default view is Basic. To display the Advanced View, click **Advanced View**. To return to the Basic View, click **Basic View**.
6. To continue setup, go to the section applicable for your desired configuration:
   - *ADSL* (on page 18)
   - *Ethernet* (on page 33).

ADSL

From the ADSL screen you can setup Internet configuration parameters.

Path: Setup > ADSL



Select PVC Connection: 1

Enable Now: ☑

Connection: PPPoE (RFC2516)

Primary DNS: ___ . ___ . ___ . ___

Secondary DNS: ___ . ___ . ___ . ___

Username:

Password:

○ Connect on Demand: Max Idle Time 5 Minutes

● Keep Alive

Note: There are two views available, **Basic** and **Advanced**. The default view is Basic. To display the Advanced View, click **Advanced View**. To return to the Basic View, click **Basic View**.

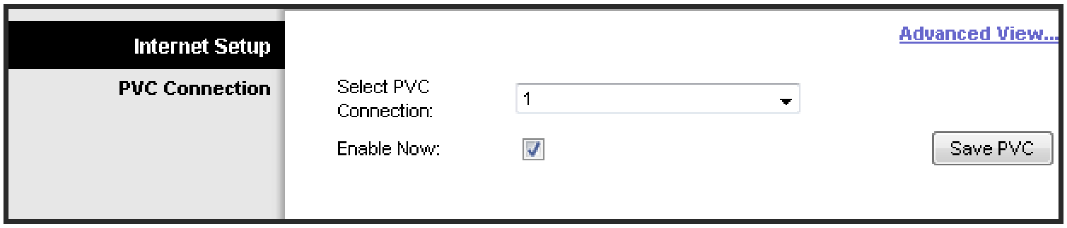
PVC Connection

The residential gateway supports up to eight Private Virtual Circuit (PVC) connections. The default PVC addresses are 0/35, 8/35, 0/43, 0/51, 0/59, 8/43, 8/51, and 8/59.

Notes:

- PVCs are layer 2 (physical and link), while WAN connections are layer 3, meaning IP and Point-to-Point (PPP) connections.
- Each PVC supports multiple connections. For each PVC, you can configure one IP connection and up to four PPP over Ethernet (PPPoE) connections.

Path: Setup > ADSL (Basic or Advanced View)



Select PVC Connection: 1

Enable Now: ☑

Complete the following steps to setup a PVC.

1 From the **Select PVC Connection** field, select the connection you want to configure.

2 Check the **Enable Now** checkbox to enable this connection.

  Note: By default, only PVC 1 is enabled. The other seven PVCs are disabled. You must enable them before configuring layer 3 connections on top of them.

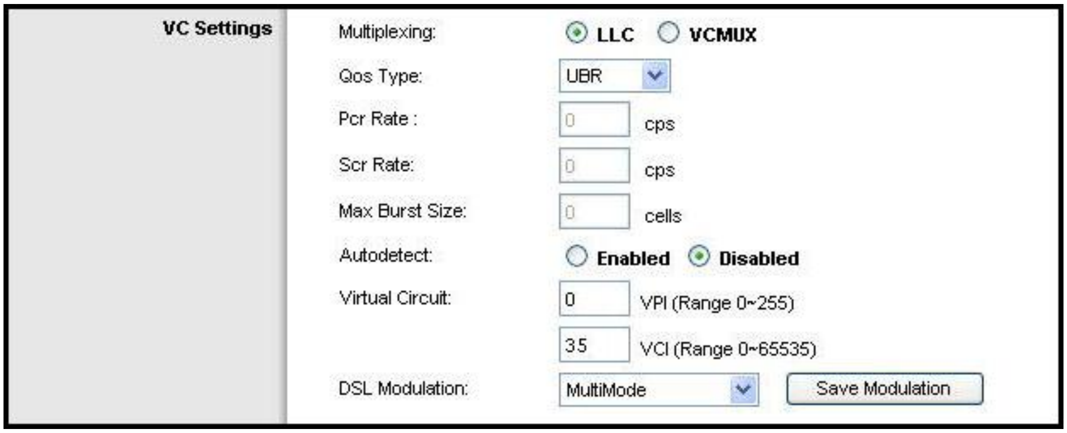
3 Click the **Save PVC** button.

4 Go to the ***Connection Type*** (on page 21) section to configure this connection.

VC Settings

The Virtual Circuit (VC) settings are available in the Advanced View link of the ADSL screen.

Path: Setup > ADSL (Advanced View)



Multiplexing: ● LLC ○ VCMUX

Qos Type: UBR

Pcr Rate : 0 cps

Scr Rate: 0 cps

Max Burst Size: 0 cells

Autodetect: ○ Enabled ● Disabled

Virtual Circuit: 0 VPI (Range 0~255)

35 VCI (Range 0~65535)

DSL Modulation: MultiMode

Complete the following steps to configure the VC settings.

1 For the **Multiplexing** field, select **LLC** or **VCMUX**, depending on your service provider. The default is LLC.

2 From the **QoS Type** drop-down menu, select one of the following options:

- **CBR** (Constant Bit Rate) to specify fixed bandwidth for voice or data traffic
- **UBR** (Unspecified Bit Rate) for applications that are not time-sensitive, such Internet access for WEB browising, loading files, and e-mail

- **VBR_rt** or **VBR_nrt.** VBR (Variable Bit Rate) is used for bursty traffic and bandwidth-sharing with other applications. VBR_rt (real time) is more time-sensitive than VBR_nrt (non-real time), and VBR_rt is typically used for voice and video traffic.

Notes:

- If the QoS Type setting is CBR, then the Scr Rate and Max Burst Size settings are not configurable.
- If the QoS Type setting is UBR, then the Pcr Rate, Scr Rate, and Max Burst Size settings are not configurable.
- If the QoS Type setting is VBR-rt or VBR-nrt, set the appropriate Pcr Rate, Scr Rate, and Max Burst Size values.
  Note: The values entered are interpreted as ATM Cells per second (cps).

3 If required by your service provider, enter a rate in the **PCR Rate** field.
Note: The Peak Cell Rate (PCR) is the maximum allowable rate at which cells can be transported. Enter the rate in the field (if required by your service provider).

4 If required by your service provider, enter a rate in the **SCR Rate** field.
Note: The Sustainable Cell Rate (SCR) sets the average cell rate that can be transmitted. The SCR value is normally less than the PCR value. Enter the rate in the field (provider).

5 For the **Max Burst Size**, enter the number of contiguous (ATM) cells allowed to be send in one burst.

6 For the **Autodetect**, select **Enable** to have the settings automatically entered, or select **Disable** to enter the values manually.
Note: Autodetect requires a PVC value which is part of the "pre-configured range" of default PVCs being 0/35, 8/35, 0/43, 0/51, 0/59, 8/43, 8/51, and 8/59. Other values will not be autodetected and should be entered manually.

7 Enter the settings provided by your service provider for each of the following **Virtual Circuit** settings:

- VPI (Virtual Path Identifier)
- VCI (Virtual Channel Identifier).

8 For the **DSL Modulation**, select the appropriate mode from the list of available options; then, click **Save Modulation** to save the modulation setting.

- MultiMode
- T1.413
- G.DMT
- G.lite
- ADSL2
- ADSL2 (Annex L)
- ADSL2 (Annex M)
- ADSL2+

- ADSL2+ (Annex M).
  Note: Contact your service provider if you are not sure which mode to use.

9 Click the **Save Modulation** button.

10 Click the **Save PVC** button.

Connection Type

From the ADSL screen (Basic or Advanced View), the Connection Type selected, whether an Internet Protocol (IP) or Point-to-Point Protocol (PPP) connection, will determine what additional IP or PPP settings will be required to complete your configuration.

Determine the desired Connection Type from the following list of options; then proceed to the applicable section for setup instructions:

- ***IPoE (RFC2684 Bridged)*** (on page 21)
- ***IPoA (RFC2684 Routed)*** (on page 23)
- ***PPPoE (RFC 2516)*** (on page 24)
- ***PPPoA (RFC 2364)*** (on page 26)
- ***PPPoE (RFC 2364)-New Zealand*** (on page 28)

Notes:

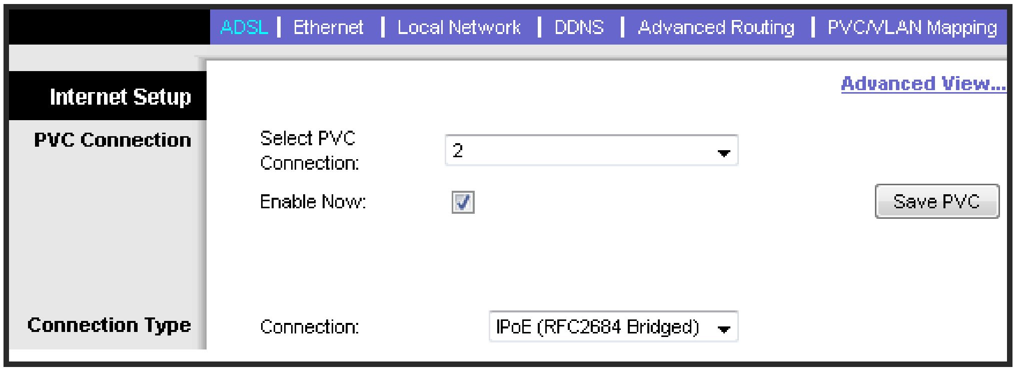
- For IP-over-Ethernet (IPoE), you can configure either DHCP or static IP addressing.
- For IP-over-ATM (IPoA), you can configure only static IP addressing.
- Once an IP/PPP connection has been added it can be selected from the **Select PVC Connection** drop-down box where the IP/PPP setting may be modified and saved by clicking the **Save Settings** button at the bottom of the page or may be deleted by clicking **Delete Connection** button.

IPoE (RFC2684 Bridged)

Complete the following steps to add an IPoE connection.

1 Navigate to the ADSL screen.
Path: Setup > ADSL

2 Select the PVC Connection that you want to use for IPoE.



Internet Setup

PVC Connection

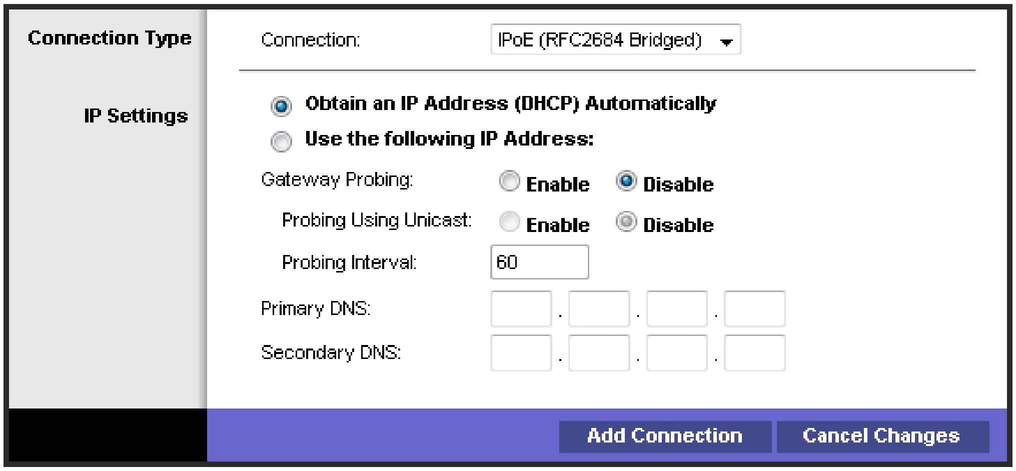
Select PVC Connection: 2

Enable Now: ☑

Connection Type

Connection: IPoE (RFC2684 Bridged)

3 Select **IPoE (RFC2684 Bridged)** for the Connection Type. The screen refreshes to display the applicable fields.



Connection Type

Connection: IPoE (RFC2684 Bridged)

IP Settings

● Obtain an IP Address (DHCP) Automatically

○ Use the following IP Address:

Gateway Probing: ○ Enable ● Disable

Probing Using Unicast: ○ Enable ● Disable

Probing Interval: 60

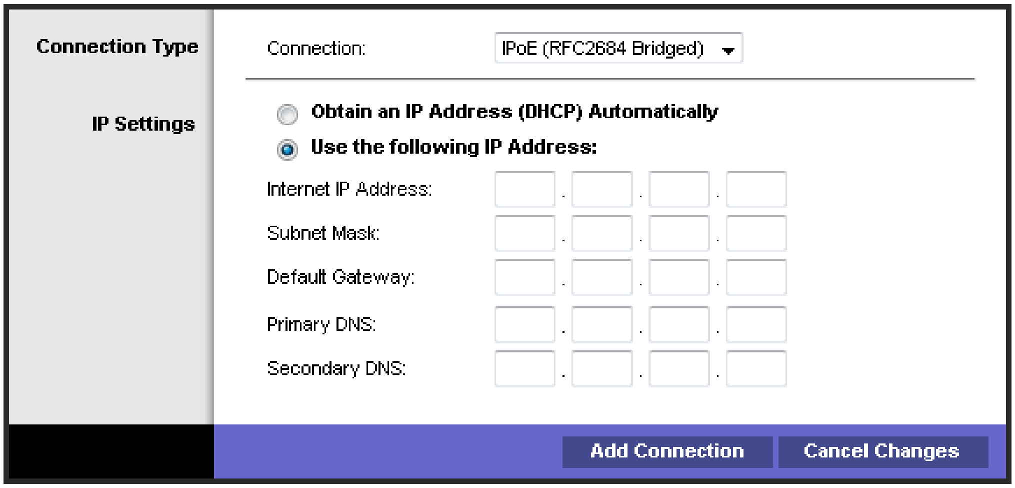
Primary DNS: . . .

Secondary DNS: . . .

4 If your service provider says you are connecting through a dynamic IP address, select the **Obtain an IP Address Automatically** option; then, continue with step 4. Otherwise, skip to step 5.

5 Enter the DNS (Domain Name System) server IP address(es) provided by your service provider in the **Primary (Required) and Secondary (Optional) DNS** fields. At least one is required. Skip to step 7.

6 If you are required to use a permanent (static) IP address to connect to the Internet, select the **Use the following IP Address** option. The screen refreshes to display the applicable fields.



Connection Type

Connection: IPoE (RFC2684 Bridged)

IP Settings

○ Obtain an IP Address (DHCP) Automatically

● Use the following IP Address:

Internet IP Address: ___ . ___ . ___ . ___

Subnet Mask: ___ . ___ . ___ . ___

Default Gateway: ___ . ___ . ___ . ___

Primary DNS: ___ . ___ . ___ . ___

Secondary DNS: ___ . ___ . ___ . ___

7 Complete the following fields using the information provided by your service provider for the following fields:

- **Internet IP Address**—Enter the Gateway's IP address, as seen from the Internet.
- **Subnet Mask**—Enter the Gateway's Subnet Mask, as seen from the Internet (including your service provider).
- **Default Gateway**—Enter the IP address of the service provider's server.
- **Primary (Required) and Secondary (Optional) DNS**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.

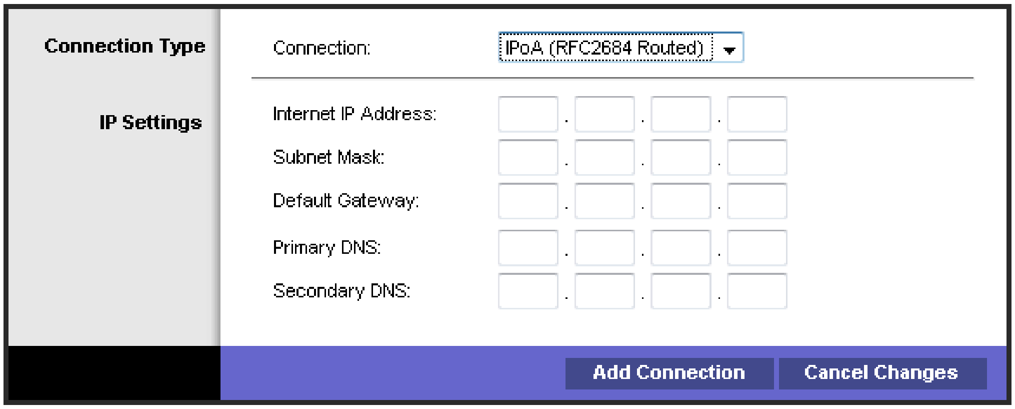
8 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

IPoA (RFC2684 Routed)

Complete the following steps to add an IPoA connection.

1 Navigate to the ADSL screen.
Path: Setup > ADSL

2 If you are required to use IPoA, then select **IPoA (RFC2684 Routed)** for the Connection Type.



Connection Type

Connection: IPoA (RFC2684 Routed)

IP Settings

Internet IP Address: . . .

Subnet Mask: . . .

Default Gateway: . . .

Primary DNS: . . .

Secondary DNS: . . .

3 Enter the values provided by your service provider for the following fields:

- **Internet IP Address**—Enter the Gateway's IP address, as seen from the Internet.
- **Subnet Mask**—Enter the Gateway's Subnet Mask, as seen from the Internet (including your service provider).
- **Default Gateway**—Enter the IP address of the service provider's server.
- **Primary (Required) and Secondary (Optional) DNS**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.

4 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

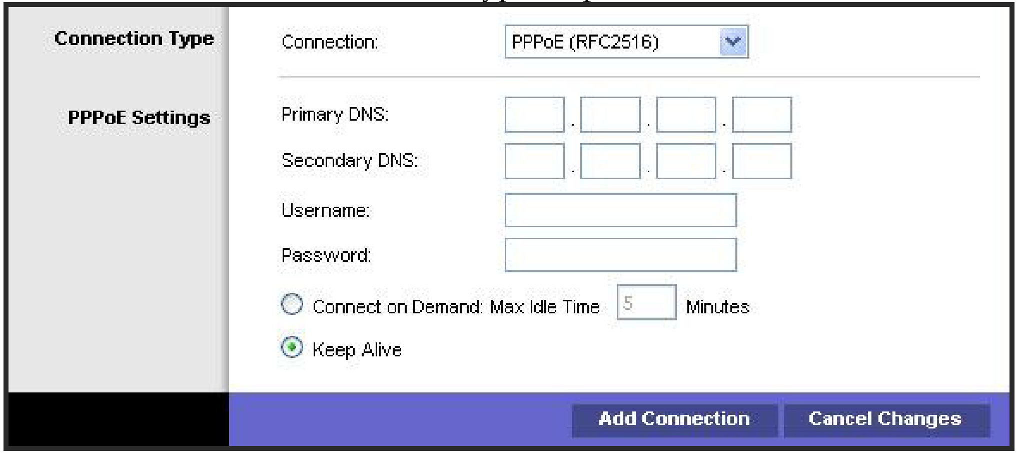
PPPoE (RFC 2516)

Some DSL-based service providers use Point-to-Point Protocol over Ethernet (PPPoE) to establish Internet connections. If you are connected to the Internet through a DSL line, check with your service provider to see if they use PPPoE. If they do, you will need to enable PPPoE.

Complete the following steps to use the PPPoE option.

1 Navigate to the ADSL screen.
Path: Setup > ADSL

2 Select **PPPoE** from the Connection Type drop-down menu.



Connection: PPPoE (RFC2516)

Primary DNS: . . .

Secondary DNS: . . .

Username:

Password:

○ Connect on Demand: Max Idle Time 5 Minutes

● Keep Alive

3 Enter the values in the following fields:

- **Primary (Required) and Secondary (Optional) DNS**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.
- **Username** and **Password**—Enter the Username and Password provided by your service provider.
- **Connect on Demand: Max Idle Time**—You can configure the Gateway to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Gateway to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is 5 minutes.
- **Keep Alive**—If you select this option, the Gateway will periodically check your Internet connection. If you are disconnected, then the Gateway will automatically re-establish your connection. To use this option, select **Keep Alive**.
- **Service Name (Advanced View)**—Enter the Service Name (optional) provided by your service provider.

4 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

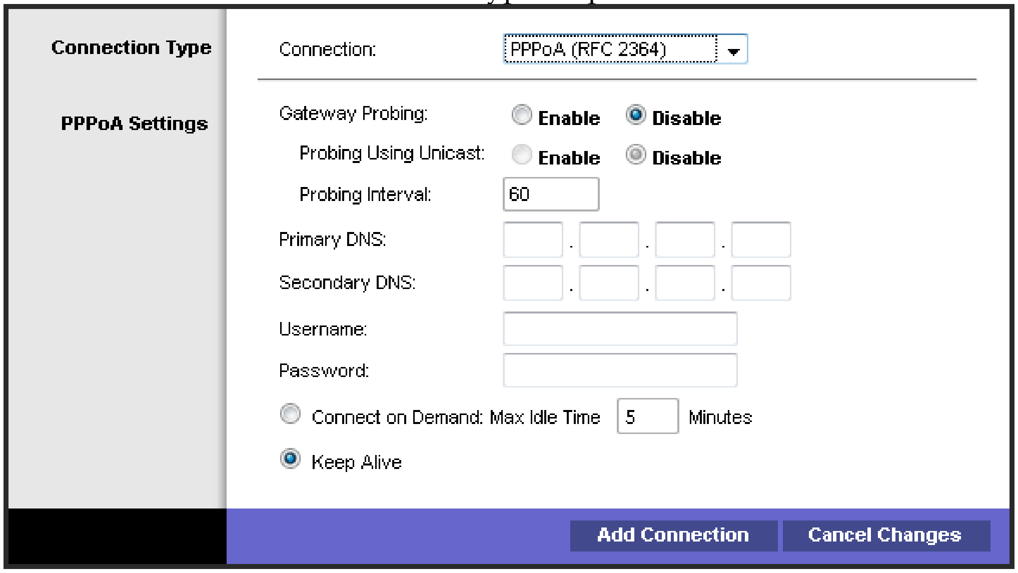
PPPoA (RFC 2364)

Some DSL-based service providers use Point-to-Point Protocol over ATM (PPPoA) to establish Internet connections. If you are connected to the Internet through a DSL line, check with your service provider to see if they use PPPoA. If they do, you will have to enable PPPoA.

Complete the following steps to use the PPPoA option.

1 Navigate to the ADSL screen.
Path: Setup > ADSL

2 Select **PPPoA** from the Connection Type drop-down menu.



Connection Type

Connection: PPPoA (RFC 2364)

PPPoA Settings

Gateway Probing: ○ Enable ● Disable

Probing Using Unicast: ○ Enable ● Disable

Probing Interval: 60

Primary DNS: . . .

Secondary DNS: . . .

Username:

Password:

○ Connect on Demand: Max Idle Time 5 Minutes

● Keep Alive

3 Enter the Basic Settings values in the following fields:

- **Gateway Probing**—This feature provides the capability for the residential gateway to detect if a loss of IP connectivity occurs. Select **Enable** if you want the WAG310G to probe the WAN default gateway at certain intervals (specified by the user) by sending an ARP request and it will look for an ARP reply from the server. Once a loss in IP connectivity is detected (i.e., no ARP reply received), the WAG310G will initiate a request for a new DHCP lease.
  - **Probing Using Unicast**—Select **Enable** to send unicast ARP requests to the server. Select **Disable** to send out broadcast ARP.
  - **Probing Interval**—Enter the number of seconds to wait after detecting the loss of connectivity before probing sending an ARP request.
- **Primary (Required) and Secondary (Optional) DNS**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.
- **Username** and **Password**—Enter the Username and Password provided by your service provider.

- **Connect on Demand: Max Idle Time**—You can configure the Gateway to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Gateway to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select Connect on Demand. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is 5 minutes.
- **Keep Alive**—If you select this option, the Gateway will periodically check your Internet connection. If you are disconnected, then the Gateway will automatically re-establish your connection. To use this option, select Keep Alive.
- **Service Name (Advanced View)**—Enter the Service Name (optional) provided by your service provider.

4. Enter the Advanced View settings values in the following fields:
   - **NAT**—To use Network Address Translation, keep the default Enabled. Otherwise, select Disabled.
   - **IGMP Forwarding**—Select Enabled, if you want to allow multicast traffic through the Router for your multimedia application devices. Otherwise, keep the default, Disabled.
   - **Dedicate The Connection To Voice (FXS1/FXS2)**—Select Enabled, if you want to use this connection for FXS1/FXS2 outbound phone calls. (You can enable this option for only one Internet connection.) Otherwise, keep the default, Disabled.
   - **VLAN ID Mark**—Enter the 802.1Q VLAN ID Mark to be used on traffic to and from the interface associated with this connection. The default is -1, which indicates that the VLAN connection is untagged. Range is 0 through 4095.
   - **802.1p Mark**—Enter the 802.1p (Ethernet priority) Mark to be used on traffic sent out on this connection. A value of -1 indicates no change from the incoming packet. The default is -1.
   - **Override Ethernet Priority**—If this option is disabled and the 802.1p Mark is specified, then the 802.1p Mark is applied only to packets of priority 0. If this option is enabled and the 802.1p Mark is specified, then the 802.1p Mark is applied to all packets on this connection. To enable this option, select the check box. Otherwise, leave the check box blank.
   - **RIP Recv Packet Version**—Select the Routing Information Protocol (RIP) version you want to use: RIP off, RIPv1, or RIPv2.
   - **Domain Name**—Enter the Domain Name for this connection. The DNS proxy will compare Domain Names to choose the connection that will send out DNS queries.

5 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

PPPoE (RFC 2364)-New Zealand

Complete the following steps if you are setting up a residential gateway in New Zealand.

1 Select **PPPoE (RFC 2364)** from the Connection drop-down menu.

2 For the Virtual Circuit ID, enter **0** for the VPI and **100** for the VCI.

3 Select **VCMUX** for Multiplexing.

4 Select **MultiMode** from the DSL Modulation drop-down menu.

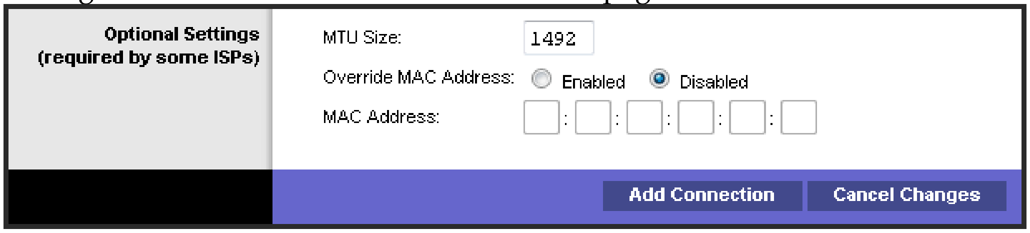
5 Obtain the User Name and Password details from your service provider.

6 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

Optional Settings

To configure the Optional Settings, complete the following steps.

1 From the ADSL setup screen, click the **Advanced View** link. The Optional Settings fields are located at the bottom of the page.



Optional Settings
(required by some ISPs)

MTU Size: 1492

Override MAC Address: ○ Enabled ● Disabled

MAC Address: □ : □ : □ : □ : □ : □

2 Configure the following fields to setup optional advanced parameters:

- **MTU Size**—Keep this value in the 1200 to 1500 range. The default MTU is configured automatically.
- **Override MAC Address**—Select this option to override the MAC address of this connection.
- **MAC Address**—If the Override MAC Address option is enabled, enter the MAC address you want to use.

3 To add the connection you have configured, click **Add Connection**, or click **Cancel Changes** to cancel your changes. After the connection has been added, a new screen appears with the PVC connection selected. You can use this screen to change settings. Refer to the following section *WAN Connection for PVC* (on page 29) for details.

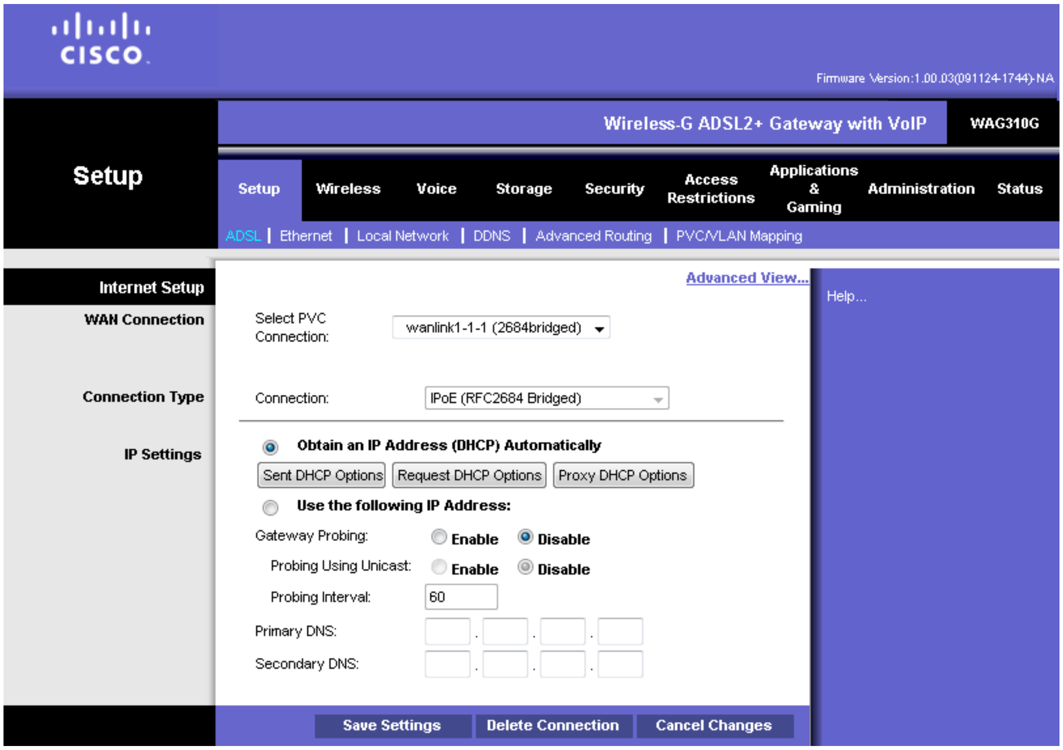
4 Click **Save Settings**.

WAN Access Options

The WAG310G supports two types of WAN access - ADSL and Ethernet. However, ADSL WAN access and Ethernet WAN are mutually exclusive. The ADSL WAN is active by default with one PVC enabled (PVC 0/35).

WAN Connection for PVC

Use this screen to change settings for the selected Wide Area Network (WAN) connection.



Select PVC Connection: wanlink1-1-1 (2684bridged)

Connection: IPoE (RFC2684 Bridged)

● Obtain an IP Address (DHCP) Automatically

○ Use the following IP Address:

Gateway Probing: ○ Enable ● Disable

Probing Using Unicast: ○ Enable ○ Disable

Probing Interval: 60

Primary DNS: ___ . ___ . ___ . ___

Secondary DNS: ___ . ___ . ___ . ___

For most WAN connection types, the displayed settings match the settings on the Setup > ADSL screen; however, additional options appear for IPoE.

Note: PVCs are layer 2 (physical and link), while WAN connections are layer 3, meaning IP and Point-to-Point (PPP) connections. Each PVC supports multiple connections. For each PVC, you can configure one IP connection and up to four PPP over Ethernet (PPPoE) connections. (This type of configuration helps separate out the different types of traffic.)

Complete the following steps to setup the additional options for a WAN connection with a connection type of IPoE.

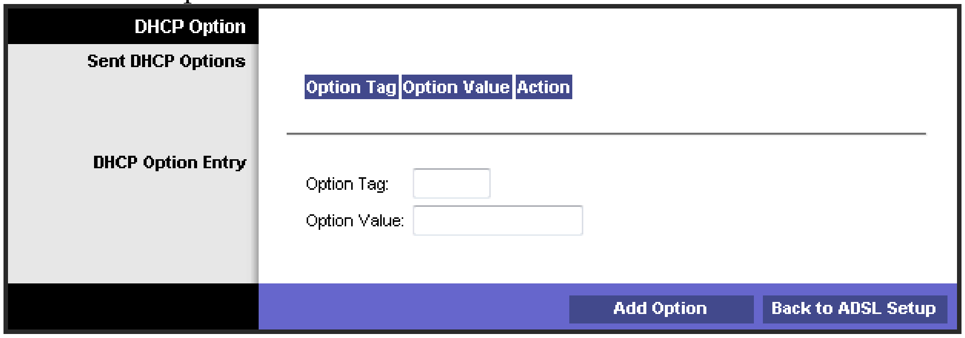
1 Navigate to the ADSL screen.
Path: Setup > ADSL

2 Select for the desired Connection Type for the PVC setup for WAN. The screen refreshes to display the applicable fields.

3 If your service provider says you are connecting through a dynamic IP address, select the **Obtain an IP Address Automatically** option; then, continue with step 4. Otherwise, skip to step 6.

4 When you select the Obtain an IP Address Automatically option for an IPoE WAN connection, you can configure the following additional parameters for DHCP transactions:

- Sent DHCP Options button.

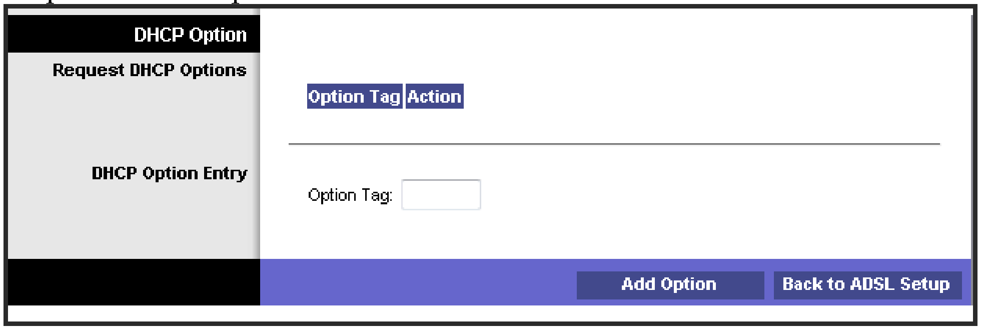


a **Option Tag**—Enter the DHCP Option Tag to be included in the DHCP Sent request.

b **Option Value**—Enter the DHCP Option Value to be included in the DHCP Sent request. The value must be a hexadecimal string to represent a binary option value. (No check is performed on these values.)

c To add the entry, click **Add Option**. To cancel your changes and return to the ADSL screen, click **Back to ADSL Setup**.

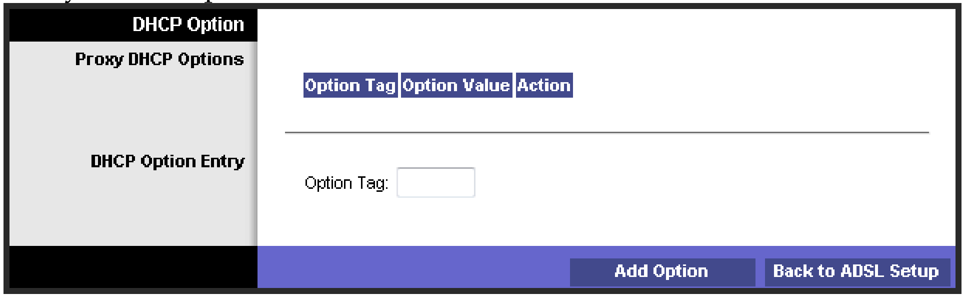
- Request DHCP Options button.



a **Option Tag**—Enter the DHCP Option Tag to be included in the DHCP request.

b To add the entry, click **Add Option**. To cancel your changes and return to the ADSL screen, click **Back to ADSL Setup**.

- Proxy DHCP Options button.



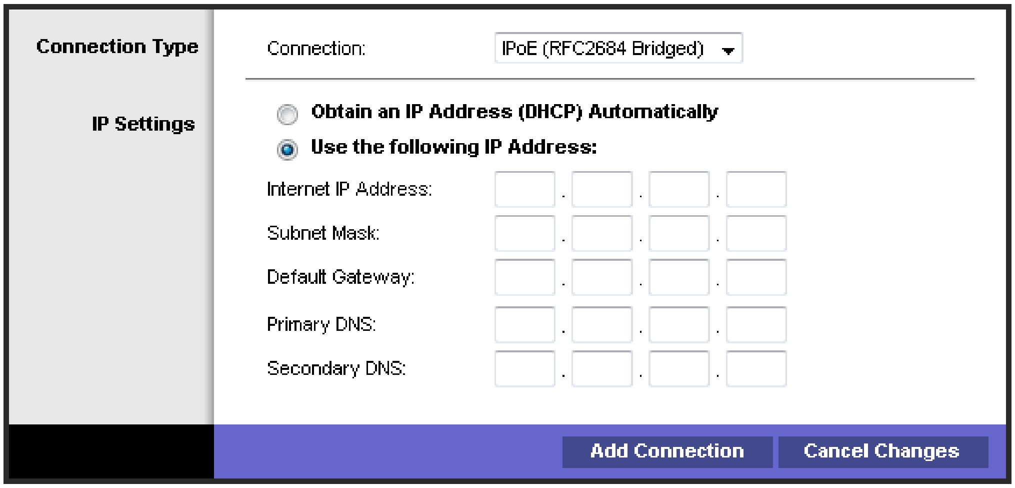
Note: The read-only Option Value is from the DHCP server on the WAN side. To delete an option, click **Delete**.

a **Option Tag**—Enter the DHCP Option Tag to be proxyed to the LAN if it is received from the DHCP server on the WAN side.

b To add the entry, click **Add Option**. To cancel your changes and return to the ADSL screen, click **Back to ADSL Setup**.

5 Enter the DNS (Domain Name System) server IP address(es) provided by your service provider in the **Primary (Required) and Secondary (Optional) DNS** fields. At least one is required. Skip to step 7.

6 If you are required to use a permanent (static) IP address to connect to the Internet, select the **Use the following IP Address** option. The screen refreshes to display the applicable fields.



Connection: IPoE (RFC2684 Bridged)

○ Obtain an IP Address (DHCP) Automatically

● Use the following IP Address:

7 Complete the following fields using the information provided by your service provider for the following fields:

- **Internet IP Address**—Enter the Gateway's IP address, as seen from the Internet.
- **Subnet Mask**—Enter the Gateway's Subnet Mask, as seen from the Internet (including your service provider).

- **Default Gateway**—Enter the IP address of the service provider's server.
- **Primary (Required) and Secondary (Optional) DNS**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.

8 Click **Add Connection** at the bottom of the screen (or click **Cancel Changes** to cancel your changes). After the connection has been added, the screen refreshes with the PVC connection selected.

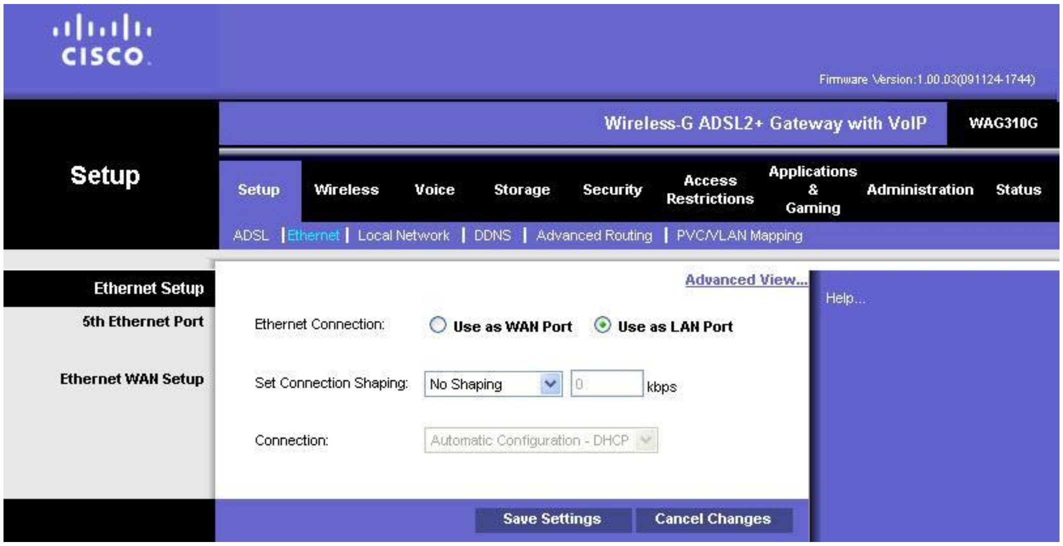
Save Settings

After setting up the WAG310G parameters, click the **Save Settings** button. The changes are saved and the configuration changes are applied to the running configuration.

Ethernet

Configure the residential gateway's Ethernet settings on this screen.

Path: Setup > Ethernet



Ethernet Connection: ○ Use as WAN Port ● Use as LAN Port

Set Connection Shaping: No Shaping 0 kbps

Connection: Automatic Configuration - DHCP

Note: There are two views available, **Basic** and **Advanced**. The default view is Basic. To display the Advanced View, click **Advanced View**. To return to the Basic View, click **Basic View**.

5th Ethernet Port

Complete the following steps to configure the fifth Ethernet port on your residential gateway.
Note: If you use the fifth Ethernet port as a WAN port, then the ADSL port is automatically disabled, and all routing goes to other Ethernet ports.

1. Select the desired **Ethernet Connection** setting as follows:
   - To use the fifth Ethernet port as a WAN port, select **Use as WAN Port**. Continue with step 2.
   - To use the fifth Ethernet port as a Local Area Network (LAN) port, select **Use as LAN Port**. Skip to step 3.
2. Configure the Ethernet WAN Setup settings that appear:

   a **Set Connection Shaping**—To disable QoS Shaping, select **No Shaping**. To shape according to link speed, select **Auto (link speed)**. To manually enter the shape rate, select **Manual**, and then enter the number of kbps in the field provided.

b Select the connection you want to use:

- **Automatic Configuration - DHCP** (This option usually applies to cable connections.)
- **Static IP**—If you select this option, you need to configure the following:
  - **Internet IP Address**—Enter the Gateway's IP address, as seen from the Internet.
  - **Subnet Mask**—Enter the Gateway's Subnet Mask, as seen from the Internet (including your service provider).
  - **Default Gateway**—Enter the IP address of the service provider's server.
  - **Static DNS 1 (Required) and DNS 2 (Optional)**—Enter the DNS (Domain Name System) server IP address(es) provided by your service provider. At least one is required.
- **PPPoE**—Configure the Basic Settings for this connection type:
  - **Username** and **Password**—Enter the Username and Password provided by your service provider.
  - **Connect on Demand: Max Idle Time**—You can configure the Gateway to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Gateway to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is 5 minutes.
  - **Keep Alive**—If you select this option, the Gateway will periodically check your Internet connection. If you are disconnected, then the Gateway will automatically re-establish your connection. To use this option, select **Keep Alive**.
- **PPPoE**—Configure the Advanced Settings for this connection type:
  - **Service Name**—Enter the Service Name (optional) provided by your service provider.
  - **NAT**—To use Network Address Translation, keep the default **Enabled**. Otherwise, select **Disabled**.
  - **IGMP Forwarding**—Select **Enabled**, if you want to allow multicast traffic through the Router for your multimedia application devices. Otherwise, keep the default, **Disabled**.
  - **VLAN ID Mark**—Enter the 802.1Q VLAN ID Mark to be used on for traffic to and from the interface associated with this connection. The default is -1, which indicates that the VLAN connection is untagged. Range is 0 through 4095.

- **802.1p Mark**—Enter the 802.1p (Ethernet priority) Mark to be used on traffic sent out on this connection. A value of -1 indicates no change from the incoming packet. The default is -1.
- **Override Ethernet Priority**—If this option is disabled and the 802.1p Mark is specified, then the 802.1p Mark is applied only to packets of priority 0. If this option is enabled and the 802.1p Mark is specified, then the 802.1p Mark is applied to all packets on this connection. To enable this option, select the check box. Otherwise, leave the check box blank.
- **RIP Recv Packet Version**—Select the Routing Information Protocol (RIP) version you want to use: **RIP off**, **RIPv1**, or **RIPv2**.
- **Domain Name**—Enter the Domain Name for this connection. The DNS proxy will compare Domain Names to choose the connection that will send out DNS queries.

3 Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

Ethernet WAN Access

The Ethernet WAN is connected using the port labeled 'Ethernet WAN/LAN' on the back of the WAG310G. This port, when configured as the WAN port, will allow either 1 IP or 1 PPP connection. The Ethernet WAN may be configured to use a DCHP, Static IP, or PPPoE connection and is configured in the SETUP/Ethernet page by selecting the option 'Use as WAN Port'. If 'Use as LAN Port' is selected, the 5th LAN port becomes another Ethernet port on the LAN switch (and shows up in PVC/VLAN mapping page).

By default the Ethernet WAN is disabled. The Ethernet WAN adds a level of flexibility to the WAG310G by offering another method of WAN access. It can be used to support high-bandwidth fiber (FTTx) network deployments or can be used when placing the WAG310G behind a DSL/Cable modem and using as an wireless access point and router.

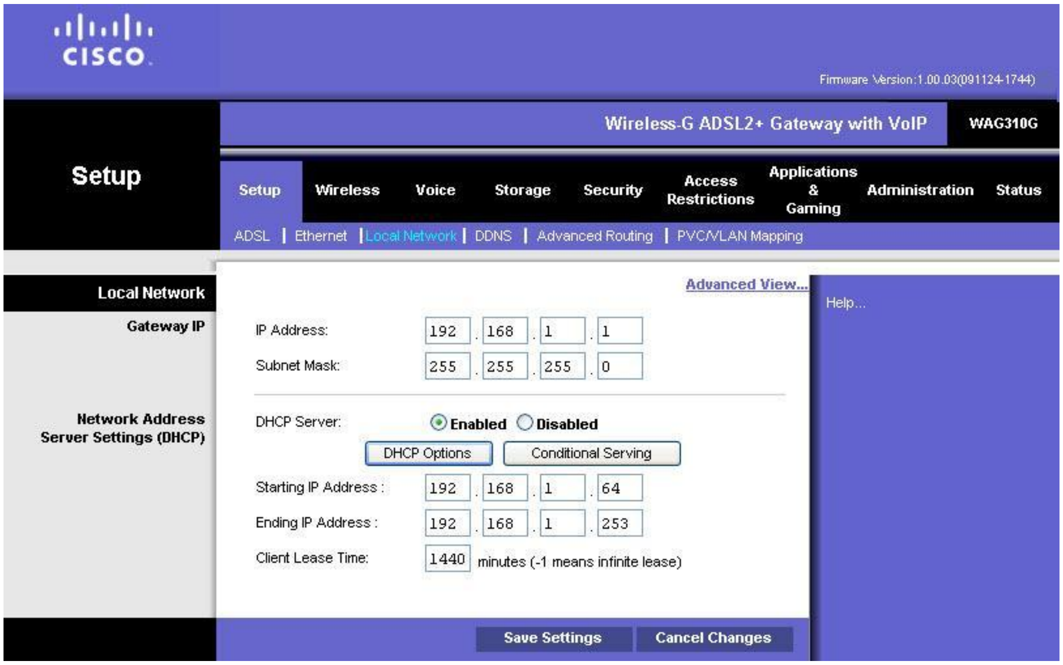
Ethernet WAN is mutually exclusive with the ADSL WAN. Only one can be activated at a time.

Local Network

The Local Network section changes the settings on the network connected to the residential gateway's Ethernet ports. Wireless setup is performed through the Wireless tab.

Configure the WAG310G's Local Area Network (LAN) settings on this screen.

Path: Setup > Local Network



IP Address: 192 . 168 . 1 . 1

Subnet Mask: 255 . 255 . 255 . 0

DHCP Server: ● Enabled ○ Disabled

Starting IP Address : 192 . 168 . 1 . 64

Ending IP Address : 192 . 168 . 1 . 253

Client Lease Time: 1440 minutes (-1 means infinite lease)

Note: There are two views available, Basic and Advanced. The default view is Basic. To display the Advanced View, click **Advanced View**. To return to the Basic View, click **Basic View**.

Gateway IP

The values for the residential gateway's local IP Address and Subnet Mask are displayed on this screen. In most cases, keeping the device will operate properly when the default values are used.

IP Address—The default value is 192.168.1.1.

Subnet Mask—The default value is 255.255.255.0.

Network Address Server Settings (DHCP)

The Network Address Server Settings (DHCP) allow you to configure the residential gateway's Dynamic Host Configuration Protocol (DHCP) server function. The residential gateway can be used as a DHCP server for your network. A DHCP server automatically assigns an IP address to each computer on your network. If you choose to enable the residential gateway's DHCP server option, make sure there is no other DHCP server on your network.

1 Select **Enabled** for the DHCP Server field to allow the server to automatically assign an IP address to each computer on your network for you. Unless you already have, Cisco recommends that you keep the default, **Enabled**.

2 Configure the following parameters per the guidelines provided:

- **Starting IP Address**—Enter a value for the DHCP server to start with when issuing IP addresses. Because the gateway default IP address is 192.168.1.1, the Starting IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.253. The default is 192.168.1.64.
- **Ending IP Address**—Enter a value for the DHCP server to end with when issuing IP addresses.. The default is 192.168.1.253.
- **Client Lease Time**—The amount of time a network device is allowed connection to the gateway with its current dynamic IP address. Enter the number of minutes that the device is "leased" this dynamic IP address. After the time is up, the device is automatically assigned a new dynamic IP address. An entry of -1 means inifite lease. The default is 1440 minutes.
- **DNS Proxy (Advanced View)**—The Domain Name System (DNS) is how the Internet translates domain or website names into Internet addresses or URLs. To use DNS Proxy, keep the default, Enable. Otherwise, select Disable.
- **Static DNS 1,2, 3 (Advanced View)**—These entries are valid only when the DNS Proxy option is disabled. At least one DNS server IP address is provided by your ISP. You can enter up to three DNS server IP addresses here. The gateway uses these for quicker access to functioning DNS servers.
- **WINS (Advanced View)**—The Windows Internet Naming Service (WINS) converts NetBIOS names to IP addresses. If you use a WINS server, enter that server IP address here. Otherwise, leave this field blank.
- **Domain Name (Advanced View)**—Enter the domain name of your local network.
- **Reserved IP List (Advanced View)**—Enter the IP addresses you want to reserve, so they will not be leased to DHCP clients.

3 Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

DHCP Options

DHCP Options settings are configurable and passed to WAG310G client requests. A maximum of 15 DHCP Options can be entered for a local network or each Conditional Serving entry.

Complete the following steps to configure DHCP Options.

1. Click the DHCP Options button (available only if DHCP is enabled). A new window appears.
2. Configure the following parameters per the guidelines provided:
   - **DHCP Option**—The following DHCP options are supported: 1, 3, 6, 12, 15, 43, 43, 51, 54, 56, 58, 59, 121, 125 and 128.
   - **DHCP Option Value**—This value is stored as binary string on the Gateway. For some DHCP options, the user can enter a native format such as an IP Address or integer; for others, the user must enter HEX strings to represent binary string of a DHCP option. (No check is performed on these values.)
3. Click **Save Settings** to apply your changes, or click **Go Back** to cancel your changes and return to the Local Network screen.

Conditional Serving

Conditional Serving Pool settings are configurable and passed to WAG310G client requests.

Complete the following steps to configure the Conditional Serving Pool settings (available only if DHCP is enabled).

1. Click the **Conditional Serving** button. A new window appears.
2. Configure the Conditional Serving Pool parameters:
   a. **Enable DHCP Conditional Serving**—To enable this option, select the check box. Otherwise, leave the check box blank.
   b. For each entry, the table lists the following: MAC Address, Vendor Class ID, User Class ID, Client ID, Host Name, Domain Name, IP Address, Precedence, and Action.
   c. To delete an entry, click **Delete**. To configure the DHCP options for an entry, click **DHCP Option**.
3. Configure the Conditional Serving Entry parameters:
   - **Precedence**—Enter the Precedence value. A lower value indicates higher priority.
   - **MAC Address**—Enter the MAC Address, if applicable as a filter condition.
   - **Vendor Class ID**—Enter the Vendor Class ID, if applicable as a filter condition.
   - **User Class ID**—Enter the User Class ID, if applicable as a filter condition.

- **Client ID**—Enter the Client ID, if applicable as a filter condition. This field accepts ASCII or hexadecimal strings. To enter a hexadecimal string, add 0x before the string.
- **Host Name**—Enter the Host Name, if applicable as a filter condition.
- **Domain Name**—If there is a match, the DHCP server will assign this Domain Name to the host.
- **IP Address**—If there is a match, the DHCP server will assign this IP Address to the host.

4 Click **Add Entry** to add a new entry to the table. Click **Save Settings** to apply your changes.

5 Click **Back to LAN Setup** to return to the Local Network screen.

6 Configure the following parameters:

- **Starting IP Address**—Enter a value for the DHCP server to start with when issuing IP addresses. Because the Gateway's default IP address is 192.168.1.1, the Starting IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.253. The default is 192.168.1.64.
- **Ending IP Address**—Specify the final IP address of the range available for assignment. The default is 192.168.1.253.
- **Client Lease Time**—The Client Lease Time is the amount of time a network device will be allowed connection to the Gateway with its current dynamic IP address. Enter the number of minutes that the device will be "leased" this dynamic IP address. After the time is up, the device will be automatically assigned a new dynamic IP address. The default is 1440 minutes.

7 Click the Advanced View link and configure the available options:

- **DNS Proxy**—The Domain Name System (DNS) is how the Internet translates domain or website names into Internet addresses or URLs. To use DNS Proxy, keep the default, **Enable**. Otherwise, select **Disable**.
- **Static DNS 1-3**—These entries are valid only when the DNS Proxy option is disabled. At least one DNS server IP address is provided by your service provider. You can enter up to three DNS server IP addresses here. The Gateway will use these for quicker access to functioning DNS servers.
- **WINS**— The Windows Internet Naming Service (WINS) converts NetBIOS names to IP addresses. If you use a WINS server, enter that server's IP address here. Otherwise, leave this field blank.
- **Domain Name**—Enter the Domain Name of your local network.
- **Reserved IP List**—Enter the IP addresses you want to reserve, so they will not be leased to DHCP clients.

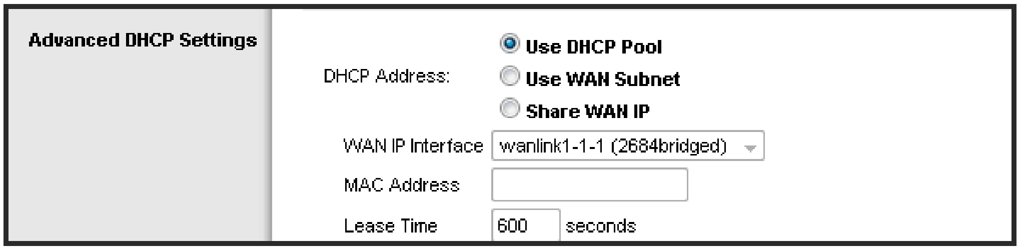
8 Click **Add Entry**; then, click **Back to LAN Setup** to return to the Local Network screen.

9 Click **Save Settings** to save.

Advanced DHCP Settings (Advanced View)

Complete the following steps to configure the Local Network DHCP Settings available from the Advanced View:

1 Navigate to the Advanced DHCP Settings.
Path: Setup > Local Network > Advanced View



Advanced DHCP Settings

DHCP Address: ● **Use DHCP Pool** ○ **Use WAN Subnet** ○ **Share WAN IP**

WAN IP Interface: wanlink1-1-1 (2684bridged)

MAC Address:

Lease Time: 600 seconds

2 Select the desired option for the the **DHCP Address**, which defines the DHCP address allocation method:

- **Use DHCP Pool**—This option assigns local IP addresses from the DHCP pool you have defined. This is the default option for this parameter. Skip to step 5.
- **Use WAN Subnet**—Select this option to have the local network devices share the WAN subnet address. In this pass-through mode, the local computers get WAN-side IP addresses. They bypass NAT and are visible on the service provider’s network. However, these computers can still communicate with other computers that are allocated private IP addresses. Continue with step 3.
- **Share WAN IP**—Select this option to have a local network device share the WAN IP address. In this mode, which is also known as super-DMZ mode, a single computer bypasses NAT. You can specify the computer’s MAC address in the **MAC Address** field. Continue with step 3.

3 If you selected Use WAN Subnet or Share WAN IP, select the appropriate WAN IP connection to use from the **WAN IP Interface** drop-down menu.

4 If you selected Share WAN IP, enter the MAC address of the local network device in the **MAC Address** field.

5 In the **Lease Time** field, enter the number of seconds you want the local network device to lease the WAN IP address.

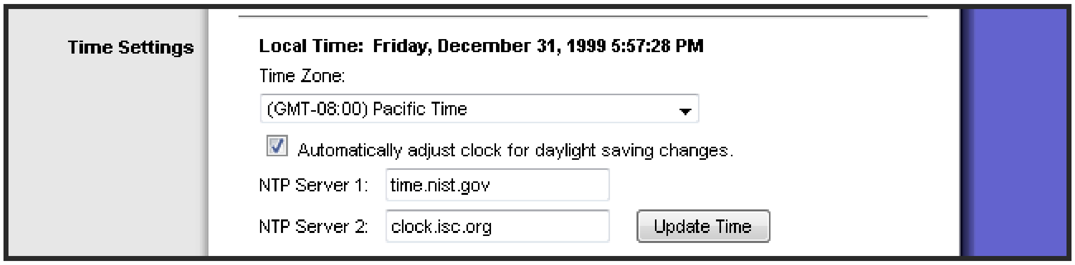
6 Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

Setting System Date and Time

Time Settings

Complete the following steps to set time and date.

1 In the the **Time Zone field**, select the time zone in which your network functions.



Time Settings

Local Time: Friday, December 31, 1999 5:57:28 PM

Time Zone: (GMT-08:00) Pacific Time

☑ Automatically adjust clock for daylight saving changes.

NTP Server 1: time.nist.gov

NTP Server 2: clock.isc.org

2 If you want the Gateway to automatically adjust for daylight saving time, select the **Automatically adjust clock for daylight saving changes** option.

3 In the **NTP Server 1/2** field, enter the URL (web address) of the Network Time Protocol (NTP) server you want to use.
Note: The default NTP servers are time.nist.gov and clock.isc.org.

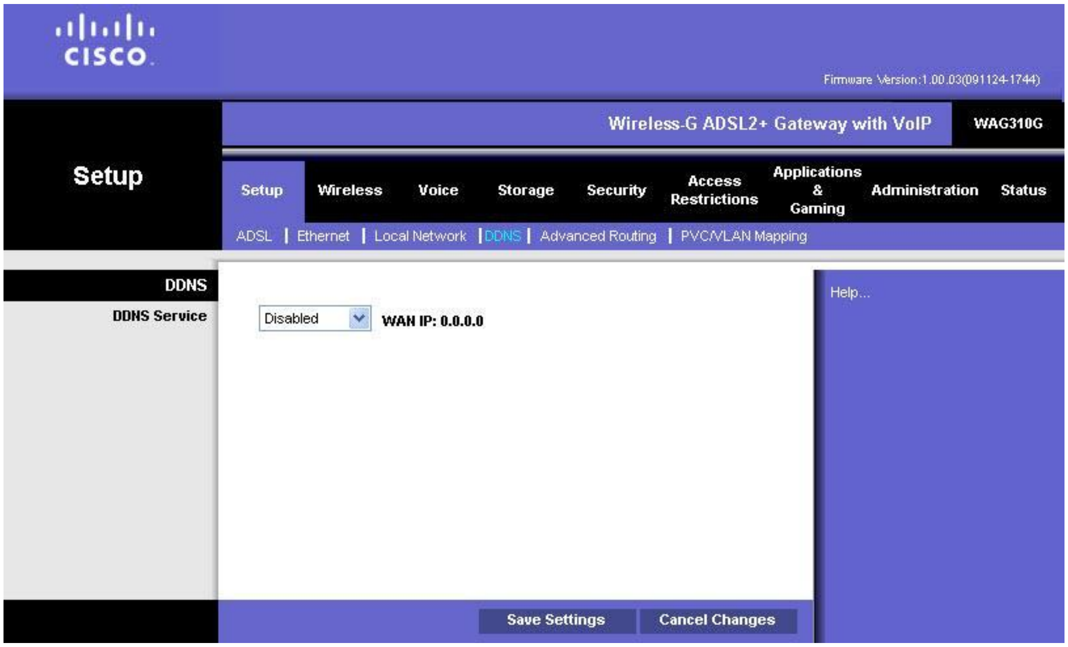
4 Click **Update Time** to immediately synchronize the Gateway with the NTP server.

5 Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

DDNS

The Gateway offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP address. It is useful when you are hosting your own website, FTP server, or other server behind the Gateway.

Path: Setup > DDNS


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Setup
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
ADSL | Ethernet | Local Network | DDNS | Advanced Routing | PVC/VLAN Mapping
DDNS
Help...
Save Settings
Cancel Changes

DDNS Service: Disabled WAN IP: 0.0.0.0

Before you can use this feature, you need to sign up for DDNS service with a DDNS service provider, www.dyndns.org or www.TZO.com. If you do not want to use this feature, keep the default, **Disabled**.

DDNS Service

Complete the following steps to configure a DDNS Service on your residential gateway.

Note: The features available on the DDNS screen will vary, depending on which DDNS service provider you use.

1. From the DDNS Service drop-down menu, select the option associated with your service provider:
   - Select **DynDNS.org** if your DDNS service is provided by DynDNS.org.
   - Select **TZO.com** if your DDNS service is provided by TZO.
2. Based on your selection in step 1, complete the applicable fields:
   - **WAN IP**—The WAN IP address of the Gateway is displayed.

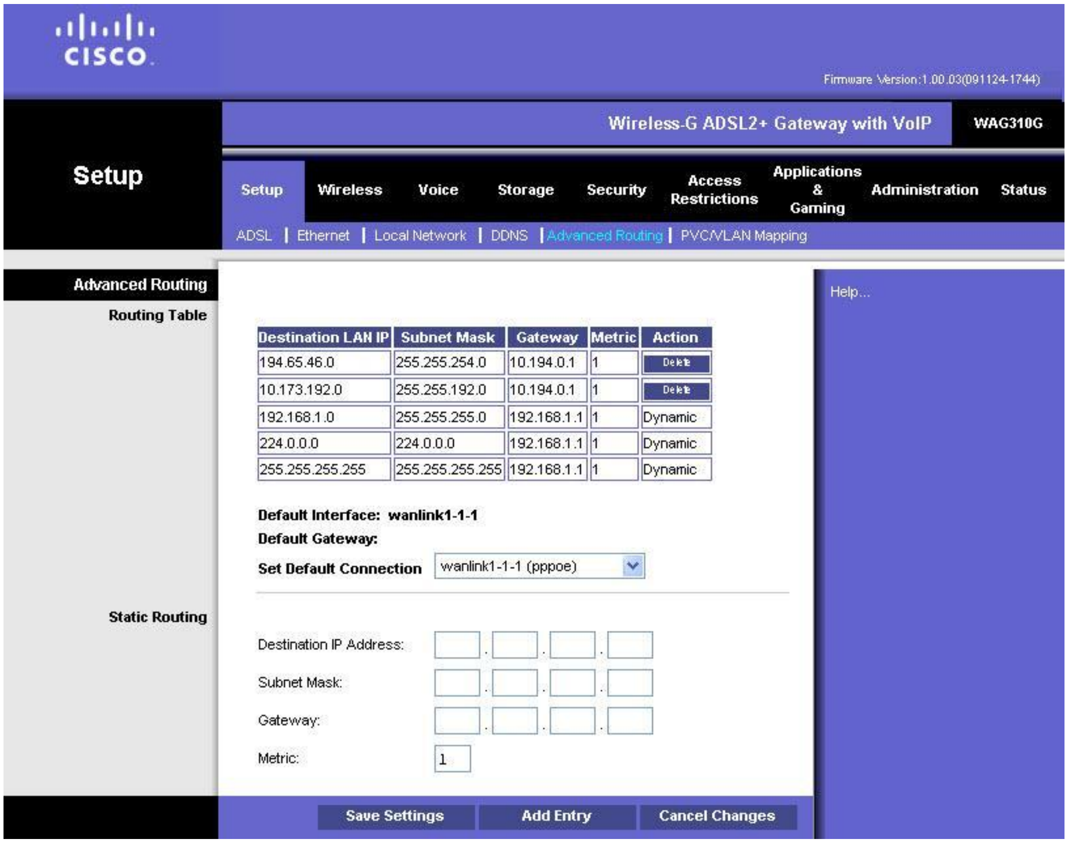
- **User/Email**—Enter the user name or e-mail address for your account.
- **Password/Key**—Enter the password or key for your account.
- **Host Name**—Enter the DDNS URL assigned by the service.
- **Status**—The status of the DDNS service connection is displayed.
- **Connect**—To manually trigger an update, click this button.

3 Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

Advanced Routing

This screen is used to set up the Gateway's advanced routing functions. Static Routing sets up a fixed route to another network destination.

Path: Setup > Advanced Routing



Destination LAN IP	Subnet Mask	Gateway	Metric	Action
194.65.46.0	255.255.254.0	10.194.0.1	1	Delete
10.173.192.0	255.255.192.0	10.194.0.1	1	Delete
192.168.1.0	255.255.255.0	192.168.1.1	1	Dynamic
224.0.0.0	224.0.0.0	192.168.1.1	1	Dynamic
255.255.255.255	255.255.255.255	192.168.1.1	1	Dynamic

Default Interface: wanlink1-1-1

Default Gateway:

Set Default Connection: wanlink1-1-1 (pppoe)

Destination IP Address: . . .

Subnet Mask: . . .

Gateway: . . .

Metric: 1

Routing Table

For each route, the Destination LAN IP address, Subnet Mask, Gateway, and Metric are displayed. In the Action column, click **Delete** to delete a static route.

Default Interface—The default Layer 3 connection is displayed.

Default Gateway—The default next-hop gateway of the default interface is displayed.

Default Connection—This advanced setting usually indicates the default connection since the Gateway supports multiple WAN connections. If the Gateway has multiple connections, specify which one is the default.

Static Routing

A static route is a pre-determined pathway that network information must travel to reach a specific host or network. Enter the information described below to set up a new static route.

Note: When you add a static route, certain rules apply. For example, the Gateway must belong to the subnet of any of the router's interfaces.

Destination IP Address—The Destination IP Address is the IP address of the remote network or host to which you want to assign a static route.

Subnet Mask—The Subnet Mask determines which portion of a Destination IP Address is the network portion, and which portion is the host portion.

Gateway—This is the IP address of the gateway device that allows for contact between the Gateway and the remote network or host.

Metric—This is the number of hops to each node until the destination is reached (16 hops maximum). Enter the appropriate Metric. The default is **1**.

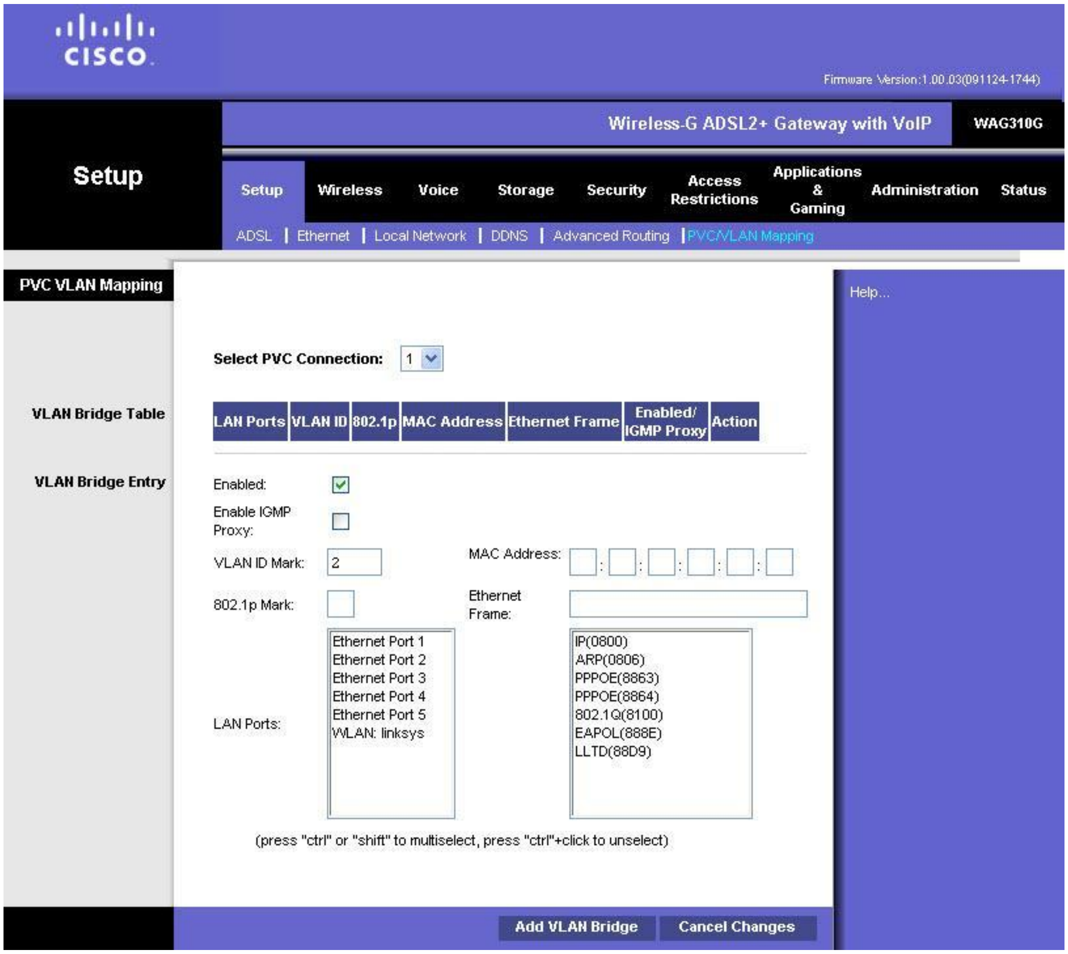
To save the static route you have configured, click **Add Entry**. Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

PVC/VLAN Mapping

This advanced screen is used to map the PVCs to the Virtual Local Area Networks (VLANs). When you create a mapping, a layer 2 bridge is formed between the Gateway’s LAN port (including WLAN SSID) and WAN port (PVC or Ethernet WAN).

Cisco recommends that you configure this screen according to your service provider’s instructions. For example, when Ethernet port 1 is connected to a set-top box, a PVC mapping is created for Ethernet port 1 and PVC 1 with VLAN 1002. Traffic is marked with the configured VLAN ID when it travels to the service provider’s network.

Path: Setup > PVC/VLAN Mapping



Select PVC Connection: 1

VLAN Bridge Table

LAN Ports	VLAN ID	802.1p	MAC Address	Ethernet Frame	Enabled/ IGMP Proxy	Action

VLAN Bridge Entry

Enabled: ☑

Enable IGMP Proxy: □

VLAN ID Mark: 2

MAC Address: __:__:__:__:__:__

802.1p Mark:

Ethernet Frame:

LAN Ports:
Ethernet Port 1
Ethernet Port 2
Ethernet Port 3
Ethernet Port 4
Ethernet Port 5
WLAN: linksys

IP(0800)
ARP(0806)
PPPOE(8863)
PPPOE(8864)
802.1Q(8100)
EAPOL(888E)
LLTD(88D9)

(press "ctrl" or "shift" to multiselect, press "ctrl"+click to unselect)

Select PVC Connection—Select the PVC you want to map.

VLAN Bridge Table

For each entry, the table lists the following: LAN Ports, VLAN ID, 802.1p, MAC Address, Ethernet Frame, Enable status, and Action. To delete an existing PVC/VLAN mapping, click **Delete**.

VLAN Bridge Entry

Enabled—Select Enabled to enable the mapping rule.

Enable IGMP Proxy—Select for more efficient use of resources for gaming or applications.

VLAN ID—Enter the VLAN you want to map. The default is 2.

MAC Address—Enter the packet's source MAC address, if applicable as a filter condition.

802.1p—Enter the priority level for each port. These are the mappings to 802.1p:

- 6 High (highest, EF)
- 5 Medium (CS)
- 4 Normal (CS)
- 0 Low (best effort)
- -1 No Change (no change to the original 8021. p value)

Cisco recommends the following:

- For voice and video traffic, enter **6**.
- For gaming or mission-critical traffic, enter **5**.
- For normal traffic, enter **4**.
- For low-priority traffic, enter **0**.

LAN Ports—Every LAN interface is listed, including the Ethernet ports and Wireless Local Area Network (WLAN) ports. (The WLAN ports are listed with their wireless network names, also known as SSIDs.) Select the appropriate LAN interface. For multiple selection, press the **Ctrl** or **Shift** key. To deselect, use **Ctrl + click** (click the selection).

Ethernet Frame—The Ethernet frame types are listed. Select the packet's Ethernet frame type, if applicable as a filter condition. For multiple selection, press the **Ctrl** or **Shift** key. To deselect, use **Ctrl + click** (click the selection).

Click **Add VLAN Bridge** to create a new PVC/VLAN mapping, or click **Cancel Changes** to cancel your changes

4

Wireless

Introduction

The WAG310G supports a single-radio, single antenna Access Point with the ability to configure 4 separate SSIDs. An existing SSID 'wag310g' is enabled by default. Additional SSIDs, SSID Broadcasting, and Security settings can be configured separately per SSID.

There are two ways to configure security for the WAG310G. The web-configuration GUI enables an administrator to configure different security modes for an SSID. The WAG310G supports WEP, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, and WPS. By default, security is disabled.

In This Chapter

Basic Settings

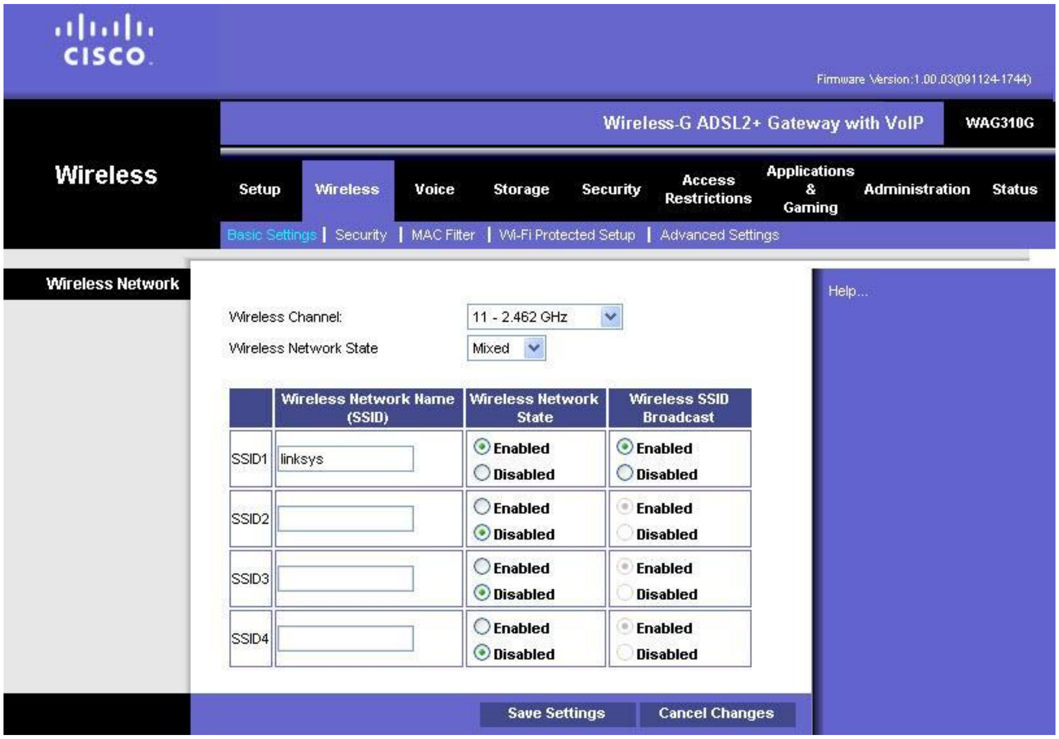
Path: Wireless > Basic Settings

The basic settings for wireless networking are set on this screen.

There are two ways to configure the residential gateway's wireless settings, manual and Wi-Fi Protected Setup. For manual configuration, use this screen to change the settings.

Wi-Fi Protected Setup is a feature that makes it easy to set up your wireless network. If you have devices that support Wi-Fi Protected Setup, then click the Wi-Fi Protected Setup tab, and follow the on-screen instructions (refer to the ***Wi-Fi Protected Setup*** (on page 59) section for more information).

Note: Wi-Fi Protected Setup can only be used for the default wireless network. (The residential gateway supports up to four wireless networks. The other three can be configured using the residential gateway's web-based utility.)



Wireless Channel: 11 - 2.462 GHz

Wireless Network State: Mixed

	Wireless Network Name (SSID)	Wireless Network State	Wireless SSID Broadcast
SSID1	linksys	● Enabled ○ Disabled	● Enabled ○ Disabled
SSID2		○ Enabled ● Disabled	○ Enabled ○ Disabled
SSID3		○ Enabled ● Disabled	○ Enabled ○ Disabled
SSID4		○ Enabled ● Disabled	○ Enabled ○ Disabled

Wireless Network

Wireless Channel—Select the channel you want to use. All devices in your wireless network must use the same channel in order to communicate. If you do not select a particular channel number, the default setting will be Auto-scan Channel in which case the residential gateway scans the network and chose the channel with the least interference.

Wireless Network State—Select the wireless standards running on your network. If you have Wireless-G and Wireless-B devices in your network, keep the default, Mixed. If you have only Wireless-G devices, select G-Only. If you have only Wireless-B devices, select B-Only. If you do not have any wireless devices, select Disabled.

The Gateway supports up to four wireless networks. By default, only the first wireless network is enabled. On the Wireless Security and MAC Filter screens, you can configure different security settings and MAC filtering rules for each wireless network.

Configure the following settings for each wireless network (SSID1-4):

- **Wireless Network Name (SSID)**—The network name is case-sensitive and must not exceed 32 characters (use any of the characters on the keyboard). Cisco recommends that you change the default name of the first network to a unique name of your choice.
- **Wireless Network State**—If you want to use the wireless network, select **Enabled**. Otherwise, select **Disabled**.
- **Wireless SSID Broadcast**—When wireless devices survey the local area for wireless networks to associate with, they will detect the wireless network name or SSID broadcast by the Gateway.
- If you want to broadcast the residential gateway's SSID, keep the default, **Enabled**. Otherwise, select **Disabled**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

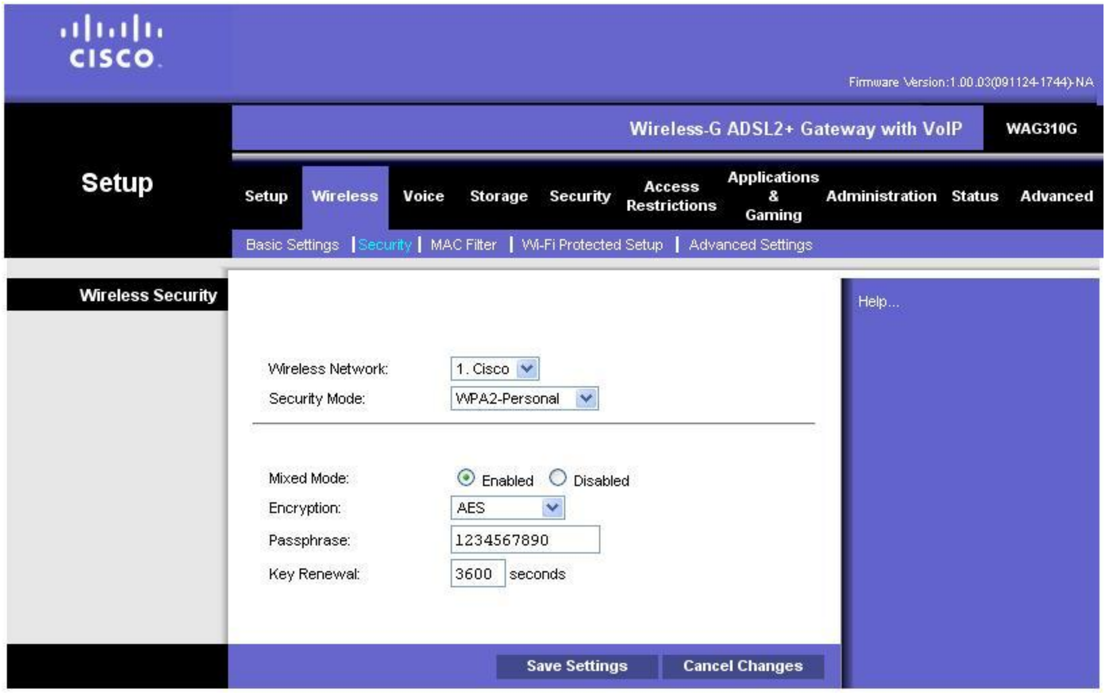
Security

The Wireless Security screen configures the security of your wireless network(s). The gateway supports the following wireless security mode options:

- Wi-Fi Protected Access (WPA)-Personal
- WPA2-Personal
- Wired Equivalent Privacy (WEP)
- WPA-Enterprise
- WPA2-Enterprise
- WPA is a stronger security standard than WEP encryption.

Note: If you used Wi-Fi Protected Setup to configure your wireless network(s), wireless security has already been set up. Do not make changes to the Security screen.

Path: Wireless > Security



Wireless Network: 1. Cisco

Security Mode: WPA2-Personal

Mixed Mode: ● Enabled ○ Disabled

Encryption: AES

Passphrase: 1234567890

Key Renewal: 3600 seconds

Wireless Network—Select the wireless network you want to configure.

Security Mode—Select the security method for your wireless network. Proceed to the appropriate instructions. If you do not want to use wireless security, keep the default, **Off**.

Note: If you are using wireless security, remember that each device in your wireless network MUST use the same security method and settings, or else the wireless devices cannot communicate.

Wireless Security Checklist

Wireless networks are convenient and easy to install, so homes with high-speed Internet access are adopting them at a rapid pace. Because wireless networking operates by sending information over radio waves, it can be more vulnerable to intruders than a traditional wired network. Like signals from your cellular or cordless phones, signals from your wireless network can also be intercepted. Since you cannot physically prevent someone from connecting to your wireless network, you need to take some additional steps to keep your network secure.

Change the Default Wireless network Name or SSID

Wireless devices have a default wireless network name or Service Set Identifier (SSID) set by the factory. This is the name of your wireless network, and can be up to 32 characters in length. Cisco wireless products use **wag310g** as the default wireless network name. You should change the wireless network name to something unique to distinguish your wireless network from other wireless networks that may exist around you, but do not use personal information (such as your Social Security number) because this information may be available for anyone to see when browsing for wireless networks.

Change the Default Password

For wireless products such as access points, routers, and gateways, you will be asked for a password when you want to change their settings. These devices have a default password set by the factory. The Cisco default password is admin. Hackers know these defaults and may try to use them to access your wireless device and change your network settings. To thwart any unauthorized changes, customize the device’s password so it will be hard to guess.

Enable MAC Address Filtering

Cisco routers and gateways give you the ability to enable Media Access Control (MAC) address filtering. The MAC address is a unique series of numbers and letters assigned to every networking device. With MAC address filtering enabled, wireless network access is provided solely for wireless devices with specific MAC addresses. For example, you can specify the MAC address of each computer in your home so that only those computers can access your wireless network.

Enable Encryption

Encryption protects data transmitted over a wireless network. Wi-Fi Protected Access (WPA/WPA2) and Wired Equivalent Privacy (WEP) offer different levels of security for wireless communication.

A network encrypted with WPA/WPA2 is more secure than a network encrypted with WEP, because WPA/WPA2 uses dynamic key encryption. To protect the information as it passes over the airwaves, you should enable the highest level of encryption supported by your network equipment.

WEP is an older encryption standard and may be the only option available on some older devices that do not support WPA.

General Network Security Guidelines

Wireless network security is useless if the underlying network is not secure.

- Password protect all computers on the network and individually password protect sensitive files.
- Change passwords on a regular basis.
- Install anti-virus software and personal firewall software.
- Disable file sharing (peer-to-peer). Some applications may open file sharing without your consent and/or knowledge.

Additional Security Tips

- Keep wireless routers, access points, or gateways away from exterior walls and windows.
- Turn wireless routers, access points, or gateways off when they are not being used (at night, during vacations).
- Use strong passphrases that are at least eight characters in length. Combine letters and numbers to avoid using standard words that can be found in the dictionary.

  Allowable Character Sets:

  - Username and SSID may contains letters, numbers, and/or special characters EXCEPT:
    - Spaces or tabs
    - &, `, (,), <, or > character
    - Consecutive underscores __
    - An underscore_, dash -, or period . at the beginning
  - Password may contain any letters, numbers, and/or special characters EXCEPT spaces or tabs
  - Other fields as string type could be any string

WPA2-Personal

Mixed Mode—Select Enabled to support both WPA and WPA2 clients. Otherwise, keep the default, Disabled.

Encryption—Select the appropriate method, AES or TKIP or both.

Passphrase—Enter a Passphrase (also called a WPA shared key) of 8-63 characters.

Key Renewal—Enter a Key Renewal period, which instructs the residential gateway how often it should change the encryption keys. The default is 3600 seconds.

WPA-Personal

Encryption TKIP is automatically selected.

Passphrase—Enter a Passphrase (also called a WPA shared key) of 8-63 characters.

Key Renewal—Enter a Key Renewal period, which instructs the Gateway how often it should change the encryption keys. The default is 3600 seconds.

WEP

Encryption—Select a level of WEP encryption, 40/64-bit (10 hex digits) or 104/128-bit (26 hex digits).

Passphrase—Enter a Passphrase to automatically generate WEP keys. Then click **Generate**.

Note: The WEP Passphrase is compatible with Cisco wireless products only. If you are using non-Cisco products, manually enter the appropriate WEP key on those devices.

Key 1-4—If you did not enter a Passphrase, enter the WEP key(s) manually.

TX Key—Select which TX (Transmit) Key to use. The default is 1.

WPA Enterprise

This option features WPA used in coordination with a RADIUS server. (RADIUS stands for Remote Authentication Dial-In User Service. This option should only be used when a RADIUS server is connected to the residential gateway.)

Encryption TKIP is automatically selected.

RADIUS Server—Enter the IP address of the RADIUS server.

RADIUS Port—Enter the port number of the RADIUS server. The default value is 1812.

Shared Key—Enter the key shared between the residential gateway and the server.

Key Renewal—Enter a Key Renewal period, which instructs the residential gateway how often it should change the encryption keys. The default is 3600 seconds.

WPA2 Enterprise

This option features WPA2 used in coordination with a RADIUS server. (It should only be used when a RADIUS server is connected to the Gateway.)

Mixed Mode—Select **Enabled** to support both WPA and WPA2 clients. Otherwise, keep the default, **Disabled**.

Encryption—Select the appropriate method, AES or TKIP or both.

RADIUS Server—Enter the IP address of the RADIUS server.

RADIUS Port—Enter the port number of the RADIUS server. The default value is 1812.

Shared Key—Enter the key shared between the Gateway and the server.

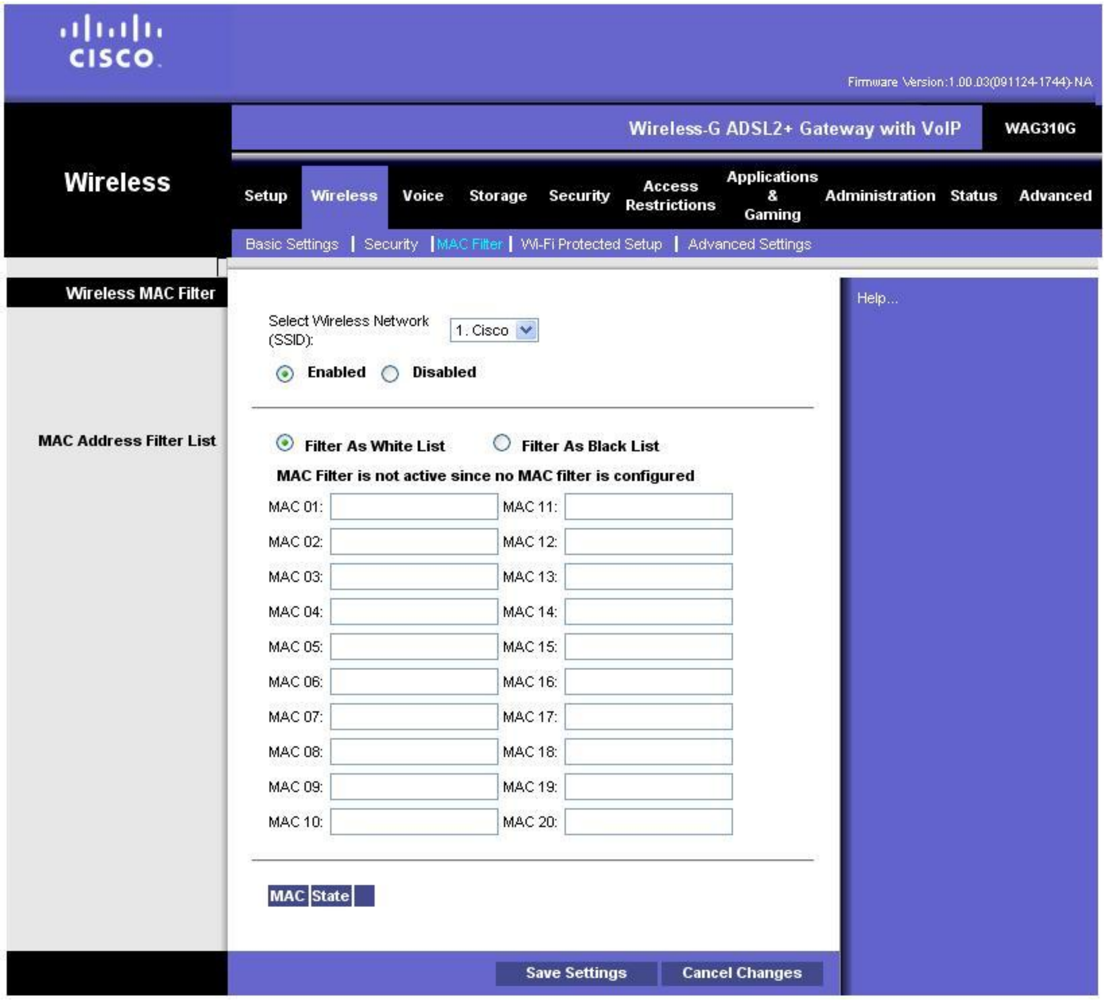
Key Renewal—Enter a Key Renewal period, which instructs the Gateway how often it should change the encryption keys. The default is 3600 seconds.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

MAC Filter

Wireless access can be filtered by using the MAC addresses of the wireless devices transmitting within your network's wireless network coverage.

Path: Wireless > MAC Filter



Select Wireless Network (SSID): 1. Cisco

● Enabled ○ Disabled

● Filter As White List ○ Filter As Black List

MAC Filter is not active since no MAC filter is configured

MAC 01:		MAC 11:	
MAC 02:		MAC 12:	
MAC 03:		MAC 13:	
MAC 04:		MAC 14:	
MAC 05:		MAC 15:	
MAC 06:		MAC 16:	
MAC 07:		MAC 17:	
MAC 08:		MAC 18:	
MAC 09:		MAC 19:	
MAC 10:		MAC 20:	

Wireless MAC Filter

Select Wireless Network (SSID)—Select the wireless network you want to configure.

Enabled/Disabled—To use the wireless MAC filter, select **Enabled**. Otherwise, keep the default, **Disabled**.

MAC Address Filter

Filter As White List/Filter As Black List—To allow access by network devices with the MAC addresses on this list, select **Filter As White List**. To block access by network devices with the MAC addresses on this list, keep the default, **Filter As Black List**.

MAC 01-20—Enter the MAC addresses of the devices whose wireless access you want to block or allow.

For each wireless device, its MAC address and connection status are listed. To copy a MAC address to one of the MAC 01-20 fields, click **Copy**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

Wi-Fi Protected Setup

There are two ways to configure the residential gateway's wireless settings, manual and Wi-Fi Protected Setup. For manual configuration, click the **Basic Settings** tab (refer to the ***Basic Settings*** (on page 50) section for more information).

Wi-Fi Protected Setup is a feature that makes it easy to set up your wireless network. If you have devices that support Wi-Fi Protected Setup, then use the following instructions.

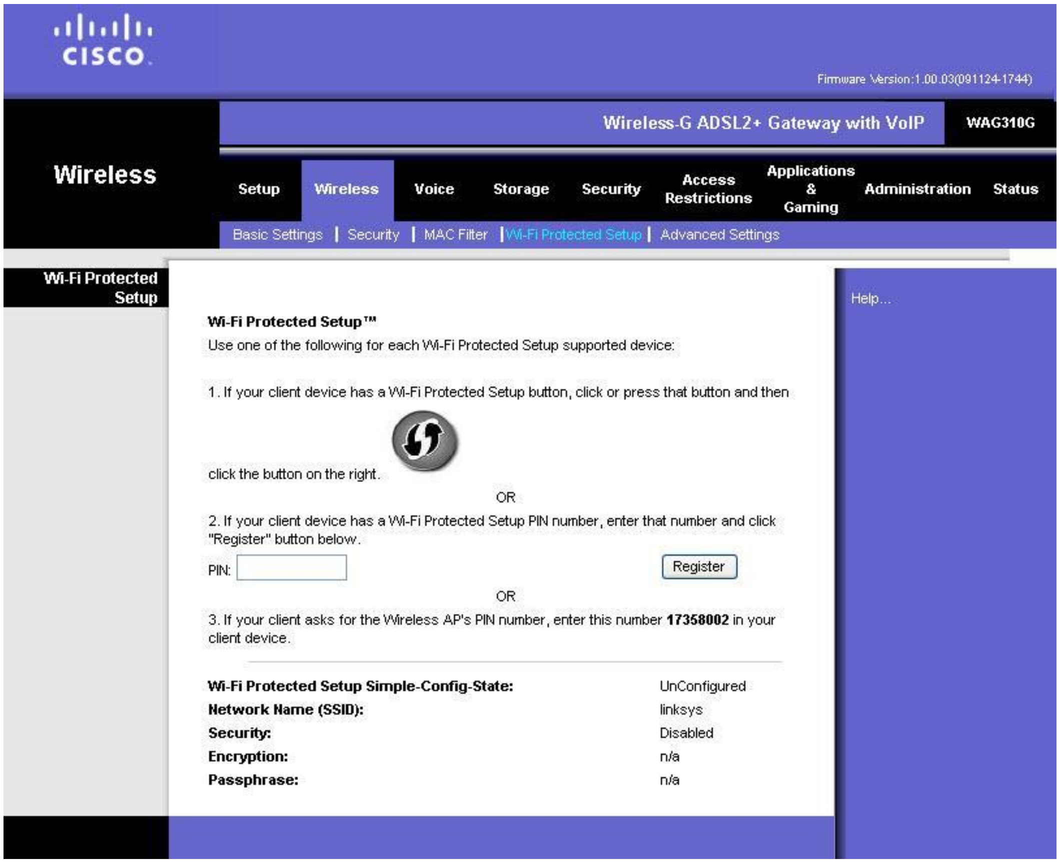
Note: Wi-Fi Protected Setup can only be used for the default wireless network. (The residential gateway supports up to four wireless networks. The other three can be configured using the Wireless > Basic Settings screen of the residential gateway's web-based utility.)

If you have client devices, such as a wireless adapter, that support Wi-Fi Protected Setup, then you can use Wi-Fi Protected Setup to automatically configure wireless security for your wireless network(s).

There are three methods available. Use the method that applies to the client device you are configuring.

Note: Wi-Fi Protected Setup configures one client device at a time. Repeat the instructions for each client device that supports Wi-Fi Protected Setup.

Path: Wireless > Wi-Fi Protected Setup


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Wireless
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Basic Settings | Security | MAC Filter | Wi-Fi Protected Setup | Advanced Settings
Wi-Fi Protected Setup
Help...
Register

Wi-Fi Protected Setup™

Use one of the following for each Wi-Fi Protected Setup supported device:

1. If your client device has a Wi-Fi Protected Setup button, click or press that button and then click the button on the right.

OR

2. If your client device has a Wi-Fi Protected Setup PIN number, enter that number and click "Register" button below.

PIN:

OR

3. If your client asks for the Wireless AP's PIN number, enter this number **17358002** in your client device.

Wi-Fi Protected Setup Simple-Config-State:	UnConfigured
Network Name (SSID):	linksys
Security:	Disabled
Encryption:	n/a
Passphrase:	n/a

Method #1

Use this method if your client device has a Wi-Fi Protected Setup button.

1. Click or press the **Wi-Fi Protected Setup** button on the client device. (If Wi-Fi Protected Setup is an on-screen option, then select it.)
2. Click the **Wi-Fi Protected Setup** button on the residential gateway's Wi-fi Protected Setup screen.
3. After the client device has been configured, click **OK**. Then refer back to your client device or its documentation for further instructions.

Method #2

Use this method if your client device has a Wi-Fi Protected Setup PIN number.

1. Enter the client PIN number in the PIN field on this screen (the residential gateway’s Wi-Fi Protected Setup screen).
2. Click **Register** on this screen.

Method #3

Use this method if your client device asks for the Router's PIN number.

1 Enter the PIN number that appears on your screen. (It is also listed on the Wi-Fi Protected Setup label on the bottom of the Router.)
Note: This is a unique number. Do not use the number that appears in the example above.

2 After the client device has been configured, click **OK**. Then refer back to your client device or its documentation for further instructions.

At the bottom of the screen, status information for your wireless security is displayed:

Wi-Fi Protected Setup Simple-Config-State—The status of the Wi-Fi Protected Setup feature is displayed. The default is "Not configured." After the Router has been configured, the status changes to "Configured."

Network Name (SSID)—The name of the wireless network is displayed.

Security—The security method of the wireless network is displayed.

Encryption—The encryption method, such as TKIP or AES, is displayed.

Passphrase—The passphrase for the wireless security method is displayed. It acts like a password for access to the wireless network. (For WPA security methods, the passphrase is also known as a WPA shared key.)

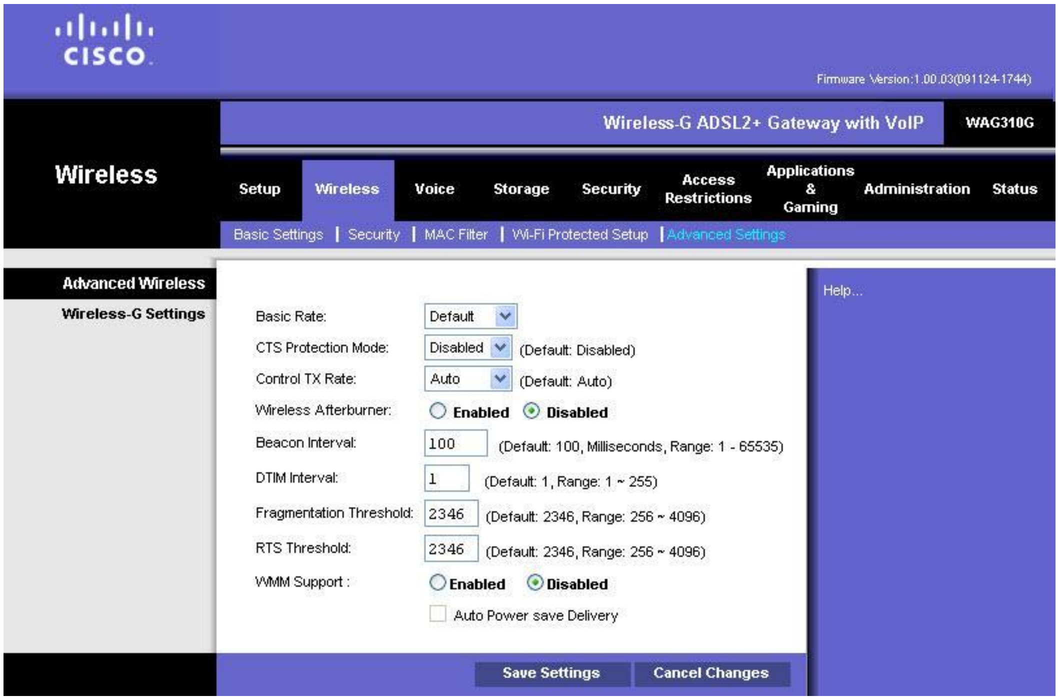
Note: If you have client devices that do not support Wi-Fi Protected Setup, note the wireless settings, and then manually configure those client devices.

Advanced Settings

Use this screen to set up the Gateway's advanced wireless settings, which apply to all of the Gateway's wireless networks. These settings should only be adjusted by an expert administrator as incorrect settings can reduce wireless performance.

Path: Wireless > Advanced Settings

Advanced Wireless



Basic Rate: Default

CTS Protection Mode: Disabled (Default: Disabled)

Control TX Rate: Auto (Default: Auto)

Wireless Afterburner: ○ Enabled ● Disabled

Beacon Interval: 100 (Default: 100, Milliseconds, Range: 1 - 65535)

DTIM Interval: 1 (Default: 1, Range: 1 ~ 255)

Fragmentation Threshold: 2346 (Default: 2346, Range: 256 ~ 4096)

RTS Threshold: 2346 (Default: 2346, Range: 256 ~ 4096)

WMM Support : ○ Enabled ● Disabled

□ Auto Power save Delivery

Basic Rate—The Basic Rate setting is not actually one rate of transmission but a series of rates at which the Gateway can transmit. The Gateway will advertise its Basic Rate to the other wireless devices in your network, so they know which rates will be used. The Gateway will also advertise that it will automatically select the best rate for transmission. Select the appropriate option:

- **Default**, for transmission at all standard wireless rates
- **1-2Mbps**, for use with older wireless technology
- **All**, for transmission at all wireless rates
- **Wi-Fi Alt**, the basic rates are 1, 2, 5.5, 6, 11, 12, and 24 Mbps; supported rates are 9, 18, 36, 48, and 54 Mbps. If you are not sure which rate to select, keep the default, **Default**.

CTS Protection Mode—CTS (Clear-To-Send) Protection Mode's default is **Disabled**. Select **Auto** if you want the device to automatically use CTS Protection Mode when your Wireless-G products are experiencing severe problems and are not able to transmit to the device in an environment with heavy 802.11b traffic. This function boosts the device's ability to catch all Wireless-G transmissions but will severely decrease performance.

Control TX Rate—The Control TX Rate should be set depending on the speed of your wireless network. Select from a range of transmission speeds, or keep the default, **Auto**. When the Auto setting is selected, the Gateway automatically uses the fastest possible data rate and enables the Auto-Fallback feature, which negotiates the best possible connection speed between the Gateway and a wireless device.

Wireless Afterburner—To improve wireless performance when the Gateway is used with devices that support SpeedBooster, select **Enable**. Otherwise, keep the default, **Disable**.

Beacon Interval—Enter a value between 1 and 65,535 milliseconds. The Beacon Interval value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Gateway to synchronize the wireless network(s). The default value is **100**.

DTIM Interval—This value, between 1 and 255, indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the Gateway has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awaken to receive the broadcast and multicast messages. The default value is **1**.

Fragmentation Threshold—This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value of **2346**.

RTS Threshold—Should you encounter inconsistent data flow, only minor reduction of the default, **2346**, is recommended. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The Gateway sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission. The RTS Threshold value should remain at its default value of **2346**.

WMM Support—The Gateway supports Wi-Fi Multimedia (WMM) for Quality of Service (QoS). When WMM Support is enabled, it provides four priority queues for different types of traffic. It automatically maps the incoming packets to the appropriate queues based on QoS settings (in the IP or layer 2 header). WMM provides the capability to prioritize traffic in your environment. If you have other devices on your network that support WMM, select **Enabl**e. Otherwise, keep the default, **Disable**.

Auto Power Save Delivery—Unscheduled Automatic Power Save Delivery (UAPSD) is a special power-saving mode to achieve end-to-end QoS. This option is available if you enabled WMM Support. To use the power save feature, select **Auto Power save Delivery**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

5

Voice

Introduction

The WAG310G provides phone ports so you can use your residential gateway for your phone calls. This chapter contains a high-level overview of just a few of the many voice features.

In This Chapter

About Voice

There are two views available, User and Admin. The default view is User. To display the Admin View, click **Admin View**. If you are prompted for the admin login, enter your admin name and password. To return to the User View, click **User View**.

Admin View

If the Gateway was provided by your service provider, then it may restrict access to the Admin View of the Voice screens in the web-based utility. Contact your service provider for the admin login.

User View

VoIP configuration parameters are primarily managed by your service provider; therefore, most of the screens in the User View mode do not provide input fields for configuring VoIP options.

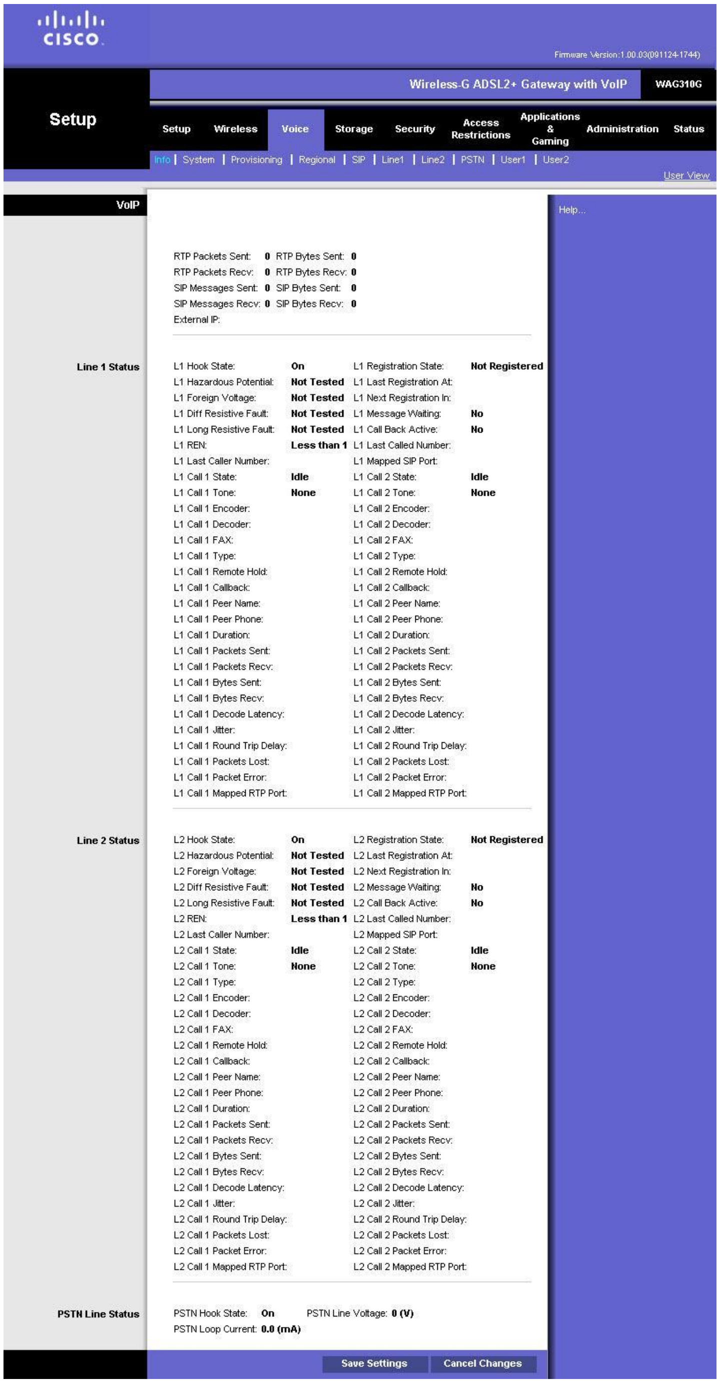
Use the table below as a quick reference for Voice configuration tabs that have configurable parameters in the User View.

Screen	Description
Info	The Voice> Info screen does not have input fields. This screen provides information regarding VoIP activity. Refer to the ***Info*** (on page 67) section for descriptions of the data fields displayed.
System	The Voice > System tab has an input field for setting up a User Password. Refer to the ***System*** (on page 72) section for instructions on managing this parameter.
Provisioning	Managed by your service provider.
Regional	Managed by your service provider.
SIP	Managed by your service provider.
Line1 / Line2	Managed by your service provider.
PSTN	Managed by your service provider.
User1 / User2	The Voice > User1 and Voice > User2 tabs have input fields in the User View mode for setting up features such as Call Forwarding. Refer to the ***User1 or User2*** (on page 74) section for instructions on managing these parameters.

Info

The Info screen displays Voice over Internet Protocol (VoIP) information about the Gateway. (The User and Admin Views are the same for this screen.)

Path: Voice > Info


Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Setup
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Info | System | Provisioning | Regional | SIP | Line1 | Line2 | PSTN | User1 | User2
User View
Help...
Save Settings
Cancel Changes

VoIP

RTP Packets Sent:	0	RTP Bytes Sent:	0
RTP Packets Recv:	0	RTP Bytes Recv:	0
SIP Messages Sent:	0	SIP Bytes Sent:	0
SIP Messages Recv:	0	SIP Bytes Recv:	0
External IP:			

Line 1 Status

L1 Hook State:	On	L1 Registration State:	Not Registered
L1 Hazardous Potential:	Not Tested	L1 Last Registration At:	
L1 Foreign Voltage:	Not Tested	L1 Next Registration In:	
L1 Diff Resistive Fault:	Not Tested	L1 Message Waiting:	No
L1 Long Resistive Fault:	Not Tested	L1 Call Back Active:	No
L1 REN:	Less than 1	L1 Last Called Number:	
L1 Last Caller Number:		L1 Mapped SIP Port:	
L1 Call 1 State:	Idle	L1 Call 2 State:	Idle
L1 Call 1 Tone:	None	L1 Call 2 Tone:	None
L1 Call 1 Encoder:		L1 Call 2 Encoder:	
L1 Call 1 Decoder:		L1 Call 2 Decoder:	
L1 Call 1 FAX:		L1 Call 2 FAX:	
L1 Call 1 Type:		L1 Call 2 Type:	
L1 Call 1 Remote Hold:		L1 Call 2 Remote Hold:	
L1 Call 1 Callback:		L1 Call 2 Callback:	
L1 Call 1 Peer Name:		L1 Call 2 Peer Name:	
L1 Call 1 Peer Phone:		L1 Call 2 Peer Phone:	
L1 Call 1 Duration:		L1 Call 2 Duration:	
L1 Call 1 Packets Sent:		L1 Call 2 Packets Sent:	
L1 Call 1 Packets Recv:		L1 Call 2 Packets Recv:	
L1 Call 1 Bytes Sent:		L1 Call 2 Bytes Sent:	
L1 Call 1 Bytes Recv:		L1 Call 2 Bytes Recv:	
L1 Call 1 Decode Latency:		L1 Call 2 Decode Latency:	
L1 Call 1 Jitter:		L1 Call 2 Jitter:	
L1 Call 1 Round Trip Delay:		L1 Call 2 Round Trip Delay:	
L1 Call 1 Packets Lost:		L1 Call 2 Packets Lost:	
L1 Call 1 Packet Error:		L1 Call 2 Packet Error:	
L1 Call 1 Mapped RTP Port:		L1 Call 2 Mapped RTP Port:	

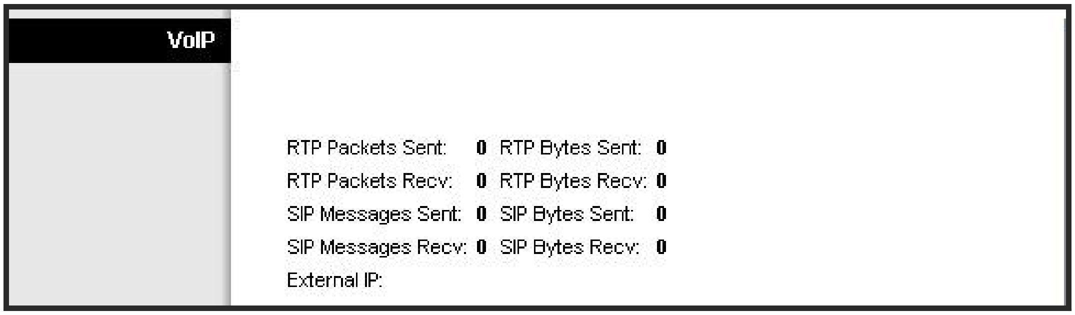
Line 2 Status

L2 Hook State:	On	L2 Registration State:	Not Registered
L2 Hazardous Potential:	Not Tested	L2 Last Registration At:	
L2 Foreign Voltage:	Not Tested	L2 Next Registration In:	
L2 Diff Resistive Fault:	Not Tested	L2 Message Waiting:	No
L2 Long Resistive Fault:	Not Tested	L2 Call Back Active:	No
L2 REN:	Less than 1	L2 Last Called Number:	
L2 Last Caller Number:		L2 Mapped SIP Port:	
L2 Call 1 State:	Idle	L2 Call 2 State:	Idle
L2 Call 1 Tone:	None	L2 Call 2 Tone:	None
L2 Call 1 Type:		L2 Call 2 Type:	
L2 Call 1 Encoder:		L2 Call 2 Encoder:	
L2 Call 1 Decoder:		L2 Call 2 Decoder:	
L2 Call 1 FAX:		L2 Call 2 FAX:	
L2 Call 1 Remote Hold:		L2 Call 2 Remote Hold:	
L2 Call 1 Callback:		L2 Call 2 Callback:	
L2 Call 1 Peer Name:		L2 Call 2 Peer Name:	
L2 Call 1 Peer Phone:		L2 Call 2 Peer Phone:	
L2 Call 1 Duration:		L2 Call 2 Duration:	
L2 Call 1 Packets Sent:		L2 Call 2 Packets Sent:	
L2 Call 1 Packets Recv:		L2 Call 2 Packets Recv:	
L2 Call 1 Bytes Sent:		L2 Call 2 Bytes Sent:	
L2 Call 1 Bytes Recv:		L2 Call 2 Bytes Recv:	
L2 Call 1 Decode Latency:		L2 Call 2 Decode Latency:	
L2 Call 1 Jitter:		L2 Call 2 Jitter:	
L2 Call 1 Round Trip Delay:		L2 Call 2 Round Trip Delay:	
L2 Call 1 Packets Lost:		L2 Call 2 Packets Lost:	
L2 Call 1 Packet Error:		L2 Call 2 Packet Error:	
L2 Call 1 Mapped RTP Port:		L2 Call 2 Mapped RTP Port:	

PSTN Line Status

PSTN Hook State:	On	PSTN Line Voltage:	0 (V)
PSTN Loop Current:	0.0 (mA)		

VoIP



RTP Packets Sent:	0	RTP Bytes Sent:	0
RTP Packets Recv:	0	RTP Bytes Recv:	0
SIP Messages Sent:	0	SIP Bytes Sent:	0
SIP Messages Recv:	0	SIP Bytes Recv:	0
External IP:			

RTP Packets Sent—The number of RTP packets sent by the Gateway is displayed.

RTP Bytes Sent—The number of RTP bytes sent by the Gateway is displayed.

RTP Packets Recv—The number of RTP packets received by the Gateway is displayed.

RTP Bytes Recv—The number of RTP bytes received by the Gateway is displayed.

SIP Messages Sent—The number of session initiation protocol (SIP) messages sent by the Gateway is displayed.

SIP Bytes Sent—The number of SIP bytes sent by the Gateway is displayed.

SIP Messages Recv—The number of SIP messages received by the Gateway is displayed.

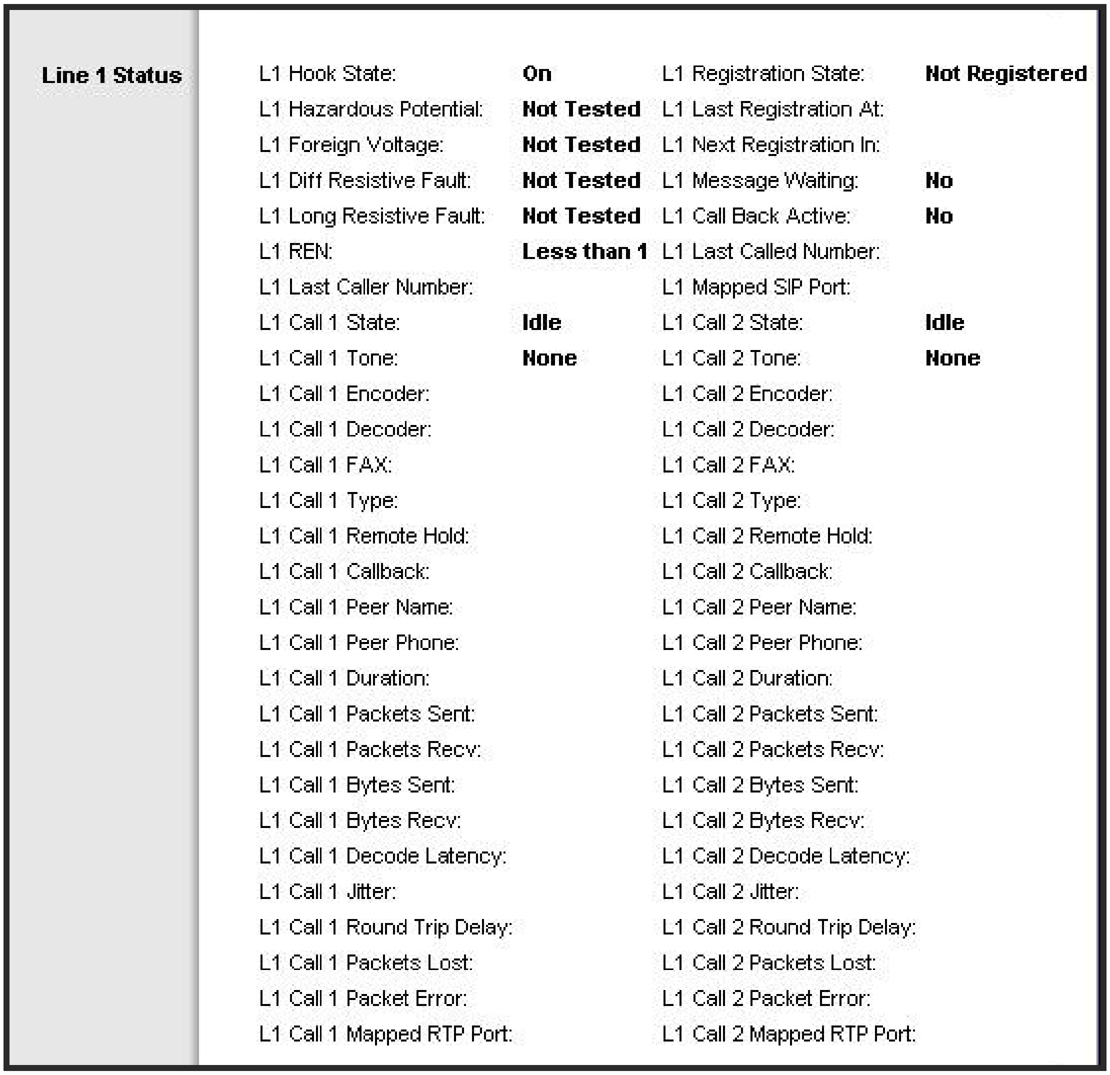
SIP Bytes Recv—The number of SIP bytes received by the Gateway is displayed.

External IP—The external IP address used for NAT mapping is displayed.

Line 1/2 Status

Lines 1 and 2 have the same status information available.

Path: Voice > Info



Line 1 Status

L1 Hook State:	**On**	L1 Registration State:	**Not Registered**
L1 Hazardous Potential:	**Not Tested**	L1 Last Registration At:	
L1 Foreign Voltage:	**Not Tested**	L1 Next Registration In:	
L1 Diff Resistive Fault:	**Not Tested**	L1 Message Waiting:	**No**
L1 Long Resistive Fault:	**Not Tested**	L1 Call Back Active:	**No**
L1 REN:	**Less than 1**	L1 Last Called Number:	
L1 Last Caller Number:		L1 Mapped SIP Port:	
L1 Call 1 State:	**Idle**	L1 Call 2 State:	**Idle**
L1 Call 1 Tone:	**None**	L1 Call 2 Tone:	**None**
L1 Call 1 Encoder:		L1 Call 2 Encoder:	
L1 Call 1 Decoder:		L1 Call 2 Decoder:	
L1 Call 1 FAX:		L1 Call 2 FAX:	
L1 Call 1 Type:		L1 Call 2 Type:	
L1 Call 1 Remote Hold:		L1 Call 2 Remote Hold:	
L1 Call 1 Callback:		L1 Call 2 Callback:	
L1 Call 1 Peer Name:		L1 Call 2 Peer Name:	
L1 Call 1 Peer Phone:		L1 Call 2 Peer Phone:	
L1 Call 1 Duration:		L1 Call 2 Duration:	
L1 Call 1 Packets Sent:		L1 Call 2 Packets Sent:	
L1 Call 1 Packets Recv:		L1 Call 2 Packets Recv:	
L1 Call 1 Bytes Sent:		L1 Call 2 Bytes Sent:	
L1 Call 1 Bytes Recv:		L1 Call 2 Bytes Recv:	
L1 Call 1 Decode Latency:		L1 Call 2 Decode Latency:	
L1 Call 1 Jitter:		L1 Call 2 Jitter:	
L1 Call 1 Round Trip Delay:		L1 Call 2 Round Trip Delay:	
L1 Call 1 Packets Lost:		L1 Call 2 Packets Lost:	
L1 Call 1 Packet Error:		L1 Call 2 Packet Error:	
L1 Call 1 Mapped RTP Port:		L1 Call 2 Mapped RTP Port:	

Hook State—The status of the Internet phone line's readiness is displayed. "On" indicates that it is ready for use, while "Off" indicates that it is in use.

Registration State—The status of the line's registration with the Internet Telephony Service Provider (ITSP) is displayed.

Hazardous Potential—The amount of hazardous potential is displayed.

Last Registration—At The last date and time the line was registered are displayed.

Foreign Voltage—The amount of foreign voltage is displayed.

Next Registration—In The number of seconds until the next registration is displayed.

Diff Resistive Fault—The amount of differential resistive fault is displayed.

Message Waiting— his indicates whether you have new voicemail waiting.

Long Resistive Fault—The amount of long resistive fault is displayed.

Call Back Active—This indicates whether a call back request is in progress.

REN—The Ringer Equivalence Number (REN) is displayed.

Last Called Number—The last number called is displayed.

Last Caller Number—The number of the last caller is displayed.

Mapped SIP Port—The port number of the NAT mapped SIP port is displayed.

Call 1/2 Status

Calls 1 and 2 have the same status information available.

Path: Voice > Info

Call 1/2 State—The status of the call is displayed.

Call 1/2 Tone—The type of tone used by the call is displayed.

Call 1/2 Encoder—The codec used for encoding is displayed.

Call 1/2 Decoder—The codec used for decoding is displayed.

Call 1/2 FAX—The status of the fax pass-through mode is displayed.

Call 1/2 Type—The direction of the call is displayed.

Call 1/2 Remote Hold—This indicates whether the far end has placed the call on hold.

Call 1/2 Callback—This indicates whether the call was triggered by a call back request.

Call 1/2 Peer Name—The name of the internal phone is displayed.

Call 1/2 Peer Phone—The phone number of the internal phone is displayed.

Call 1/2 Duration—The duration of the call is displayed.

Call 1/2 Packets Sent—The number of packets sent is displayed.

Call 1/2 Packets Recv—The number of packets received is displayed.

Call 1/2 Bytes Sent—The number of bytes sent is displayed.

Call 1/2 Bytes Recv—The number of bytes received is displayed.

Call 1/2 Decode Latency—The number of milliseconds for decoder latency is displayed.

Call 1/2 Jitter—The number of milliseconds for receiver jitter is displayed.

Call 1/2 Round Trip Delay—The number of milliseconds for delay is displayed.

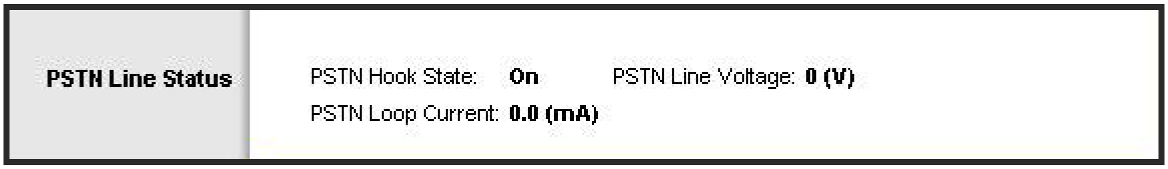
Call 1/2 Packets Lost—The number of packets lost is displayed.

Call 1/2 Packet Error—The number of invalid packets received is displayed.

Call 1/2 Mapped RTP Port—The number of the NAT mapped RTP port is displayed.

PSTN Line Status

Path: Voice > Info



PSTN Line Status

PSTN Hook State: **On**

PSTN Line Voltage: **0 (V)**

PSTN Loop Current: **0.0 (mA)**

PSTN Hook State—The status of the PSTN phone line's readiness is displayed. "On" indicates that it is ready for use, while "Off" indicates that it is in use.

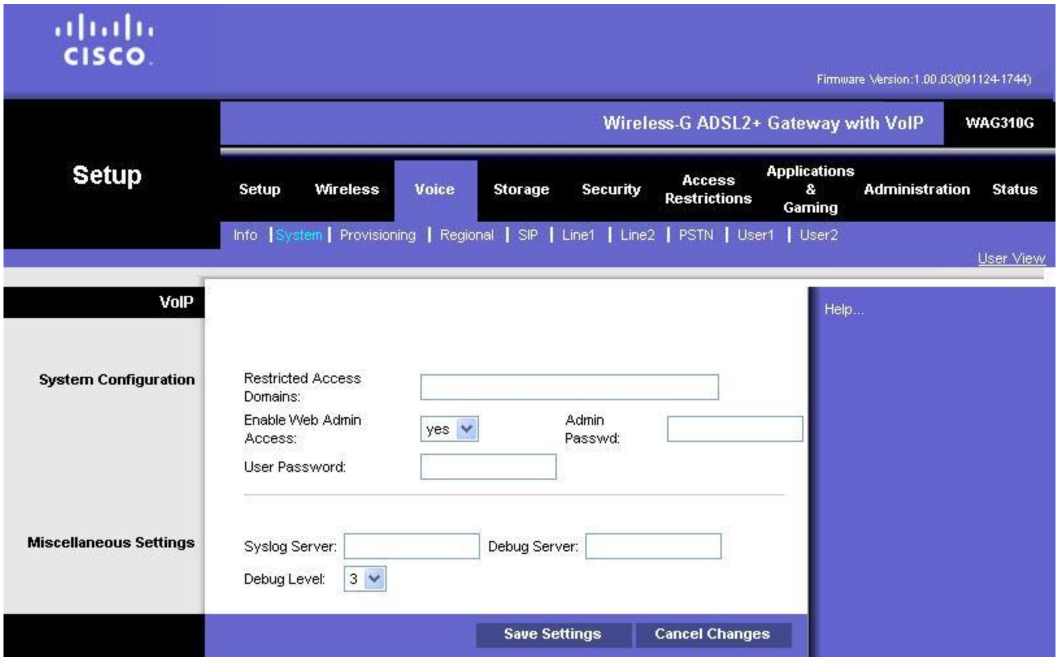
PSTN Line Voltage—The tip-to-ring voltage of the Line (FXO) port is displayed.

PSTN Loop Current—The loop current to the Line (FXO) port is displayed.

System

The System screen displays system settings. (The User View only accesses the User Password setting.)

Path: Voice > System



System Configuration

Restricted Access Domains:

Enable Web Admin Access: yes

Admin Passwd:

User Password:

Miscellaneous Settings

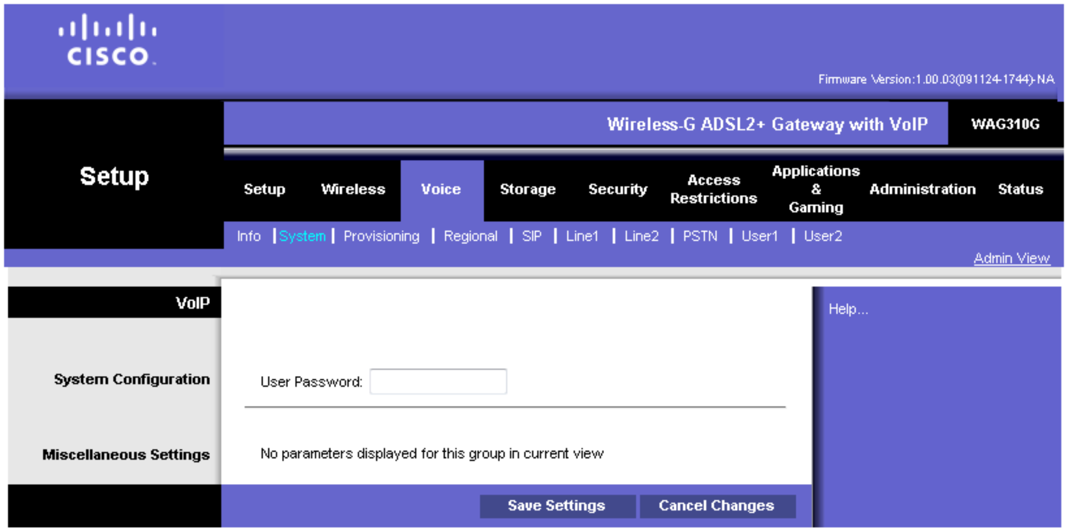
Syslog Server:

Debug Server:

Debug Level: 3

System Configuration

Path: Voice > System


cisco
Firmware Version:1.00.03(091124-1744)-NA
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Setup
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Info | System | Provisioning | Regional | SIP | Line1 | Line2 | PSTN | User1 | User2
Admin View
VoIP
Help...
Save Settings
Cancel Changes

System Configuration

User Password:

Miscellaneous Settings

No parameters displayed for this group in current view

The System screen displays system settings.

Note: The User View only accesses the User Password setting.

Complete the following steps to setup a password for user access to the Voice screens.

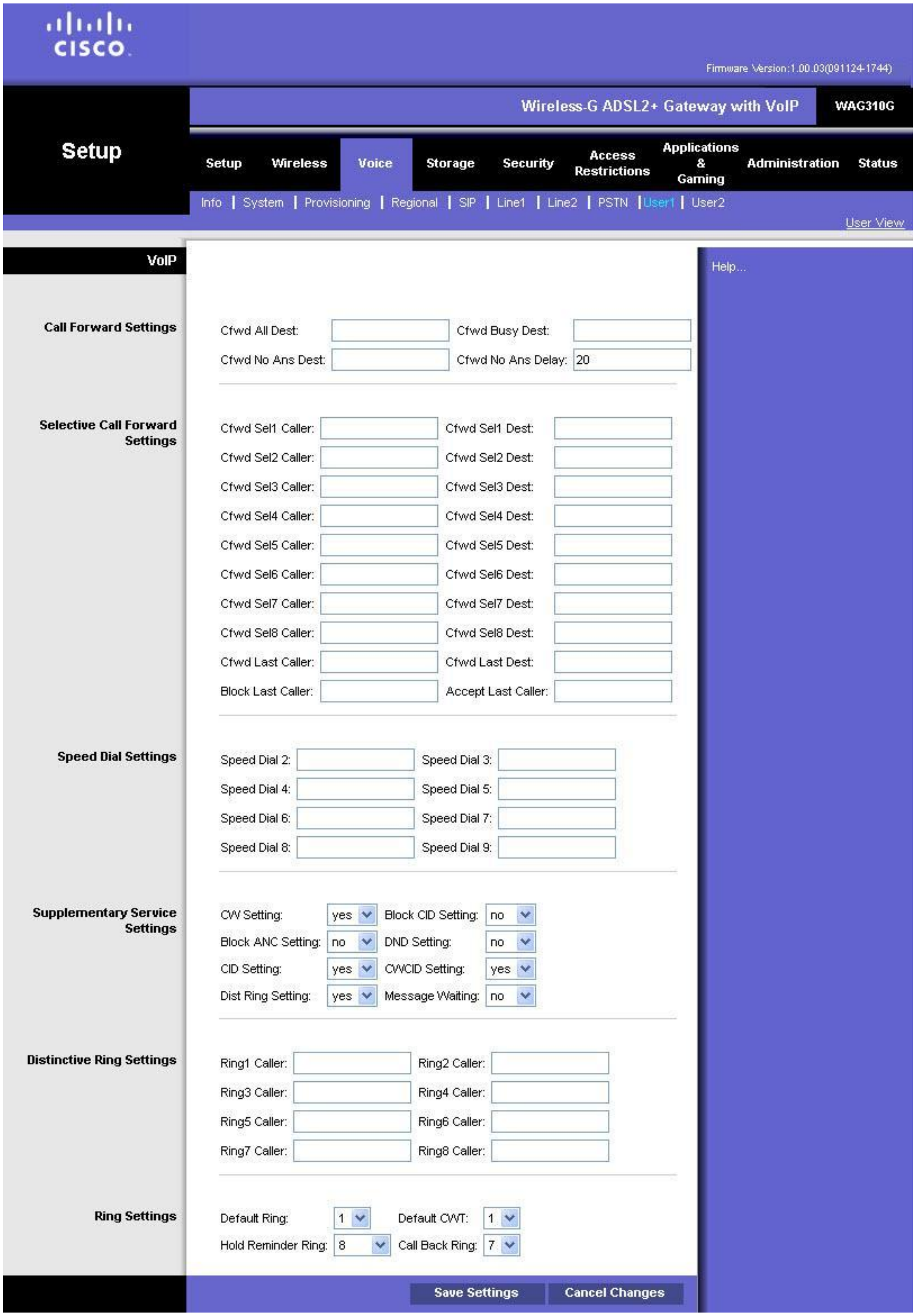
1 Enter the password in the **User Password** field. By default, there is no password.

2 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

User1 or User2

The User1 and 2 screens display similar settings. The User1 screen displays settings for users of phone line 1, and the User2 screen displays settings for users of phone line 2. (The User and Admin Views are the same for this screen.)

Path: Voice > User1 or User2



Call Forward Settings

Cfwd All Dest:		Cfwd Busy Dest:	
Cfwd No Ans Dest:		Cfwd No Ans Delay:	20

Selective Call Forward Settings

Cfwd Sel1 Caller:		Cfwd Sel1 Dest:	
Cfwd Sel2 Caller:		Cfwd Sel2 Dest:	
Cfwd Sel3 Caller:		Cfwd Sel3 Dest:	
Cfwd Sel4 Caller:		Cfwd Sel4 Dest:	
Cfwd Sel5 Caller:		Cfwd Sel5 Dest:	
Cfwd Sel6 Caller:		Cfwd Sel6 Dest:	
Cfwd Sel7 Caller:		Cfwd Sel7 Dest:	
Cfwd Sel8 Caller:		Cfwd Sel8 Dest:	
Cfwd Last Caller:		Cfwd Last Dest:	
Block Last Caller:		Accept Last Caller:	

Speed Dial Settings

Speed Dial 2:		Speed Dial 3:	
Speed Dial 4:		Speed Dial 5:	
Speed Dial 6:		Speed Dial 7:	
Speed Dial 8:		Speed Dial 9:	

Supplementary Service Settings

CW Setting:	yes	Block CID Setting:	no
Block ANC Setting:	no	DND Setting:	no
CID Setting:	yes	CWCID Setting:	yes
Dist Ring Setting:	yes	Message Waiting:	no

Distinctive Ring Settings

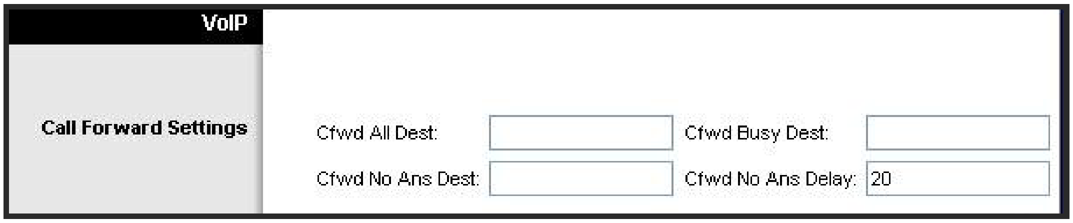
Ring1 Caller:		Ring2 Caller:	
Ring3 Caller:		Ring4 Caller:	
Ring5 Caller:		Ring6 Caller:	
Ring7 Caller:		Ring8 Caller:	

Ring Settings

Default Ring:	1	Default CWT:	1
Hold Reminder Ring:	8	Call Back Ring:	7

Call Forward Settings

Path: Voice > User1 or User2



Cfwd All Dest:		Cfwd Busy Dest:	
Cfwd No Ans Dest:		Cfwd No Ans Delay:	20

Complete the following steps to configure your Call Forward Settings.

1 Enter the call forwarding numbers you want to use per the guidelines below:

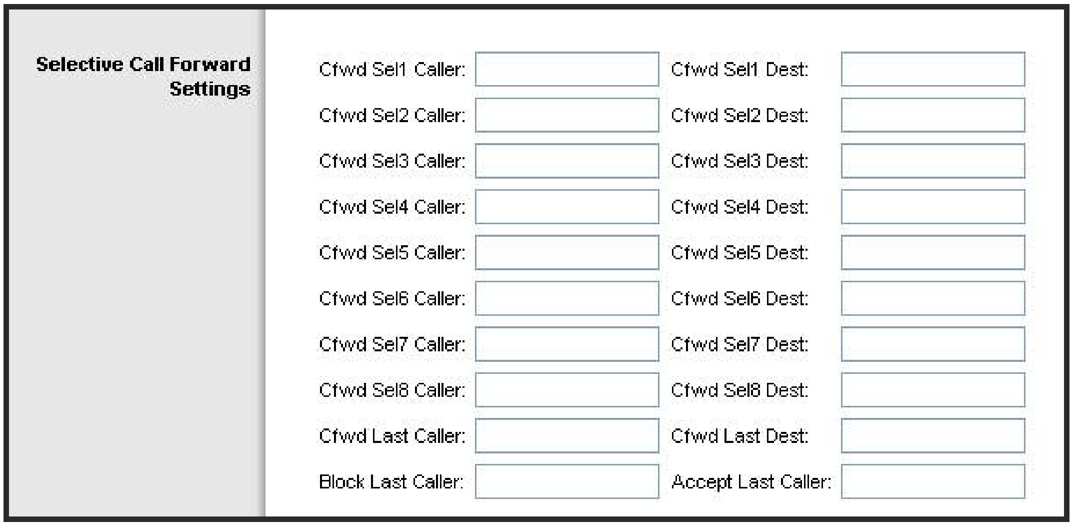
- **Cfwd All Dest**—Enter the number for the Call Forward All Service feature (when you want to forward all calls).
- **Cfwd Busy Dest**—Enter the number for the Call Forward Busy feature (when the line is busy).
- **Cfwd No Ans Dest**—Enter the number for the Call Forward No Answer feature (when the line is not answered).

2 In the **Cfwd No Ans Delay**, enter the number of seconds to wait before the Call Forward No Answer feature is triggered. The default is 20.

3 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Selective Call Forward Settings

Path: Voice > User1 or User2



Cfwd Sel1 Caller:		Cfwd Sel1 Dest:	
Cfwd Sel2 Caller:		Cfwd Sel2 Dest:	
Cfwd Sel3 Caller:		Cfwd Sel3 Dest:	
Cfwd Sel4 Caller:		Cfwd Sel4 Dest:	
Cfwd Sel5 Caller:		Cfwd Sel5 Dest:	
Cfwd Sel6 Caller:		Cfwd Sel6 Dest:	
Cfwd Sel7 Caller:		Cfwd Sel7 Dest:	
Cfwd Sel8 Caller:		Cfwd Sel8 Dest:	
Cfwd Last Caller:		Cfwd Last Dest:	
Block Last Caller:		Accept Last Caller:	

Complete the following steps to configure your Selective Call Forward Settings.

1 Enter the caller number pattern to trigger the Call Forward Selective (1-8) feature in the **Cfwd Sel1 Caller** field.

2 Enter the destination number in the **Cfwd Sel1 Dest** field.

3 Enter additional caller and destination number pairs as desired.

4 In the **Cfwd Last Caller** field, enter the caller number that is actively forwarded to the Cfwd Last Dest number when the Call Forward Last activation code is used.

5 In the **Cfwd Last Dest**, enter the forward number for the Cfwd Last Caller feature.

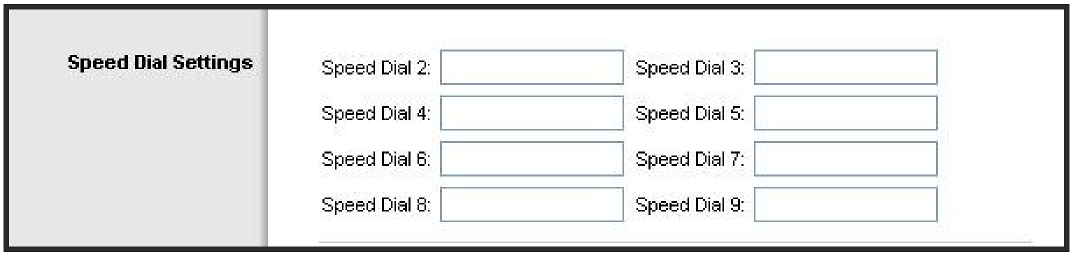
6 In the **Block Last Caller**, enter the ID of the caller blocked via the Block Last Caller service.

7 In the **Accept Last Caller**, enter the ID of the caller accepted via the Accept Last Caller service.

8 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Speed Dial Settings

Path: Voice > User1 or User2



Speed Dial Settings

Speed Dial 2:		Speed Dial 3:	
Speed Dial 4:		Speed Dial 5:	
Speed Dial 6:		Speed Dial 7:	
Speed Dial 8:		Speed Dial 9:	

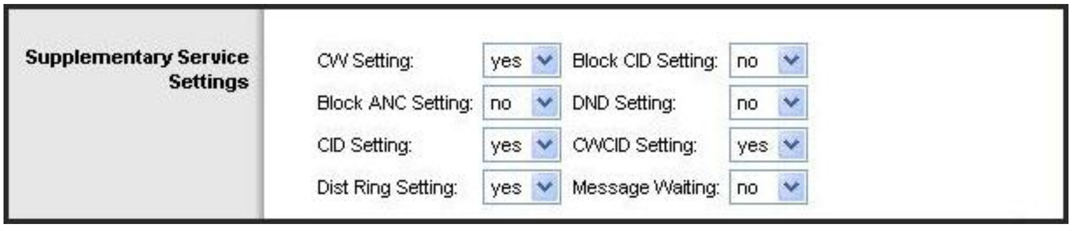
Complete the following steps to configure your Speed Dial Settings.

1 Enter the phone number for each Speed Dial setting in the field (**Speed Dial 2-9**) that corresponds to the key want to use for that number.

2 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Supplementary Service Settings

Path: Voice > User1 or User2



Supplementary Service Settings

CW Setting:	yes	Block CID Setting:	no
Block ANC Setting:	no	DND Setting:	no
CID Setting:	yes	CWCID Setting:	yes
Dist Ring Setting:	yes	Message Waiting:	no

Complete the following steps to configure your Supplementary Service Settings.

1 From the **CW Setting** drop-down menu, select yes or no to indicate if you want to use the Call Waiting feature for all calls. The default is yes.

2 From the **Block CID Setting** drop-down menu, select yes or no to indicate if you want to block Caller ID for all calls. The default is no.

3 From the **Block ANC Setting** drop-down menu, select yes or no to indicate if you want to block anonymous calls. The default is no.

4 From the **DND Setting** drop-down menu, select yes or no to indicate if you want to use the Do Not Disturb (DND) feature. The default is no.

5 From the **CID Setting** drop-down menu, select yes or no to indicate if you want to enable Caller ID generation. The default is yes.

6 From the **CWCID Setting** drop-down menu, select yes or no to indicate if you want to enable Caller ID for Call Waiting. The default is yes.

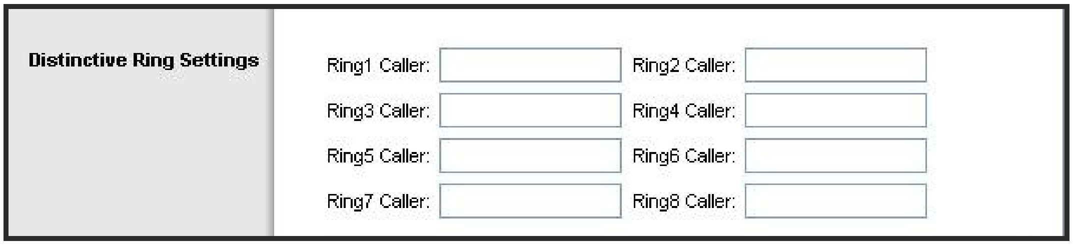
7 From the **Dist Ring Setting** drop-down menu, select yes or no to indicate if you want to use the Distinctive Ring feature. The default is yes.

8 From the **Message Waiting** drop-down menu, select yes or no to indicate if you want to use the Message Waiting feature. The default is no.

9 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Distinctive Ring Settings

Path: Voice > User1 or User2



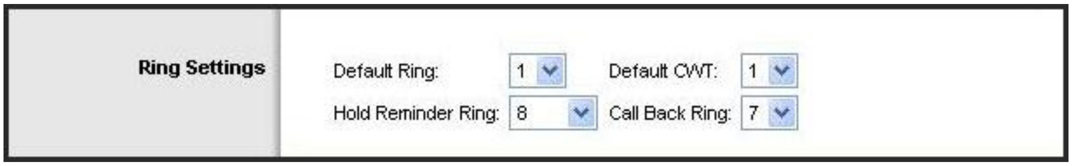
Complete the following steps to configure your Distinctive Ring Settings.

1 Enter the caller number pattern for each Dial setting in the field (**Ring1-8 Caller**) to play Distinctive Ring/Call Waiting Tone.

2 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Ring Settings

Path: Voice > User1 or User2



Ring Settings

Default Ring:	1	Default CWT:	1
Hold Reminder Ring:	8	Call Back Ring:	7

Complete the following steps to configure your Ring Settings.

1 From the **Default Ring** drop-down menu, select the default ringing pattern for all callers. The default is 1.

2 From the **Default CWT** drop-down menu, select the default CWT pattern for all callers. The default is 1.

3 From the **Hold Reminder Ring** drop-down menu, select the ring pattern that will remind you of a call on hold when the phone is on-hook. The default is 8.

4 From the **Call Back Ring** drop-down menu, select the ring pattern for call back notification. The default is 7.

5 Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

6

Storage

Introduction

The WAG310G supports network attachable storage devices (USB Memory Key, Hard Drives, including multiple partitions) through the USB 2.0 interface and HTTP. The WAG310G is able to manage storage content through the WAN interface using HTTP.

In This Chapter

Storage

LAN clients can access storage using the following URL:

http://<gateway ip address>/Disk_Browse.bsp.

To access storage from the WAN, use the URL http://<DDNSName:port>/Disk_Browse.bsp. You will need to disable the Firewall or enable Remote Management to launch the URL.

Note: DDNS is recommended to track WAN IP automatically.

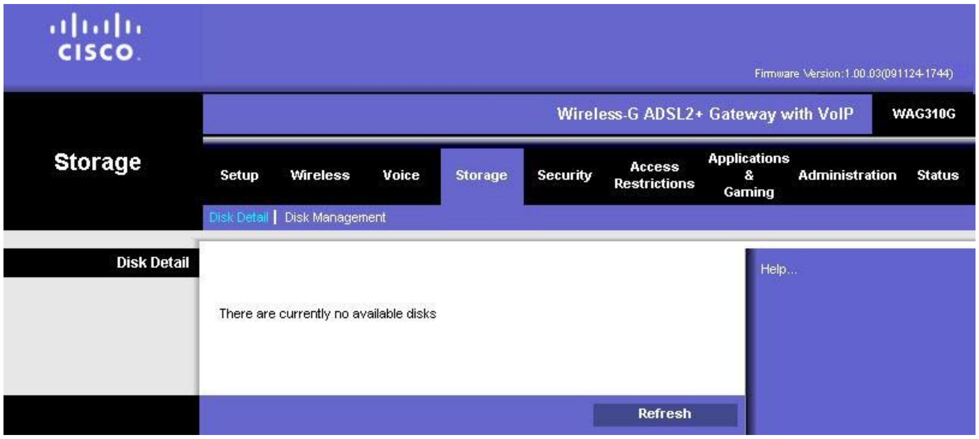
Disk Detail

The Disk Detail screen lists the location, Make and Model, Physical Size, and Free Space of the storage device connected to the residential gateway's USB port.

For USB storage, the residential gateway supports the following features:

- USB 2.0
- Auto-mounting of external USB hard drive
- FAT/FAT32 file system
- Display of disk information
- File browsing
- File search
- Creation of new directories
- File deletion, copying, moving, or renaming
- File downloads (save files to the computer from USB storage)
- File uploads (save files from the computer to USB storage)

Path: Storage > Disk Detail



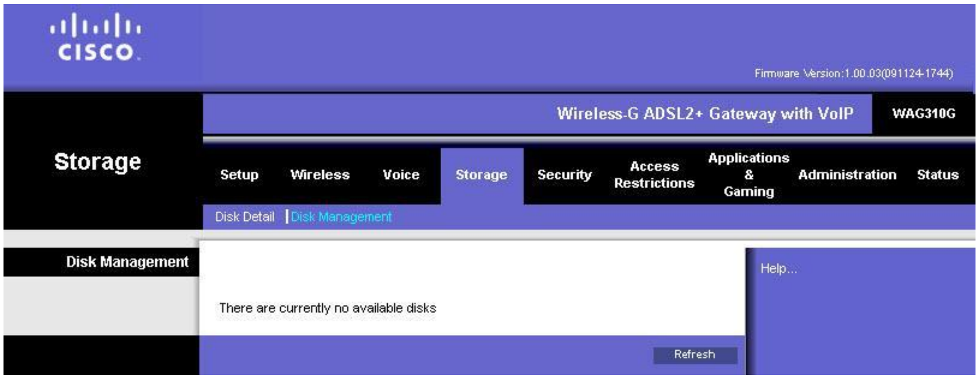
There are currently no available disks

Click **Refresh** to update the on-screen information.

Disk Management

The Disk Management screen allows you to search and manage the storage device connected to the residential gateway's USB port.

Path: Storage > Disk Management



There are currently no available disks

Select Disk—Select the storage location.

Current Location—The location of the current directory is displayed.

Current Directory—The number of files is displayed.

Search—Enter the term you want to look for in the current directory, and then click **Search**.

New Directory—To create a new directory, click **New Directory**, and follow the on-screen instructions.

Upload File—To upload a file to the current directory, select it from the list, and then click **Upload File**. To upload all files in the current directory, select **Select All**. The files are displayed with the following information: Type, Name, Size, and Modified Date.

Click **Refresh** to update the on-screen information.

To delete a file or directory, select it and then click **Delete**. To copy a file or directory to a new location, select it and then click **Copy**. To move a file or directory to a new location, select it and then click **Move**. To rename a file or directory, select it and then click **Rename**.

Note: If you have DDNS service, you can manage the storage device using the WAN IP address. To allow WAN HTTP access, you must enable remote access on the Administration > Management screen and disable the firewall on the Security > Firewall screen.

7

Security Configuration

Introduction

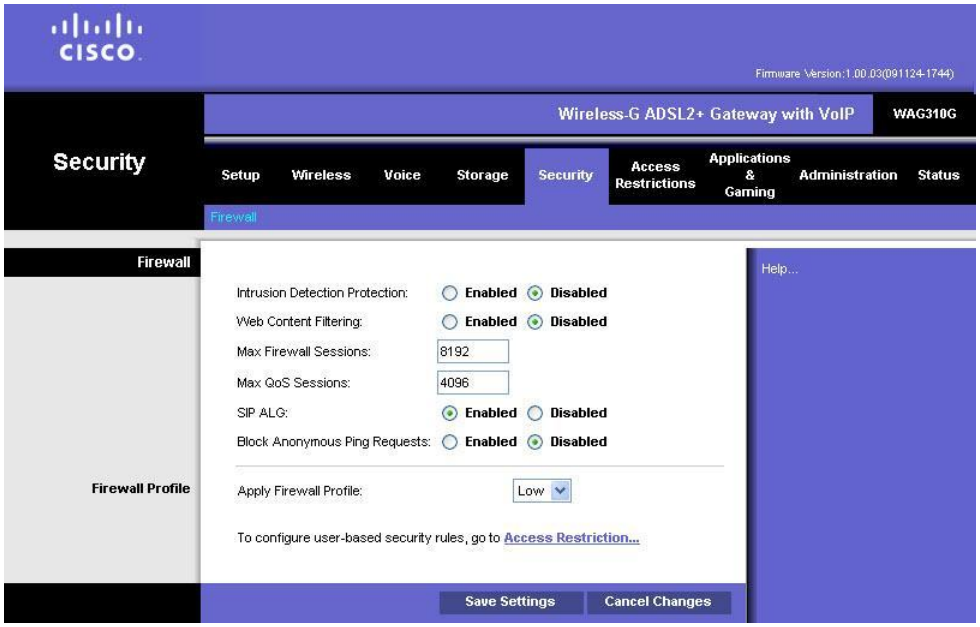
This chapter describes setting up Firewall security to filter out various types of unwanted traffic on the residential gateway's local network.

In This Chapter

Firewall

The Firewall screen is used to configure a firewall that can filter out various types of unwanted traffic on the residential gateway's local network.

Path: Security > Firewall



Intrusion Detection Protection: ○ Enabled ● Disabled

Web Content Filtering: ○ Enabled ● Disabled

Max Firewall Sessions: 8192

Max QoS Sessions: 4096

SIP ALG: ● Enabled ○ Disabled

Block Anonymous Ping Requests: ○ Enabled ● Disabled

Apply Firewall Profile: Low

To configure user-based security rules, go to Access Restriction...

Intrusion Detection Protection—To use Intrusion Detection System (IDS) and Denial of Service (DoS) protection, select **Enabled**. Otherwise, keep the default, **Disabled**.

Web Content Filtering—To filter web content, keep the default, Enabled. Otherwise, select Disabled. (This feature must be enabled to use the Website Blocking options on the Access Restrictions > Internet Access Policy screen.)

Max Firewall Sessions—Enter the maximum number of firewall sessions that will be processed at any given time.

Max QoS Sessions—Enter the maximum number of QoS sessions that will be processed at any given time.

SIP ALG—The SIP ALG feature assists VoIP phones behind the residential gateway when NAT problems are encountered. This feature also assists QoS (when enabled) with automatic classification of SIP- and RTP-related traffic. To use the SIP ALG feature, keep the default, **Enabled**. Otherwise, select **Disabled**.

Firewall Profile

Apply Firewall Profile—For a low level of firewall protection, keep the default, **Low**. For a high level of firewall protection, select **High**. To disable the firewall, select **Off**.

To configure user-based security rules, click **Access Restrictions**. (Refer to the *Internet Access Policy* (see on page 91) section for details.)

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

8

Access Restrictions

Introduction

This chapter describes setting up an Intranet Access Policy to manage the access restrictions for your residential gateway.

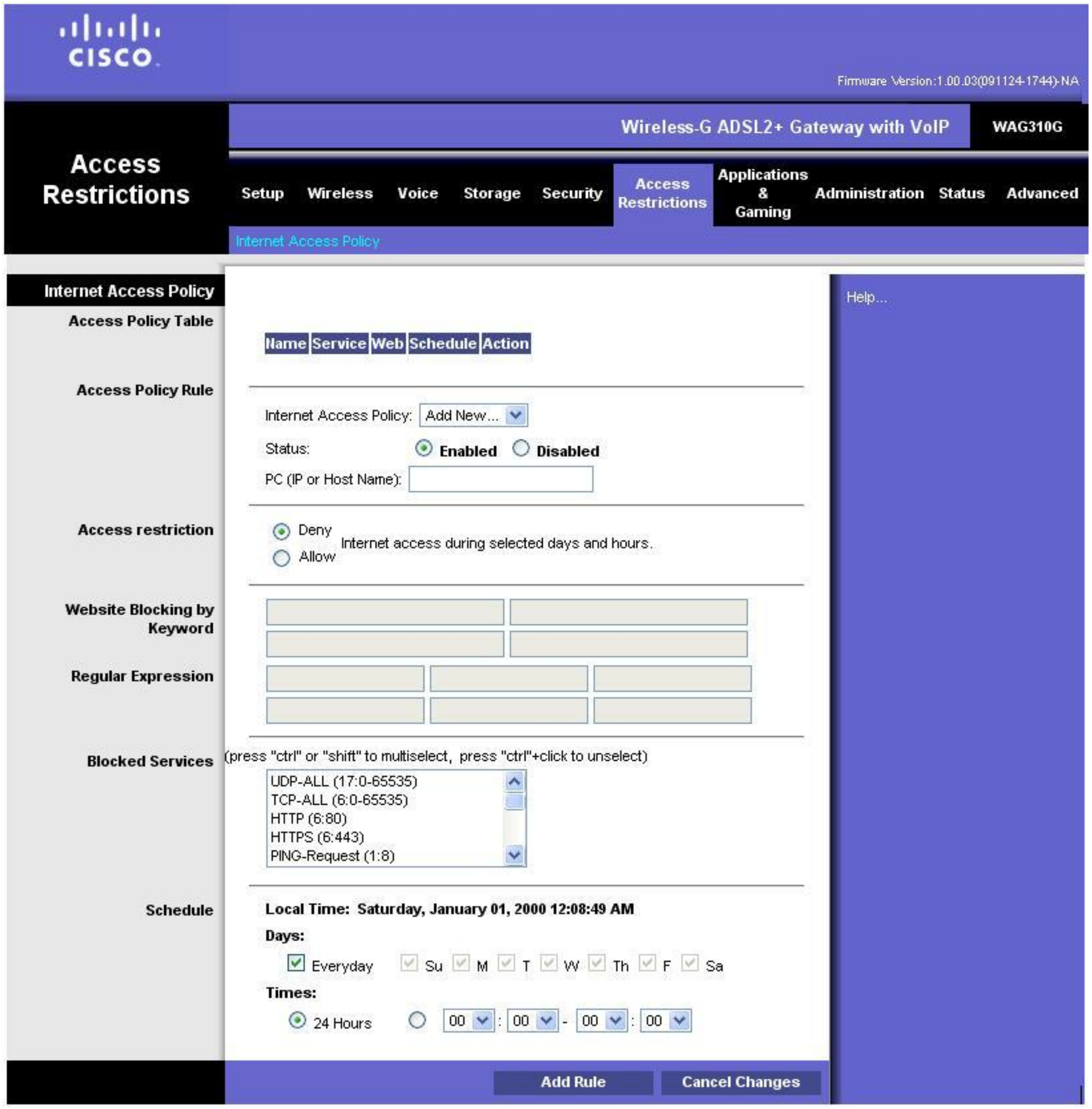
In This Chapter

Internet Access Policy

This Access Restrictions screen is used to set up and manage Internet access policies.

An Internet Access Policy allows you to block or allow specific kinds of Internet usage and traffic, such as Internet access, designated services, and websites during specific days and times.

Path: Access Restrictions > Internet Access Policy



Internet Access Policy

Access Policy Table

Name	Service	Web	Schedule	Action

Access Policy Rule

Internet Access Policy: Add New...

Status: ● Enabled ○ Disabled

PC (IP or Host Name):

Access restriction

● Deny
○ Allow
Internet access during selected days and hours.

Website Blocking by Keyword

Regular Expression

Blocked Services

(press "ctrl" or "shift" to multiselect, press "ctrl"+click to unselect)

UDP-ALL (17:0-65535)
TCP-ALL (6:0-65535)
HTTP (6:80)
HTTPS (6:443)
PING-Request (1:8)

Schedule

Local Time: Saturday, January 01, 2000 12:08:49 AM

Days:

☑ Everyday ☑ Su ☑ M ☑ T ☑ W ☑ Th ☑ F ☑ Sa

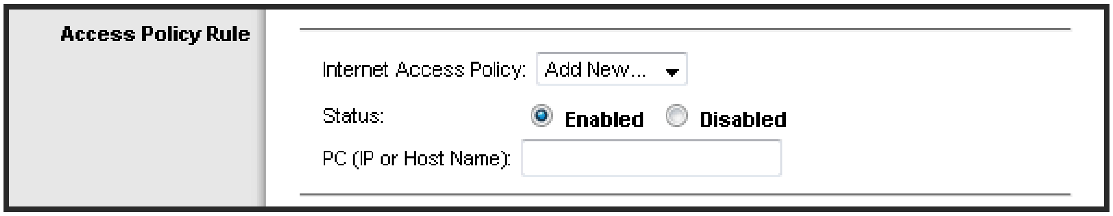
Times:

● 24 Hours ○ 00 : 00 - 00 : 00

Create or Modify an Internet Access Policy

Complete the following steps to create a new policy or modify an existing policy.

1 In the Access Policy Rule section of the screen, select a policy from the **Internet Access Policy** drop-down menu.



Access Policy Rule

Internet Access Policy: Add New...

Status: ● Enabled ○ Disabled

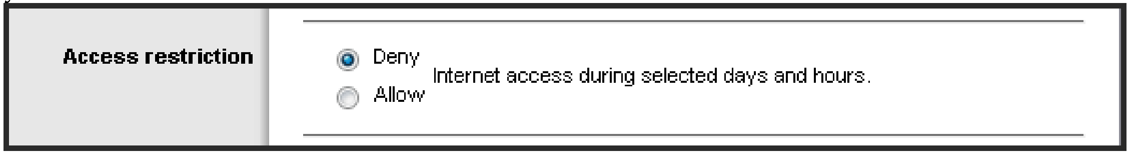
PC (IP or Host Name):

a If you are setting up a new policy, select **Add New Rule**. If you select an existing policy, the screen refreshes with that policy's settings.
Note: Multiple rules can be created for the same computer. Rules have priorities, so the first matched rule determines the computer's access policy.

b From the Status field, select the **Enabled** radio button to enable the policy, or **Disabled** to disable the policy.

c In the **PC (IP or Host) Name** field, enter the host name or IP address of the computer for which this policy applies.

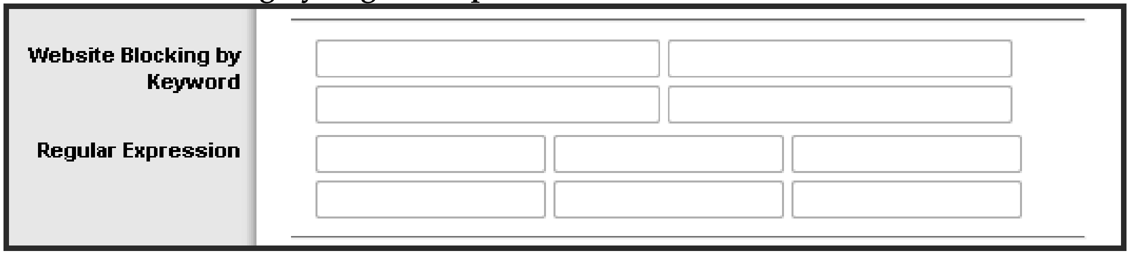
2 In the Access restriction section, click the appropriate option, **Deny** or **Allow**, depending on whether you want to block or allow Internet access for the PCs you listed on the List of PCs screen.



Access restriction

● Deny
○ Allow
Internet access during selected days and hours.

3 If you wish to block access to websites, use the **Website Blocking by Keyword** or **Website Blocking by Regular Expression** feature.



Website Blocking by Keyword

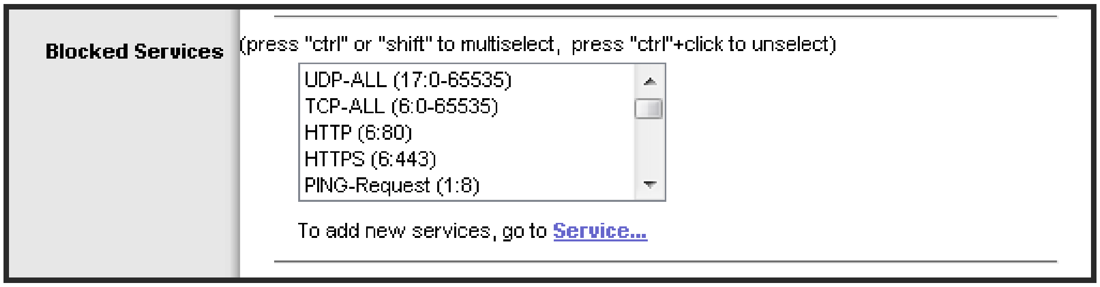
Regular Expression

- To use Website Blocking by Keyword, enter the URL or Domain Name of the websites you wish to block.
Note: If any of these Keywords appears in the URL of a website, access to the site will be blocked. Note that only the URL is checked, not the content of each web page.

- To use Website Blocking by Regular Expression, enter the expression you wish to block in the fields provided.
  Note: A regular expression is a string used to describe or match a set of strings. You can block websites that use strings encompassed by the regular expressions you enter on this screen. Enter each regular expression in a separate field.
  Regular Expression Syntax:

.	any character
^	start of a line
$	end of a line
*****	match zero or many times
?	match zero or one time
+	match one or more times
{m,n}	match from m to n times (m <= n)
{n}	match exactly n times
[a-c]	character set
[^a-c]	negative charset
|	or
(“ and “)	brackets for grouping
\xx	escaped character

4 Use any combination of the following options to block services in the Blocked Services section to filter access to various applications accessed over the Internet, such as FTP or telnet.



Blocked Services (press "ctrl" or "shift" to multiselect, press "ctrl"+click to unselect)

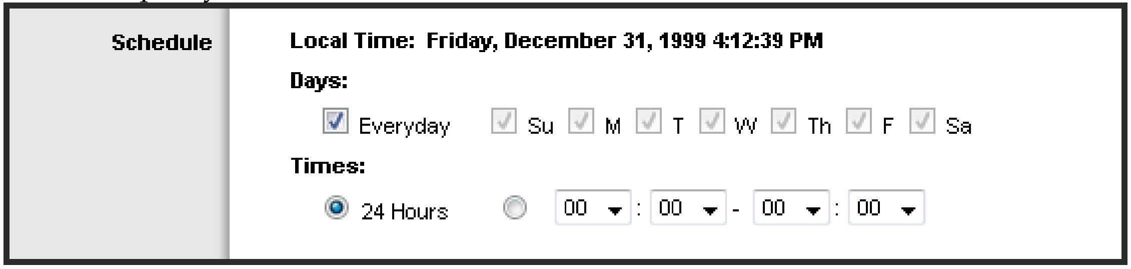
UDP-ALL (17:0-65535)
TCP-ALL (6:0-65535)
HTTP (6:80)
HTTPS (6:443)
PING-Request (1:8)

To add new services, go to Service...

- **Block a preset applications**—The block services select list offers a choice of preset applications. For multiple selection, press the **Ctrl** or **Shift** key.
  Note: If you select a preset application, its port numbers and protocol are displayed and can not be changed.
- **Block a new service**—If the application you want to block is not listed, select the **Service** link; then, you can enter the port range and protocol for the service you wish to block. The new service is added to the list.

- **Remove blocking**—To remove the blocking, press **Ctrl + click** to deselect a service.

5 In the Schedule section, select the individual days during which the policy will be in effect, or select **Everyday**. Then, enter a range of hours and minutes during which the policy will be in effect, or select **24 Hours**.



Schedule

Local Time: Friday, December 31, 1999 4:12:39 PM

Days:

☑ Everyday ☑ Su ☑ M ☑ T ☑ W ☑ Th ☑ F ☑ Sa

Times:

● 24 Hours ○ 00 : 00 - 00 : 00

6 Set the policy as follows:

- If you are creating a new rule, click the **Add Rule** button to add policy rule settings.
- If your are modifying an existing rule, click the **Save Settings** button to save policy rule settings.
- If you wish to cancel your inputs, click **Cancel Changes**.

9

Applications & Gaming

Introduction

This chapter describes setting up the gateway to support applications and games.

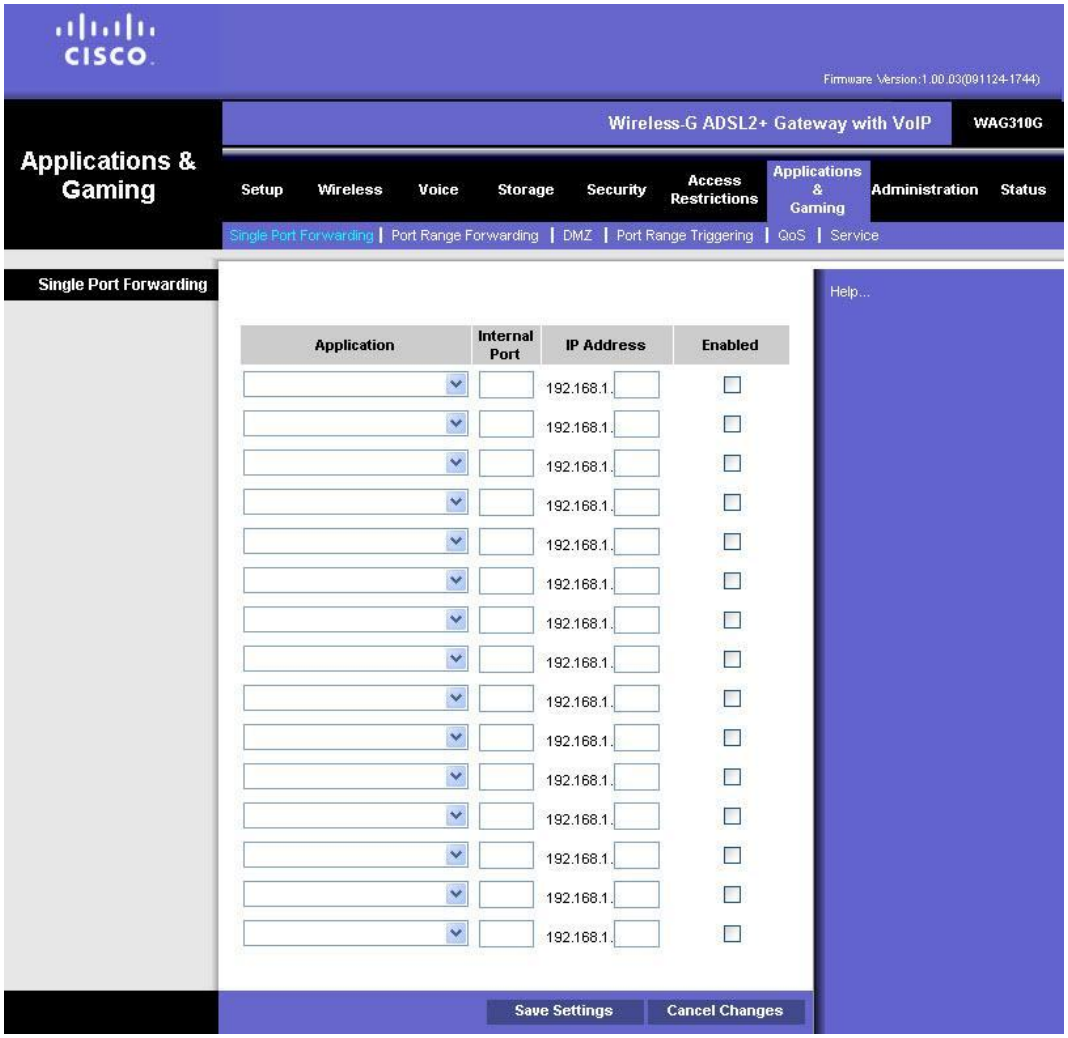
In This Chapter

Single Port Forwarding

The Single Port Forwarding screen allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Specialized Internet applications are any applications that use Internet access to perform functions such as video conferencing or online gaming. Some Internet applications may not require any forwarding.)

When users send these types of requests to your network via the Internet, the Gateway will forward those requests to the appropriate servers (computers). Before using forwarding, you should assign static IP addresses to the designated servers.

Path: Applications & Gaming > Single Port Forwarding



Application	Internal Port	IP Address	Enabled
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□
		192.168.1.	□

To forward a port, enter the information on each line for the criteria required.

Application—Select the appropriate application: HTTP (80), HTTPS (443), FTP (21), Windows Media Player (1755), DNS (53), POP3 (110), Simple Mail Transfer (25), or TR069 Connection Request (888).

Internal Port—Enter the internal port number used by the server or Internet application. Check with the Internet application documentation for more information.

IP Address—For each application, enter the IP address of the computer that should receive the requests.

Enabled—For each application, select Enabled to enable port forwarding.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

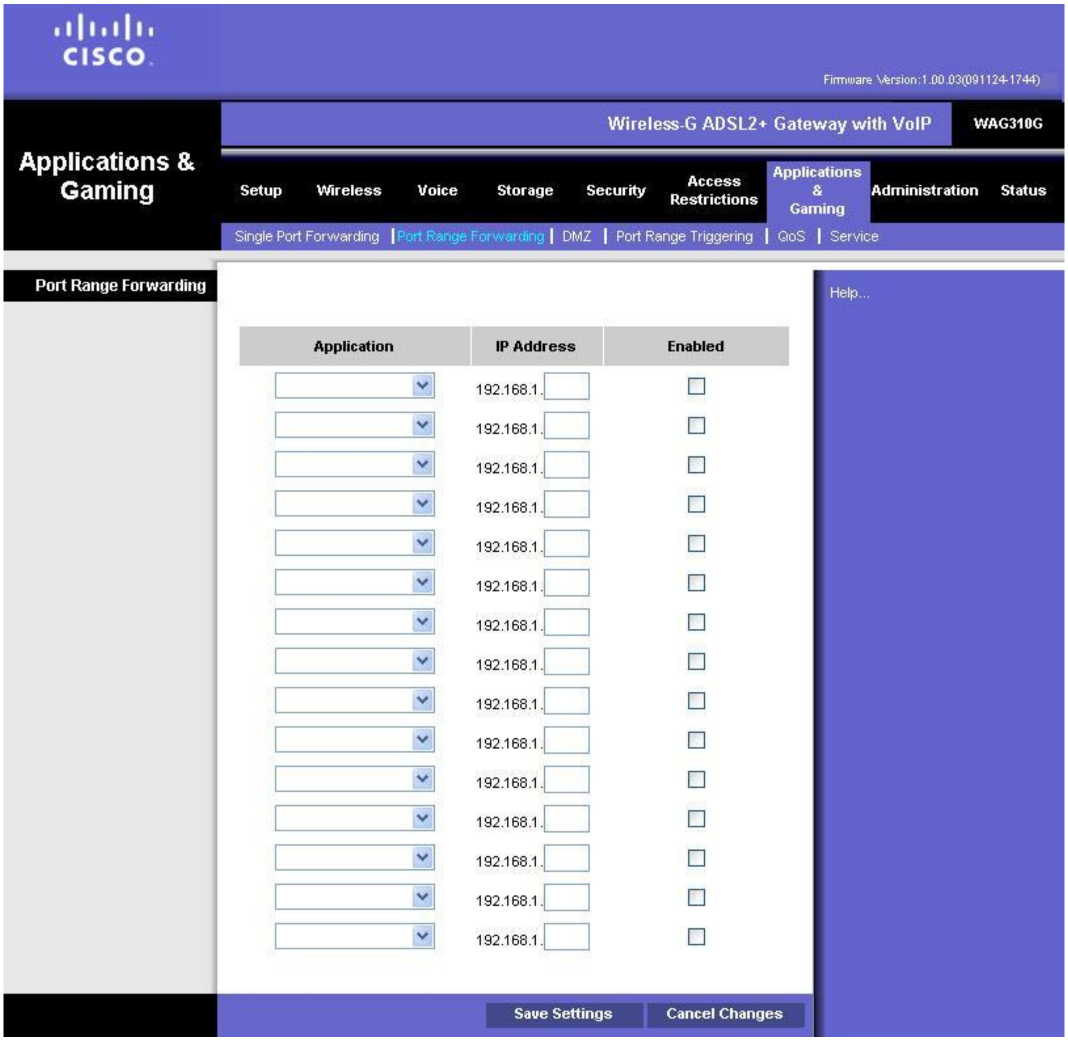
Port Range Forwarding

The Port Range Forwarding screen allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Specialized Internet applications are any applications that use Internet access to perform functions such as videoconferencing or online gaming. Some Internet applications may not require any forwarding.)

When users send these types of requests to your network via the Internet, the Gateway will forward those requests to the appropriate servers (computers). Before using forwarding, you should assign static IP addresses to the designated servers.

Note: If you need to forward all ports to one computer, click the **DMZ** tab.

Path: Applications & Gaming > Port Range Forwarding



Application	IP Address	Enabled
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□
	192.168.1.	□

To forward a port range, enter the information on each line for the criteria required.

Application—Select the appropriate application.

Note: If you do not see the application you want, configure the service on the Applications & Gaming > Service screen.

IP Address—For each application, enter the IP address of the computer running the specific application.

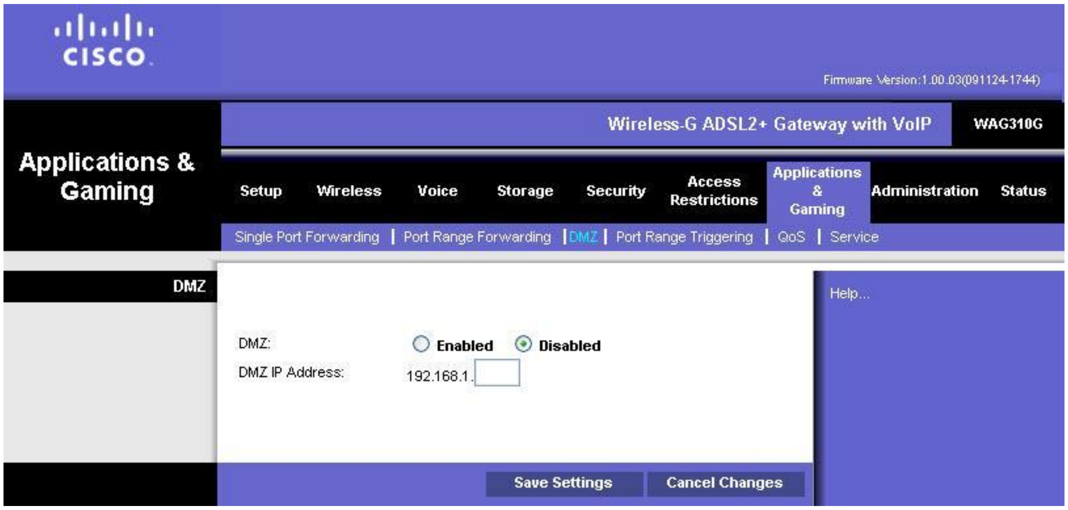
Enabled—Select **Enabled** to enable port forwarding for the applications you have defined.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

DMZ

The DMZ feature allows one network computer to be exposed to the Internet for use of a special-purpose service such as Internet gaming or videoconferencing. DMZ hosting forwards all the ports at the same time to one PC. The Port Range Forwarding feature is more secure because it only opens the ports you want to have opened, while DMZ hosting opens all the ports of one computer, exposing the computer to the Internet.

Path: Applications and Gaming > DMZ


Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Applications & Gaming
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Single Port Forwarding | Port Range Forwarding | DMZ | Port Range Triggering | QoS | Service
DMZ
Help...
Save Settings
Cancel Changes

DMZ: ○ Enabled ● Disabled

DMZ IP Address: 192.168.1.

Any computer whose port is being forwarded must have its DHCP client function disabled and should have a new static IP address assigned to it because its IP address may change when using the DHCP function.

DMZ—To disable DMZ hosting, keep the default, **Disabled**. To expose one PC, select **Enabled**.

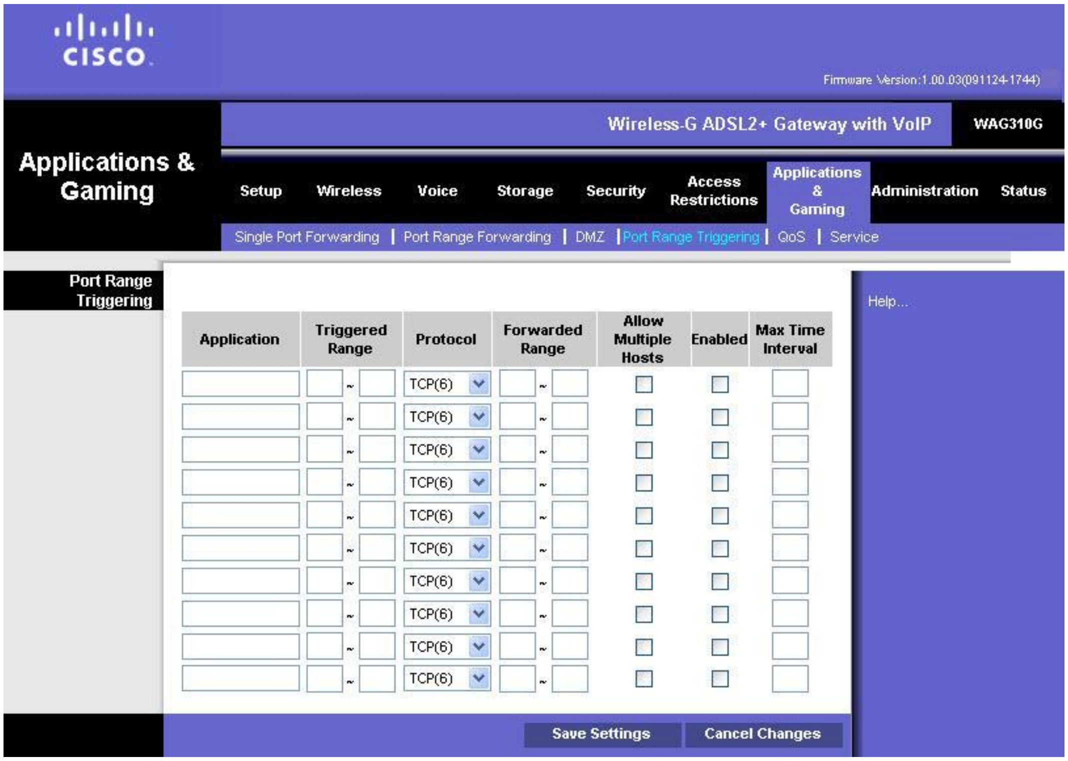
DMZ IP Address—Enter the IP address of the computer.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

Port Range Triggering

The Port Range Triggering screen allows the Gateway to watch outgoing data for specific port numbers. The IP address of the computer that sends the matching data is remembered by the residential gateway, so that when the requested data returns through the residential gateway, the data is pulled back to the proper computer by way of IP address and port mapping rules.

Path: Applications & Gaming > Port Range Triggering



Application	Triggered Range	Protocol	Forwarded Range	Allow Multiple Hosts	Enabled	Max Time Interval
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	
	~	TCP(6)	~	☐	☐	

To trigger a port range, enter the information on each line for the criteria required.

Application Name—Enter the unique application name of the trigger.

Triggered Range—For each application, enter the starting and ending port numbers of the triggering port number range. These are the ports used by initiating traffic. Check with the Internet application documentation for the port number(s) needed.

Protocol—For each application, select the appropriate protocol, TCP(6) or UDP(17).

Forwarded Range—For each application, enter the starting and ending port numbers of the forwarded port number range. These are the ports used by incoming traffic. Check with the Internet application documentation for the port number(s) needed.

Allow Multiple Hosts—Select this option to allow multiple hosts in returned traffic.

Enabled—Select Enabled to enable port triggering for the applications you have defined.

Max Time Interval—Select

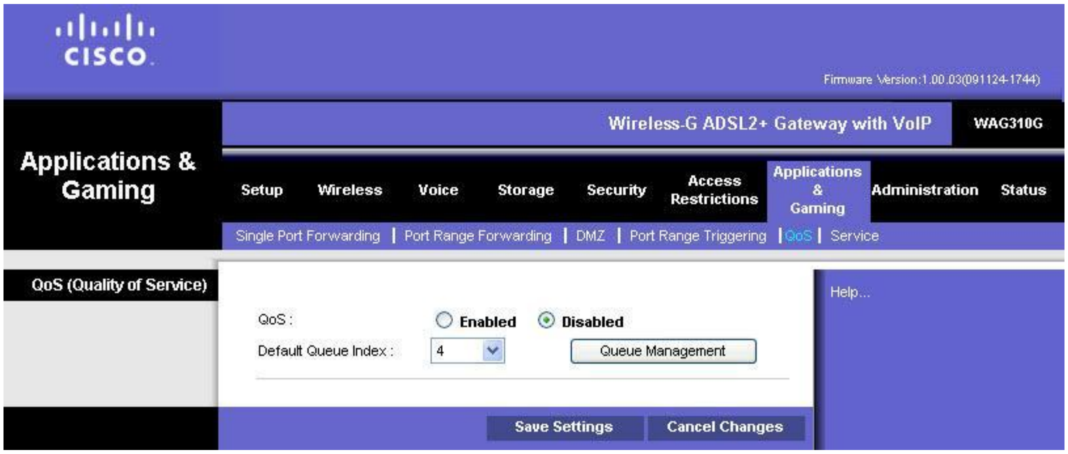
Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

QoS (Quality of Service)

Quality of Service (QoS) ensures better service to high-priority types of network traffic, which may involve demanding, real-time applications, such as videoconferencing.

Note: The residential gateway's QoS is for upstream traffic regulation only. Downstream QoS is usually enforced by the service provider's headend equipment.

Path: Applications & Gaming > QoS



QoS : ○ Enabled ● Disabled

Default Queue Index : 4

Application-based QoS manages information as it is transmitted and received.

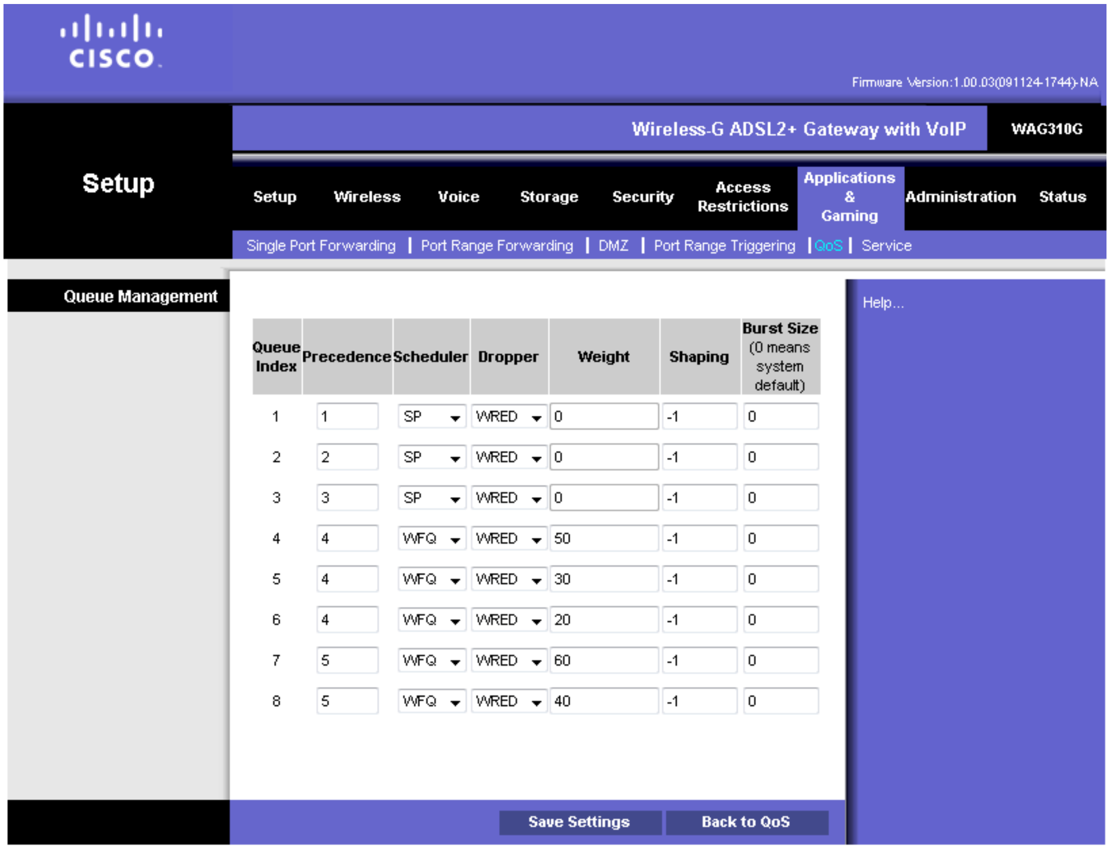
QoS—To use QoS, select Enabled. Otherwise, keep the default, Disabled.

Default Queue Index—Select the default queue (and priority) for applications not specified below: 1-8. (A lower value has higher priority.)

Queue Management—A new window appears. Continue with the next section for details.

Queue Management

Path: Applications & Gaming > QoS > Queue Management button


CISCO
Firmware Version:1.00.03(091124-1744)-NA
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Setup
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Single Port Forwarding | Port Range Forwarding | DMZ | Port Range Triggering | QoS | Service
Queue Management
Help...
Save Settings
Back to QoS

Queue Index	Precedence	Scheduler	Dropper	Weight	Shaping	Burst Size (0 means system default)
1	1	SP	WRED	0	-1	0
2	2	SP	WRED	0	-1	0
3	3	SP	WRED	0	-1	0
4	4	WFQ	WRED	50	-1	0
5	4	WFQ	WRED	30	-1	0
6	4	WFQ	WRED	20	-1	0
7	5	WFQ	WRED	60	-1	0
8	5	WFQ	WRED	40	-1	0

The Queue table specifies the number and types of queues, queue parameters, shaping behavior, and scheduling algorithm to use.

Each queue can be configured to be a “Strict Priority”, “WRR (Weighted Round Robin)”, or “WFQ (Weighted Fair Queuing)” queue. One of the queues is configured to be the default queue, which matches all traffic that cannot be classified by the existing classification rules. The default settings are as follows:

- Queue 1, 2, and 3 are Strict Priority queues (queue 1 has the highest priority)
- Queue 4, 5, and 6 are WFQ queues and share the same priority (lower than 1, 2, and 3)
- Queue 7 and 8 are also WFQ queues but with the lowest priority
- Queue 8 is set to be the default queue

Note: We recommend that you use the default settings or those set by your service provider.

Queue Index—There are eight queues for each interface. You can configure the parameters but cannot add or delete queues. Higher index queues generally represent higher-priority queues. Queues 1-3 are Strict Priority (WP) queues, and Queues 4-8 are priority-based Weighted Fair Queues (WFQ).

Precedence—Enter the Precedence value of this queue relative to the others. A lower value indicates higher precedence.

Scheduler—Select the scheduling algorithm: **SP**, **WFQ**, or **WRR** (Weighted Round Robin). The default is **SP**.

Dropper— Select the dropping algorithm used if there is congestion: **RED** (Random Early Detection), **DT** (Drop Tail), or **WRED** (Weighted RED). The default is **WRED**.

Weight—When WFQ or WRR is used, this option is available and used only for queues of equal precedence. Queues 4-6 have equal precedence, and Queues 7-8 have equal precedence. Queues 1-3 have higher precedence than Queues 4-6, while Queues 4-6 have higher precedence than Queues 7-8.

Shaping—If the Shaping rate is greater than or equal to 100, then it is the percentage of physical bandwidth. If the Shaping rate is less than 100, then it is the rate in bits per second. A value of -1 indicates no shaping. The default is **-1**.

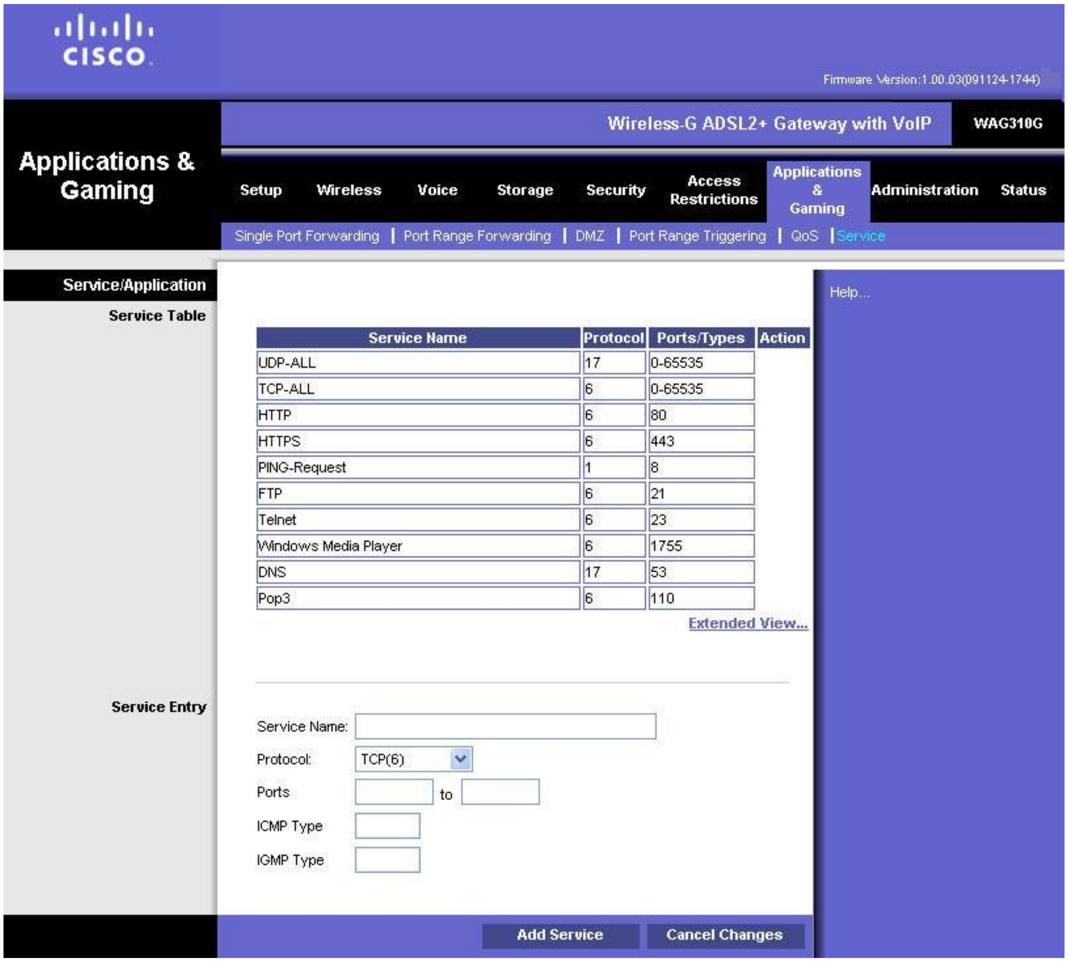
Burst Size—Enter the Burst Size in bytes (1 to 10485760). For both leaky bucket (constant rate shaping) and token bucket (variable rate shaping) algorithms, the Burst Size value is the bucket size and the maximum burst size. If you set this value to zero, then the Gateway will use the system default Burst Size, which is the current Shaping rate divided by eight. The default is **0**.

Click **Save Settings** to apply your changes, or click **Back to QoS** to cancel your changes and return to the QoS screen.

Service

The Service screen allows you to add services.

Path: Applications & Gaming > Service



Service Table

Service Name	Protocol	Ports/Types	Action
UDP-ALL	17	0-65535	
TCP-ALL	6	0-65535	
HTTP	6	80	
HTTPS	6	443	
PING-Request	1	8	
FTP	6	21	
Telnet	6	23	
Windows Media Player	6	1755	
DNS	17	53	
Pop3	6	110	

Service Entry

Service Name:

Protocol: TCP(6)

Ports to

ICMP Type

IGMP Type

Service Table

The services are displayed with the following information: Service Name, Protocol, Ports/ Types, and Action. To delete a user-defined service, click **Delete**. (Default services cannot be deleted.)

To view additional services, click **Extended View**. To return to the Basic View, click **Basic View**.

Service Entry

Service Name—Enter a name for the new service.

Protocol—Select the appropriate protocol: TCP(6), UDP(17), ICMP, ESP(50), AH(51), GRE(47), IGMP(2), PIM-DM(103), or IPCOMP(108).

Ports—Enter the starting and ending port numbers.

ICMP Type—Enter the appropriate number, 0-255, which is valid only for ICMP.

IGMP Type—Enter the appropriate number, 0-255, which is valid only for IGMP.

Click **Add Service** to add a new service, or click **Cancel Changes** to cancel your changes.

10

Administration

Introduction

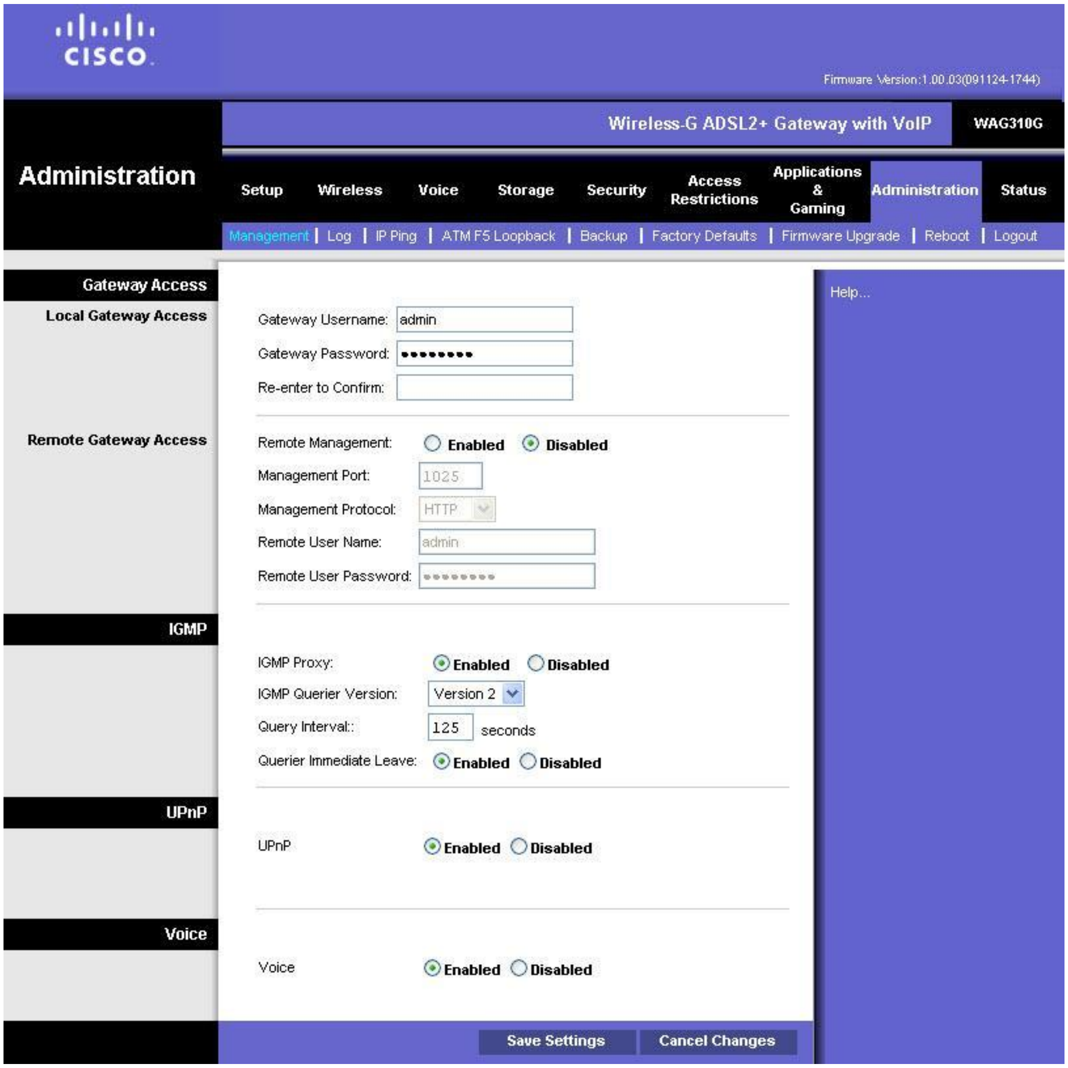
This chapter describes the configuration parameters managed by your network administrator.

In This Chapter

Management

The Management screen allows the network's administrator to manage specific residential gateway functions for access and security.

Path: Administration > Management


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Help...
Save Settings
Cancel Changes

Gateway Access

Local Gateway Access

Gateway Username: admin

Gateway Password: ••••••••

Re-enter to Confirm:

Remote Gateway Access

Remote Management: ○ Enabled ● Disabled

Management Port: 1025

Management Protocol: HTTP

Remote User Name: admin

Remote User Password: ••••••••

IGMP

IGMP Proxy: ● Enabled ○ Disabled

IGMP Querier Version: Version 2

Query Interval:: 125 seconds

Querier Immediate Leave: ● Enabled ○ Disabled

UPnP

UPnP ● Enabled ○ Disabled

Voice

Voice ● Enabled ○ Disabled

Local Gateway Access

To ensure the residential gateway's security, you will be asked for your username and password when you access the residential gateway's web-based utility. The default username and password are admin.

Gateway Username—Enter the default Gateway Username, admin.

Gateway Password—Cisco recommends that you change the default Gateway Password, admin, to one of your choice.

Re-enter to Confirm—Enter the Gateway Password again to confirm.

Remote Gateway Access

Remote Management—To permit remote access of the Gateway, from outside the local network, select Enabled. Otherwise, keep the default, Disabled.

Management Port—Enter the port number that will be open to outside access.

Management Protocol—Select the appropriate protocol, HTTP or HTTPS.

Note: When you are in a remote location and wish to manage the Gateway, enter https://<Internet_IP_address>:port or http://<Internet_IP_address>:port. Enter the Gateway's specific Internet IP address in place of <Internet_IP_address>, and enter the Management Port number in place of the word port.

Remote User Name—Enter the login user name for remote management.

Remote User Password—Enter the login password for remote management.

IGMP

IGMP Proxy—IGMP (Internet Group Membership Protocol) Forwarding (Proxying) is a system to improve multicasting for LAN-side clients. This should be set to **Enabled** if your clients support it, otherwise, select **Disabled**.

IGMP Querier Version—Select: Version 1, Version 2 or Version 3.

Query Interval—Only valid when IGMP Forwarding is enabled, default is 125 seconds.

Querier Immediate Leave—Only valid when IGMP Forwarding is enabled, default is enabled.

Note: IGMPv2 is turned on by default and v3 is supported. IGMP Snooping is turned on by default for all bridges.

UPnP

Universal Plug and Play (UPnP) allows Windows XP and Vista to automatically configure the Gateway for various Internet applications, such as gaming and video conferencing.

UPnP—If you want to use UPnP, keep the default setting, Enabled. Otherwise, select Disabled.

Voice

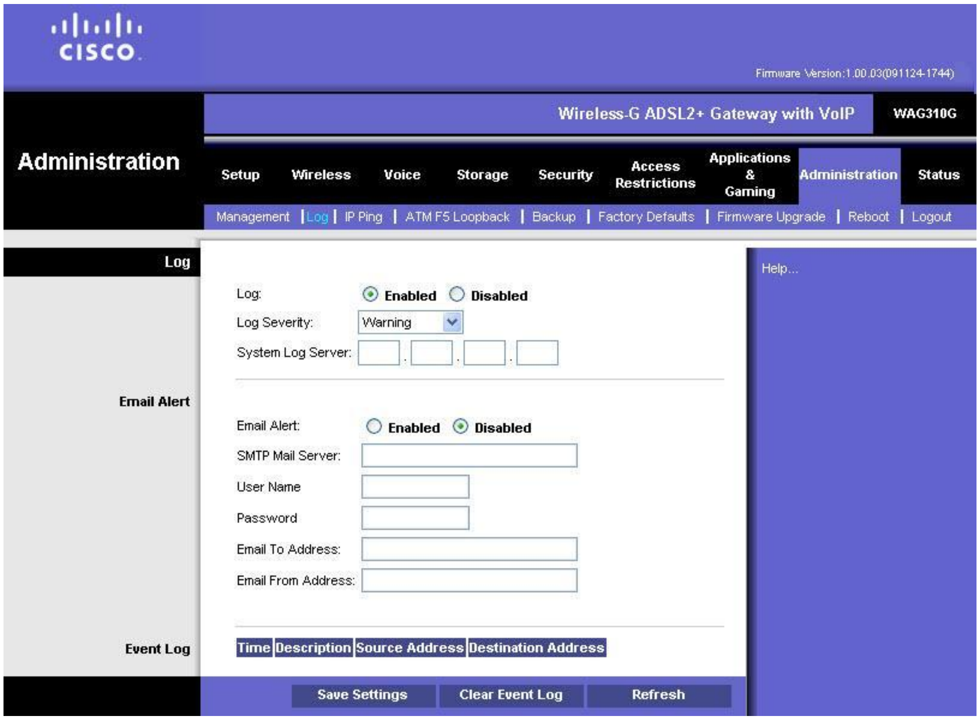
Voice—To use this option, select Enabled. Otherwise, keep the default, **Disabled**.

Click the **Save Settings** button to apply your changes or **Cancel Changes** button to cancel.

Log

The residential gateway can keep logs of traffic and events for your Internet connection.

Path: Administration > Log



Log: ● Enabled ○ Disabled

Log Severity: Warning

System Log Server: ___ . ___ . ___ . ___

Email Alert: ○ Enabled ● Disabled

SMTP Mail Server:

User Name

Password

Email To Address:

Email From Address:

Time	Description	Source Address	Destination Address

Reporting

Log—To disable the Log function, select Disabled. To monitor traffic between the network and the Internet, keep the default, Enabled. With logging enabled, you can choose to view temporary logs.

Log Severity—Select the severity level of the log events you want to view: **Informational**, **Warning** (default), or **Critical**.

System Log Server—To enable system log server support, enter the IP address of the system log server. To disable system log server support, leave this setting blank.

Email Alert

Email Alerts (For Warning Events)—To enable E-Mail Alerts for Warning-level events, select **Enabled**. Otherwise, keep the default, **Disabled**.

SMTP Mail Server—Enter the address (domain name) or IP address of the Simple Mail Transport Protocol (SMTP) server for outgoing e-mail.

User Name—Enter the User Name for SMTP authentication.

Password—Enter the Password for SMTP authentication.

Email to Address—Enter the e-mail address that will receive alert logs.

Email From Address—Enter the return address for the e-mail alerts. (This can be a dummy address.)

Event Log

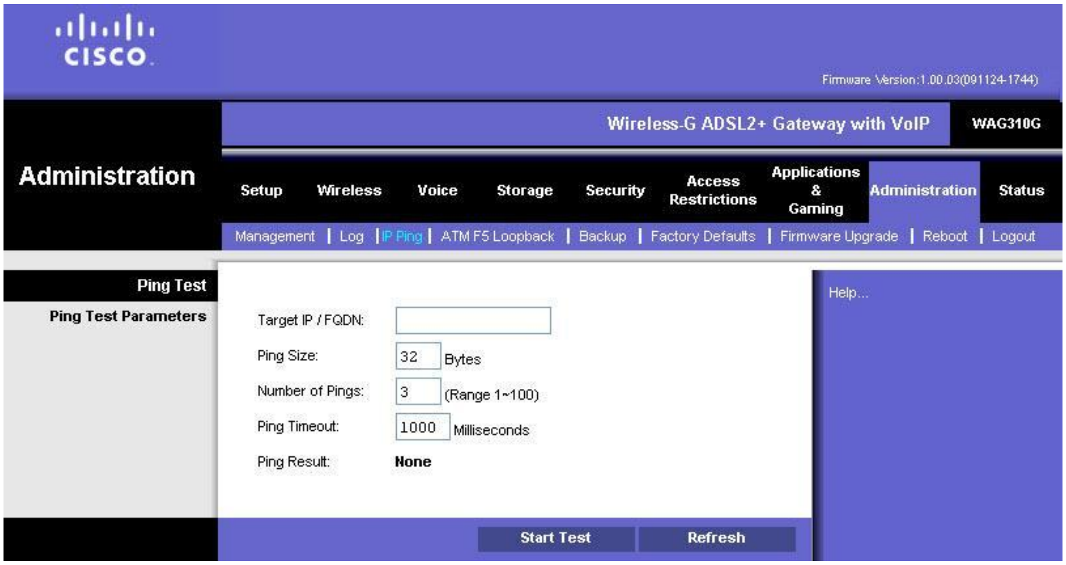
For each log, the Event Log displays the following information: Time, Description, Source Address, and Destination Address.

Click **Save Settings** to apply your changes. Click **Clear Event Log** to clear all of the events. Click **Refresh** to update the on-screen information.

IP Ping

The ping test allows you to check the connections of your network devices, including connection to the Internet.

Path: Administration > IP Ping


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Ping Test
Ping Test Parameters
Help...
Start Test
Refresh

Target IP / FQDN:

Ping Size: 32 Bytes

Number of Pings: 3 (Range 1~100)

Ping Timeout: 1000 Milliseconds

Ping Result: None

Target IP/FQDN—Enter the IP address or Fully Qualified Domain Name (FQDN) that you want to ping. This can be either a local (LAN) or Internet (WAN) IP address.

Ping Size—Enter the packet size you want to use. The default is 32 bytes.

Number of Pings—Enter how many times you want to ping. The default is 3.

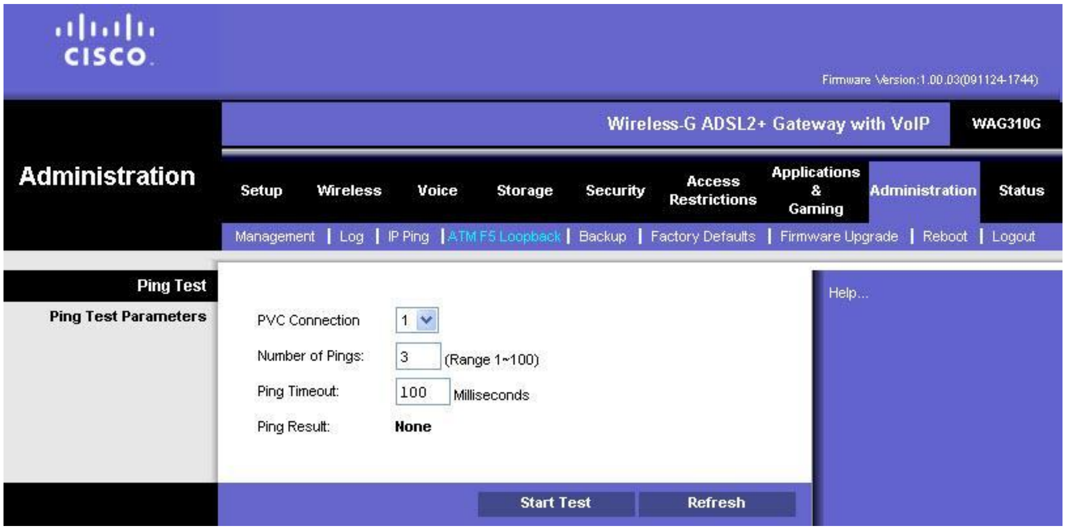
Ping Timeout—Enter the number of milliseconds before the ping test will time out. The default is 5000 milliseconds.

Ping Result—The results of the ping test are displayed.

To run the test, click **Start Test**. Click **Refresh** to update the on-screen information.

ATM F5 Loopback

Path: Administration > ATM F5 Loopback


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Ping Test
Ping Test Parameters
Help...
Start Test
Refresh

PVC Connection 1

Number of Pings: 3 (Range 1~100)

Ping Timeout: 100 Milliseconds

Ping Result: None

PVC Connection—Select the PVC connection you want to configure.

Number of Pings—Enter how many times you want to ping. The default is 3.

Ping Timeout—Enter the number of milliseconds before the ping test will time out. The default is 5000 milliseconds.

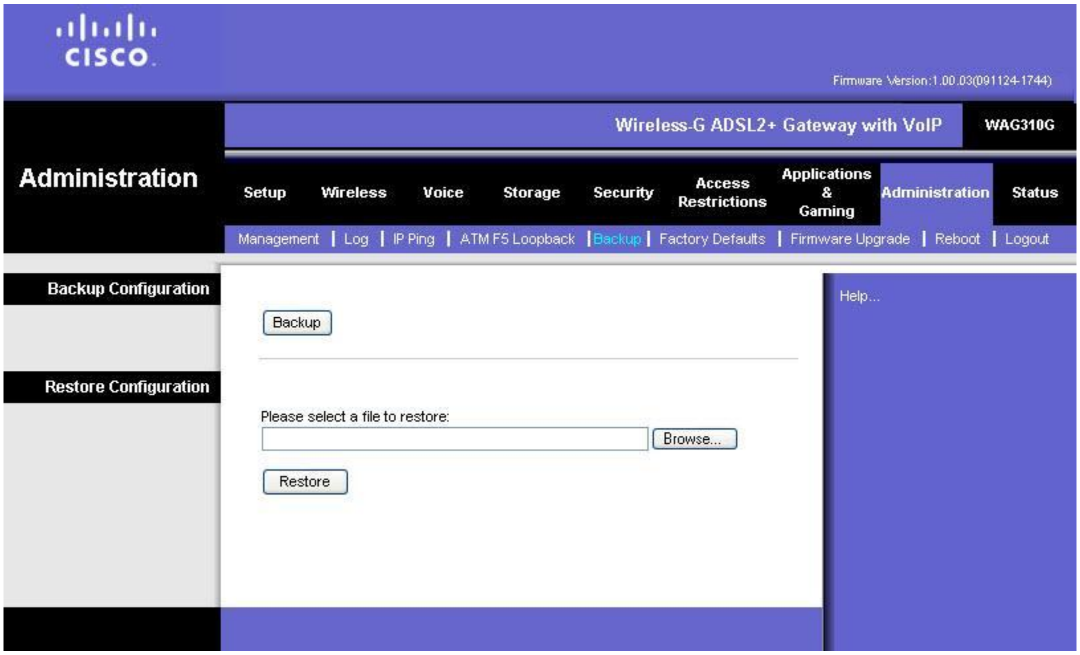
Ping Result—The results of the ping test are displayed.

To run the test, click Start Test. Click Refresh to update the on-screen information.

Backup

The Backup screen allows you to back up or restore the residential gateway's settings using a configuration file.

Path: Administration > Backup


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Backup Configuration
Backup
Restore Configuration
Please select a file to restore:
Browse...
Restore
Help...

Backup Configuration

Backup—To save the Gateway's settings in a configuration file, click this button and follow the on-screen instructions.

Note: The voice settings will not be saved in the configuration file.

Restore Configuration

To use this option, you must have previously backed up its configuration settings.

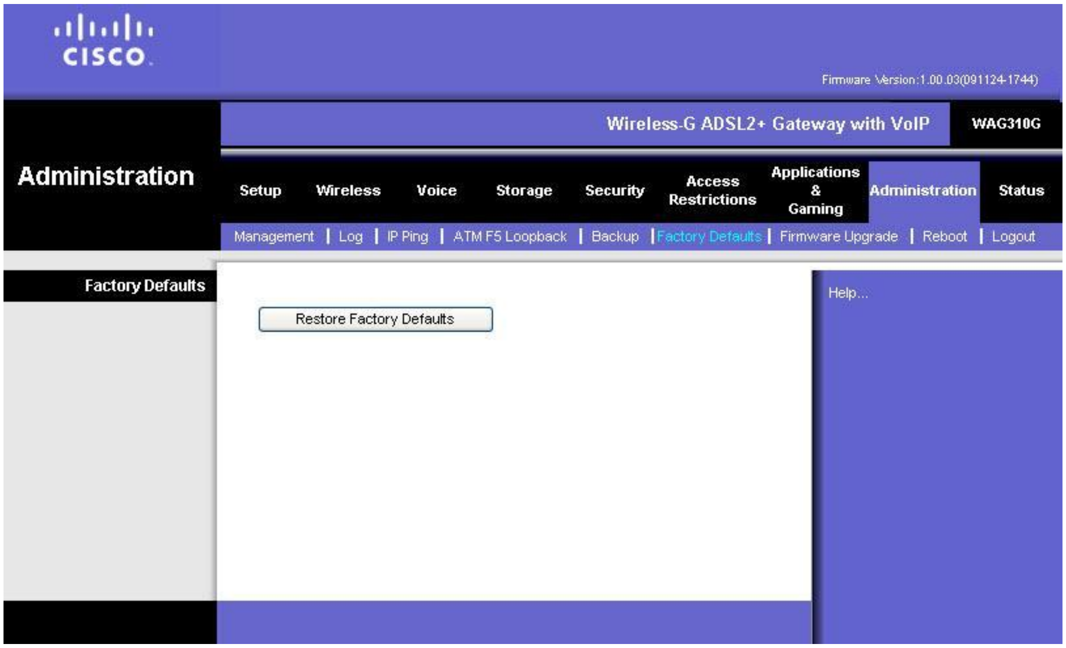
Please select a file to restore—Click **Browse** and select the residential gateway's configuration file.

Restore—To restore the residential gateway's configuration settings, click this button and follow the on-screen instructions.

Factory Defaults

The Factory Defaults screen allows you to restore the residential gateway's configuration to its factory default settings. (An alternative method is to press and hold the Reset button on the residential gateway's back panel for approximately ten seconds.)

Path: Administration > Factory Defaults


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
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Storage
Security
Access Restrictions
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Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Factory Defaults
Restore Factory Defaults
Help...

Note: Restoring factory defaults deletes custom settings. Note your custom settings before clicking the Restore Factory Defaults button.

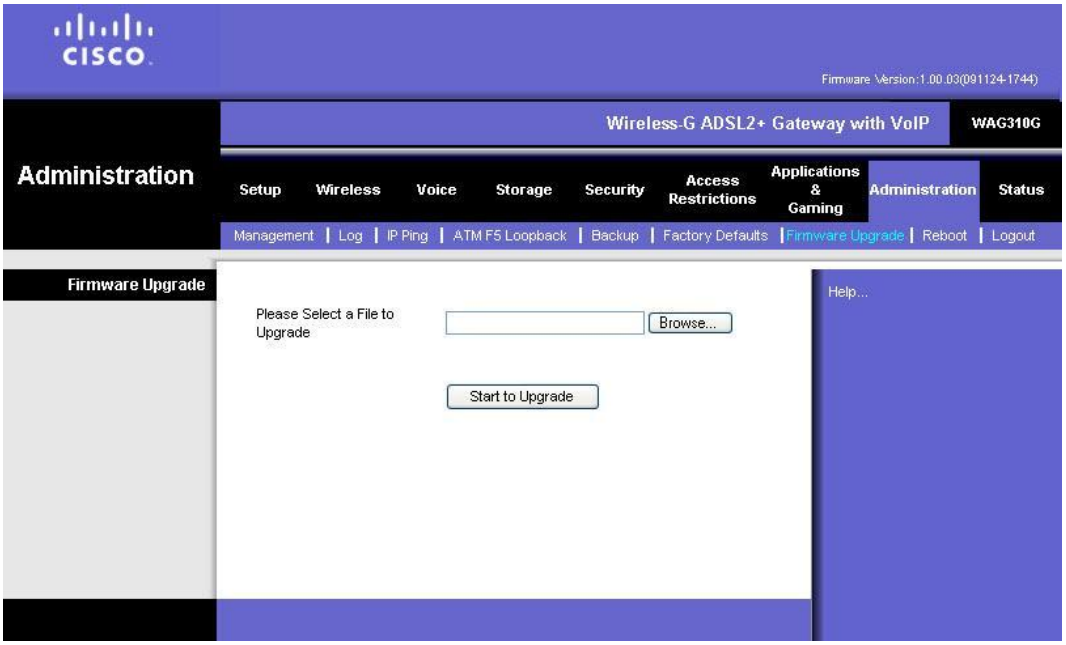
Restore Factory Defaults—To reset settings to the default values, click this button and follow the on-screen instructions. Any custom Gateway settings you have saved will be lost when the default settings are restored.

Firmware Upgrade

The Upgrade screen allows you to upgrade the residential gateway's firmware. Do not upgrade the firmware unless you are experiencing problems with the residential gateway or the new firmware has a feature you want to use.

Note: The residential gateway may lose the settings you have customized. Before you upgrade its firmware, write down all of your custom settings. After you upgrade its firmware, you will have to re-enter all of your configuration settings.

Path: Administration > Upgrade


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Firmware Upgrade
Please Select a File to Upgrade
Browse...
Start to Upgrade
Help...

Please Select a File to Upgrade—Click **Browse** and select the extracted firmware upgrade file.

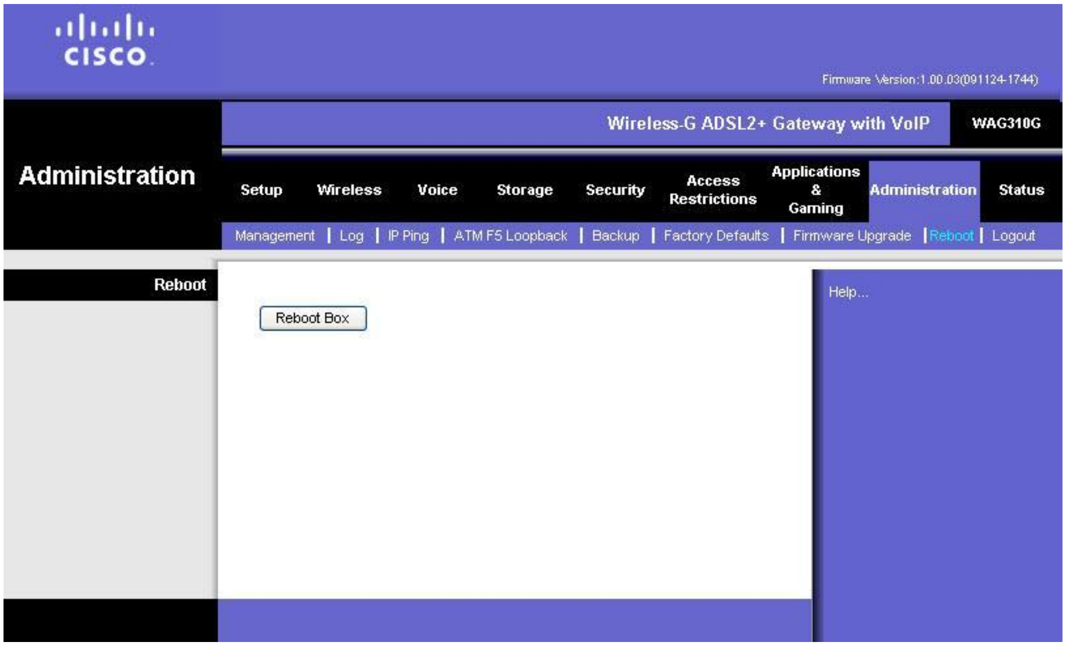
Start to Upgrade—After you have selected the appropriate file, click this button, and follow the on-screen instructions.

Note: In rare cases (such as a power failure), the firmware upgrade may fail. If that happens, the residential gateway will enter recovery mode and automatically download firmware from your service provider's provisioning server.

Reboot

The Reboot screen allows you to gracefully stop and restart the residential gateway. Performing a reboot allows you to save any configuration changes and to reboot the router to make the changes take effect.

Path: Administration > Reboot

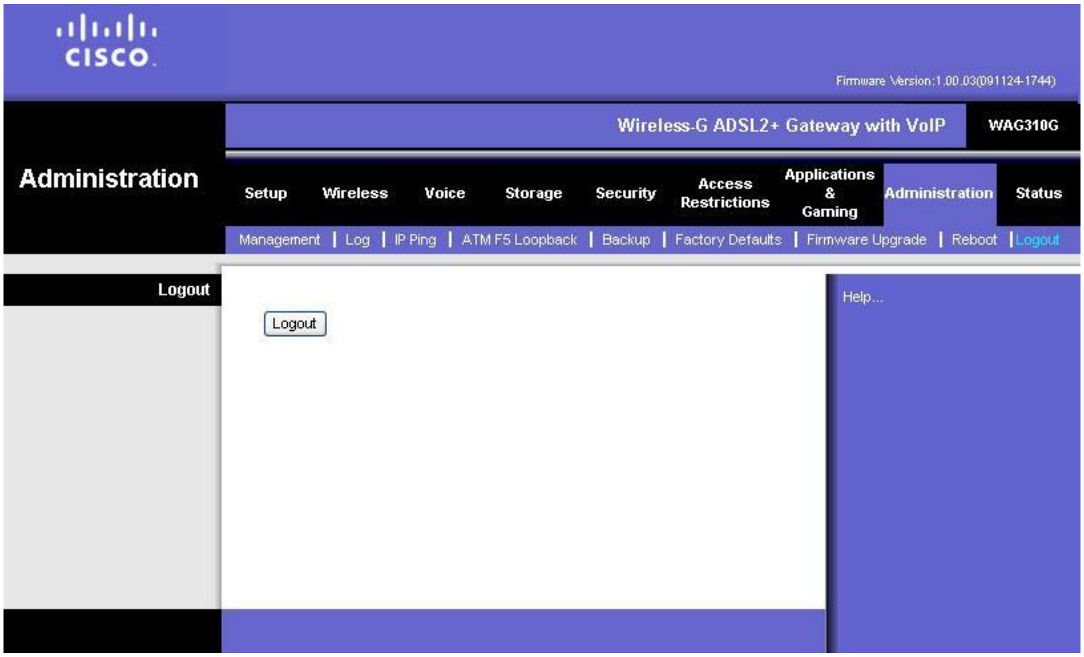

Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
Storage
Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Reboot
Reboot Box
Help...

Click **Reboot Box** to reboot the residential gateway. The restart will terminate the Internet connection.

Logging out of the Residential Gateway

The Logout screen allows you to properly exit the web-based utility.

Path: Administration > Logout


cisco
Firmware Version:1.00.03(091124-1744)
Wireless-G ADSL2+ Gateway with VoIP
WAG310G
Administration
Setup
Wireless
Voice
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Security
Access Restrictions
Applications & Gaming
Administration
Status
Management | Log | IP Ping | ATM F5 Loopback | Backup | Factory Defaults | Firmware Upgrade | Reboot | Logout
Logout
Logout
Help...

Click **Logout** to exit the web-based utility.

11

Status

Introduction

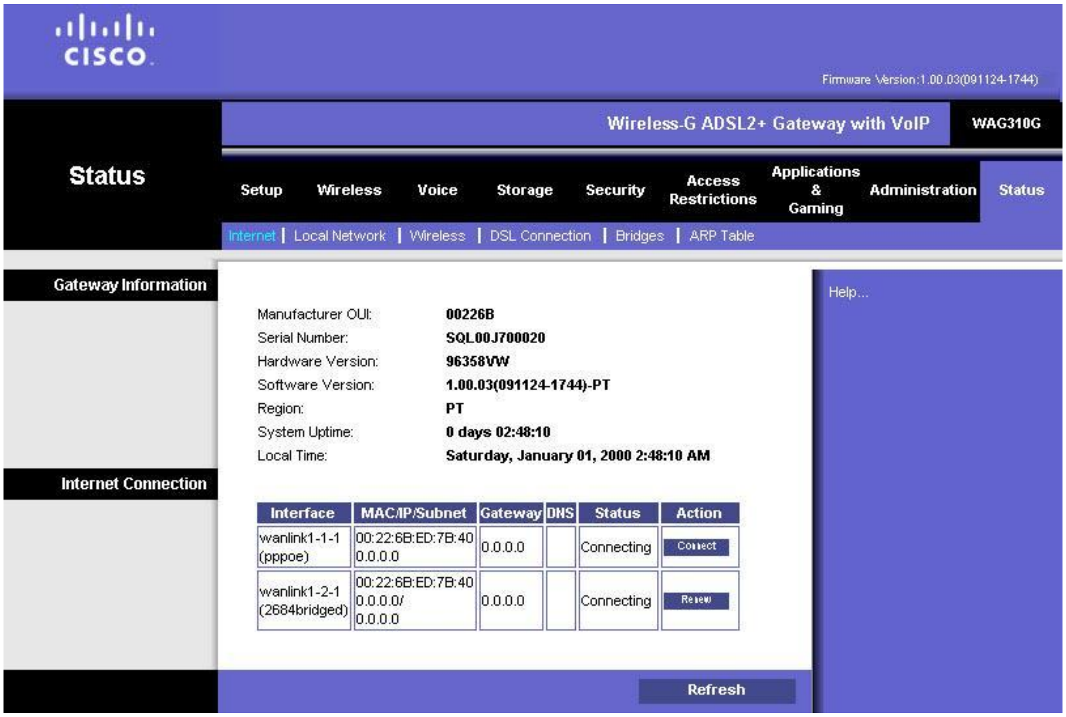
The Status screens provide a system summary of the software used by the residential gateway and indicates the current status of the DSL connection. You can use these screens to find hardware and software information as well as physical and IP layer information.

In This Chapter

Internet

The Internet screen displays information about the Gateway and its current settings.

Path: Status > Internet



Manufacturer OUI: **00226B**
Serial Number: **SQL00J700020**
Hardware Version: **96358VW**
Software Version: **1.00.03(091124-1744)-PT**
Region: **PT**
System Uptime: **0 days 02:48:10**
Local Time: **Saturday, January 01, 2000 2:48:10 AM**

Interface	MAC/IP/Subnet	Gateway	DNS	Status	Action
wanlink1-1-1 (pppoe)	00:22:6B:ED:7B:40 0.0.0.0	0.0.0.0		Connecting	Conect
wanlink1-2-1 (2684bridged)	00:22:6B:ED:7B:40 0.0.0.0/ 0.0.0.0	0.0.0.0		Connecting	Renew

Gateway Information

Manufacturer OUI—The manufacturer ID number is displayed.

Serial Number—The serial number of the Gateway is displayed.

Hardware Version—The version number of the Gateway's hardware is displayed.

Software Version—The version number of the Gateway's software is displayed.

Region—The acronym for the time zone where the Gateway is geographically located.

System Uptime—The length of time the Gateway has been active is displayed.

Local Time—The date and time of the Gateway are displayed.

Internet Connection

This section shows the current information for enabled connections. The table lists the following information about each connection: Interface, MAC/IP/Subnet, Gateway, DNS, and Status.

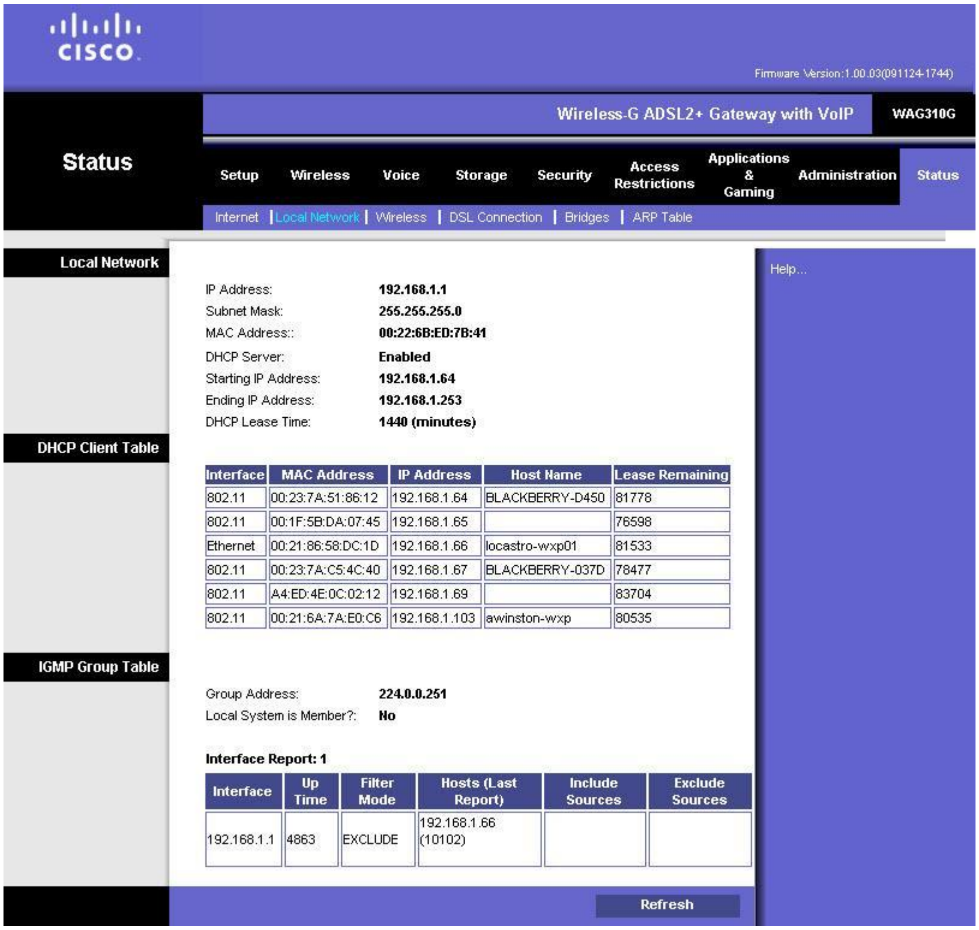
For DHCP connections, you can manually renew or release them. For PPP-type connections, you can manually connect or disconnect them.

Click **Refresh** to update the on-screen information.

Local Network

The Local Network screen displays information about the local network.

Path: Status > Local Network



IP Address: 192.168.1.1
Subnet Mask: 255.255.255.0
MAC Address:: 00:22:6B:ED:7B:41
DHCP Server: Enabled
Starting IP Address: 192.168.1.64
Ending IP Address: 192.168.1.253
DHCP Lease Time: 1440 (minutes)

Interface	MAC Address	IP Address	Host Name	Lease Remaining
802.11	00:23:7A:51:86:12	192.168.1.64	BLACKBERRY-D450	81778
802.11	00:1F:5B:DA:07:45	192.168.1.65		76598
Ethernet	00:21:86:58:DC:1D	192.168.1.66	locastro-wxp01	81533
802.11	00:23:7A:C5:4C:40	192.168.1.67	BLACKBERRY-037D	78477
802.11	A4:ED:4E:0C:02:12	192.168.1.69		83704
802.11	00:21:6A:7A:E0:C6	192.168.1.103	awinston-wxp	80535

Group Address: 224.0.0.251
Local System is Member?: No

Interface Report: 1

Interface	Up Time	Filter Mode	Hosts (Last Report)	Include Sources	Exclude Sources
192.168.1.1	4863	EXCLUDE	192.168.1.66 (10102)		

IP Address—The Gateway's IP address, as it appears on your local network, is displayed.

Subnet Mask—The Subnet Mask of the Gateway is displayed.

MAC Address—The Gateway's MAC address is displayed.

DHCP Server—The status of the Gateway's DHCP server function is displayed.

Starting IP Address—For the range of IP addresses used by devices on your local network, the starting IP address is displayed.

Ending IP Address—For the range of IP addresses used by devices on your local network, the ending IP address is displayed.

DHCP Lease Time—The length of time for the DHCP lease setting is displayed.

DHCP Client Table

The table displays DHCP, static, and dynamic (found by ARP) types of clients. It describes the devices that have been assigned IP addresses by the Gateway. For each device, the table lists the following information: Interface, MAC Address, IP Address, Host Name, and Lease Remaining (how much time is left for the current IP address).

IGMP Group Table

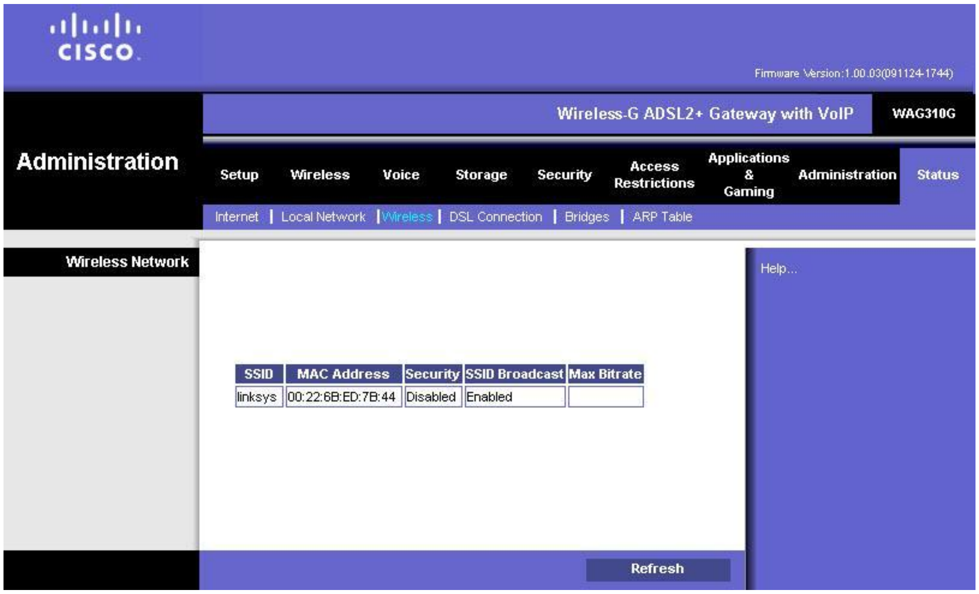
The table describes the IGMP configuration of the Gateway (if configured).

Click **Refresh** to update the on-screen information.

Wireless

The Wireless screen displays information about your wireless network(s).

Path: Status > Wireless



SSID	MAC Address	Security	SSID Broadcast	Max Bitrate
linksys	00:22:6B:ED:7B:44	Disabled	Enabled	

For each wireless network, the following is displayed:

SSID—The name of the wireless network is displayed.

MAC Address—The MAC address of the Gateway's local, wireless interface is displayed.

Security—The wireless security method is displayed (if used).

SSID Broadcast—The SSID broadcast setting is displayed.

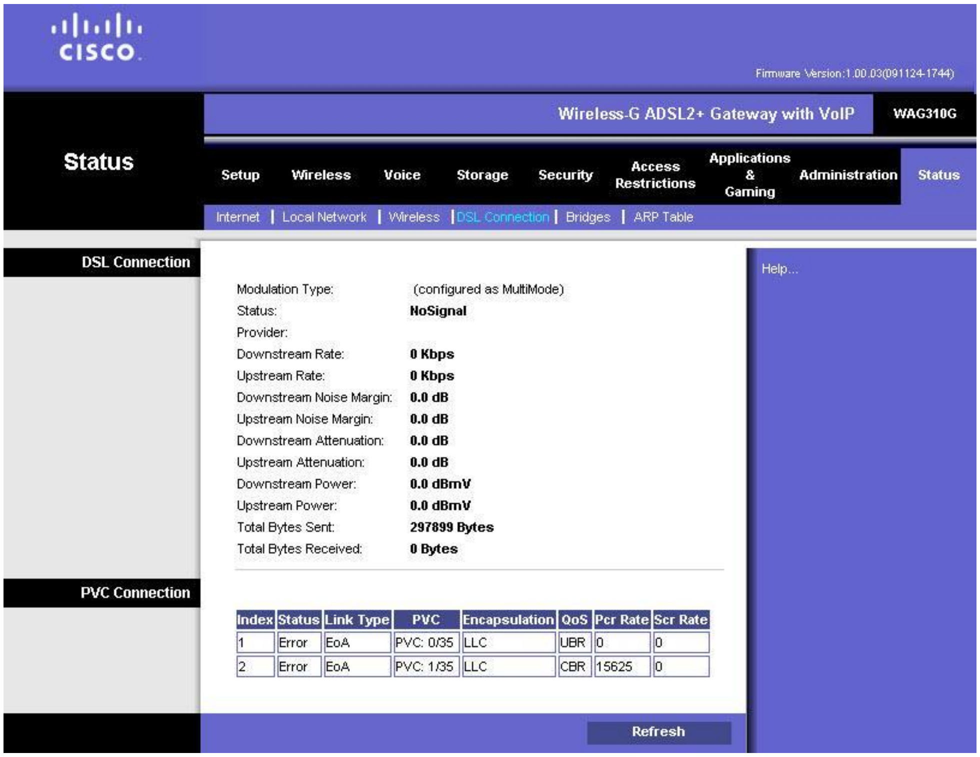
Max Bitrate—The maximum bitrate is displayed. This parameter is managed by your service provider.

Click **Refresh** to update the on-screen information.

DSL Connection

The DSL Connection screen displays information about your DSL connection.

Path: Status > DSL Connection



Modulation Type:	(configured as MultiMode)
Status:	**NoSignal**
Provider:	
Downstream Rate:	**0 Kbps**
Upstream Rate:	**0 Kbps**
Downstream Noise Margin:	**0.0 dB**
Upstream Noise Margin:	**0.0 dB**
Downstream Attenuation:	**0.0 dB**
Upstream Attenuation:	**0.0 dB**
Downstream Power:	**0.0 dBmV**
Upstream Power:	**0.0 dBmV**
Total Bytes Sent:	**297899 Bytes**
Total Bytes Received:	**0 Bytes**

Index	Status	Link Type	PVC	Encapsulation	QoS	Pcr Rate	Scr Rate
1	Error	EoA	PVC: 0/35	LLC	UBR	0	0
2	Error	EoA	PVC: 1/35	LLC	CBR	15625	0

Modulation Type—The DSL modulation mode of the Gateway is displayed.

Status—The status of the DSL connection is displayed.

Provider—The name of the service provider is displayed.

Downstream Rate—The download speed of traffic from the Internet to the Gateway is displayed.

Upstream Rate—The upload speed of traffic from the Gateway to the Internet is displayed. For ADSL connection, the Upstream Rate is typically 25% of the Downstream Rate.

Note: The Downstream and Upstream Rates are affected by distance from and configuration of the DSL central office.

Downstream Noise Margin—For downstream noise, the number of decibels (dB) is displayed.

Upstream Noise Margin—For upstream noise, the number of decibels (dB) is displayed.

Downstream Attenuation—For downstream traffic, the amount of signal loss is displayed.

Upstream Attenuation—For upstream traffic, the mount of signal loss is displayed.

Downstream Power—For downstream power, the number of decibels (referencing a millivolt) is displayed.

Upstream Power—For upstream power, the number of decibels (referencing a millivolt) is displayed.

Total Bytes Sent—The number of bytes sent is displayed.

Total Bytes Received—The number of bytes received is displayed.

PVC Connection

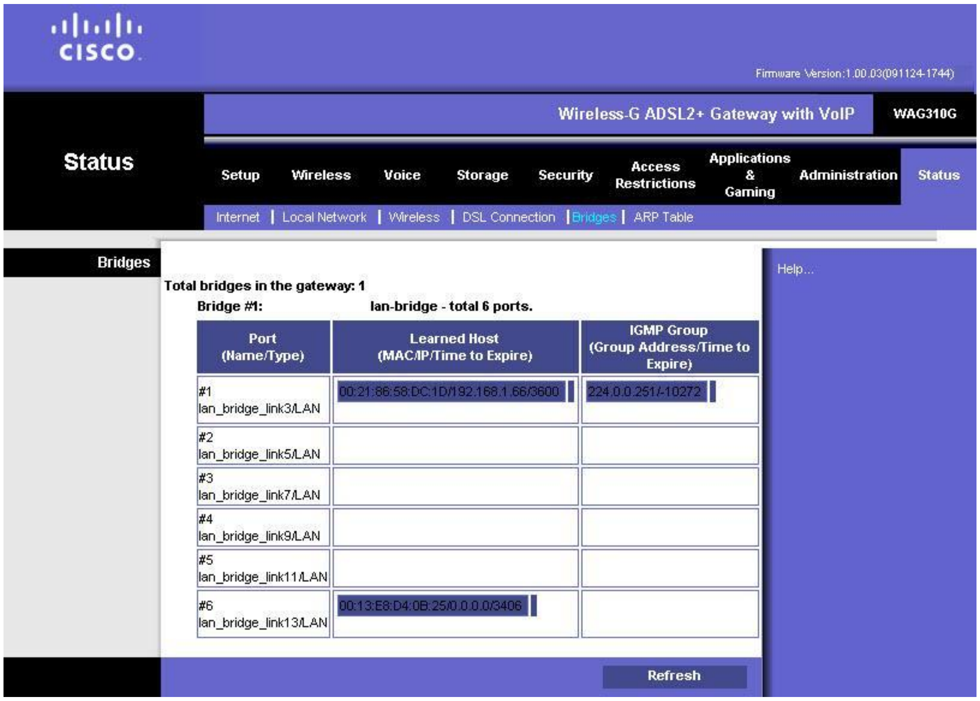
For each PVC connection, the table lists the following information: Index, Status, Link Type, PVC, Encapsulation, QoS, PCR Rate, and SCR Rate.

Click **Refresh** to update the on-screen information.

Bridges

The Bridges screen displays information about the PVC/VLAN and default LAN bridges of the Gateway Bridges.

Path: Status > Bridges



Total bridges in the gateway: 1

Bridge #1: lan-bridge - total 6 ports.

Port (Name/Type)	Learned Host (MAC/IP/Time to Expire)	IGMP Group (Group Address/Time to Expire)
#1 lan_bridge_link3/LAN	00:21:86:58:DC:1D/192.168.1.66/3600	224.0.0.251/-10272
#2 lan_bridge_link5/LAN		
#3 lan_bridge_link7/LAN		
#4 lan_bridge_link9/LAN		
#5 lan_bridge_link11/LAN		
#6 lan_bridge_link13/LAN	00:13:E8:D4:0B:25/0.0.0.0/3406	

The total number of bridges and their descriptions are displayed.

Port (Name/Type)—The port name or type is displayed.

Learned Host (MAC/IP/Time to Expire)—The MAC address, IP address, or Time to Expire duration is displayed.

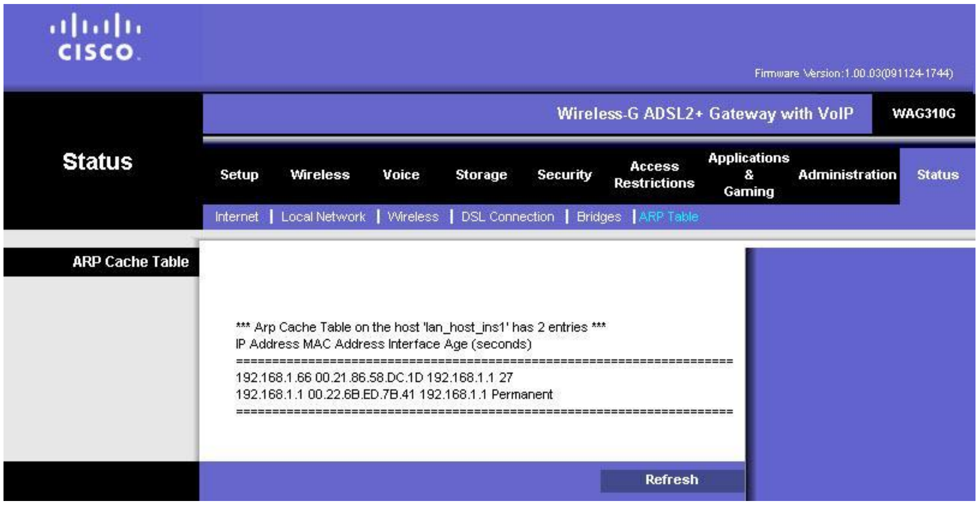
IGMP Group (Group Address/Time to Expire)—The IGMP Group Information of this port is displayed.

Click **Refresh** to update the on-screen information.

ARP Table

This screen displays the Address Resolution Protocol (ARP) information.

Path: Status > ARP Table



cisco
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Security
Access Restrictions
Applications & Gaming
Administration
Status
Internet | Local Network | Wireless | DSL Connection | Bridges | ARP Table
ARP Cache Table
Refresh

```
*** Arp Cache Table on the host 'lan_host_ins1' has 2 entries ***
IP Address MAC Address Interface Age (seconds)
======================================================================
192.168.1.66 00.21.86.58.DC.1D 192.168.1.1 27
192.168.1.1 00.22.6B.ED.7B.41 192.168.1.1 Permanent
======================================================================
```

Click **Refresh** to update the on-screen information.

12

Troubleshooting

Introduction

This chapter provides solutions to problems that may occur during the installation and operation of the WAG310G.

In This Chapter

Computer Cannot Connect to the Internet

If your computer cannot connect to the Internet, try the following solutions until the connection is fixed:

- Make sure that the residential gateway is powered on. The Power LED should be green and not flashing.
- If the Power LED is flashing, then power off all of your network devices, including the residential gateway and computers. Then power on each device in the following order:

  a Residential Gateway

  b Computer
- Check the LEDs on the front panel of the residential gateway. Make sure the Power, DSL, and at least one of the numbered LEDs are lit. If they are not, then check the cable connections. The computer should be connected to one of the ports numbered 1-4 on the residential gateway, and the Line port of the residential gateway must be connected to the ADSL line.

Web Browser Prompts for Login Information

When you double-click the web browser, you are prompted for a user name and password. If you want to get rid of the prompt, follow these instructions.

Launch the web browser and perform the following steps (these steps are specific to Internet Explorer but are similar for other browsers):

1. Select **Tools > Internet Options**.
2. Click the **Connections** tab.
3. Select **Never dial a connection**.
4. Click **OK**.

Computer Cannot Connect Wirelessly to the Network

Try this solution if your computer cannot connect wirelessly to the network.

Make sure the wireless network name or SSID is the same on both the computer and the residential gateway. If you have enabled wireless security, then make sure the same security method and key are used by both the computer and the residential gateway.

Modify the Advanced Settings

Perform the following steps if you need to modify the advanced settings on the residential gateway.

1. Open the web browser (for example, Internet Explorer or Firefox), and enter the residential gateway's IP address in the address field (the default IP address is 192.168.1.1).
2. When prompted, complete the User name and Password fields (the default user name and password is **admin**).
3. Click the appropriate tab to change the settings.

13

Specifications

Introduction

This chapter lists the interface and environmental specifications for the WAG310G.

Note: Specifications are subject to change without notice.

In This Chapter

Interfaces

WAN	ADSL [ITU 992.1]; ADSL2 [ITU 992.3]; ADSL2+ [ITU 992.5] ANSI T1.413 Issue 2 1 RJ-11 Port 1 Ethernet WAN Interface RJ-45 Port (WAN/LAN configured)
LAN	Maximum of 5 Ports (RJ-45); Ethernet 10/100BASE-T with Auto-Crossover (4 fixed + 1 configurable)
USB	1 USB 2.0 (host) Port
Phone	2 FXS Ports (RJ-11); 1 FXO Port (RJ-11)
Wi-Fi	IEEE 802.11b/g 802.1x Authentication External RADIUS Authentication WPA2 and WPA Access WEP, AES & TKIP Encryption WPA/WEP Mixed Mode Wi-Fi Multimedia Support (WMM) Multiple SSIDs MAC Address Filtering Integrated WPS (Push button & PIN entry) Regional Channel Setting
LEDs	Power, Ethernet, Wireless, USB, Phone(s), Line, DSL, Internet
Buttons	On/Off, Reset, WPS
Mounting	Desktop and Wall Mount
Antenna	One Omni Directional External Antenna

Environmental

Dimensions	220 mm x 42 mm x 175 mm (8.66 in. x 1.65 in. x 6.89 in.)
Weight	400 g (14.11 oz)
Power	110-240 VAC 50/60 Hz Switching Power Supply; 12 VDC, 2 A Output
Certification	FCC Part 68, Part 15, Class B, UL1950, CSA, European EMC & Immunity, CE Mark, Industry-Canada
Operating Temp.	0° to 40°C (32° to 104°F)
Storage Temp.	0° to 70°C (32° to 158°F)
Humidity	20 to 80% Noncondensing

14

Customer Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.

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