Solution Overview:

The AT&T VPN Gateway U120 (“U120”) operates as a centrally managed firewall, WiFi enabled router, VPN device with a VLAN switch on the secure local LAN side. As a fully managed security device, the U120 protects the customer’s premise from the Internet while providing secure access to the customer’s enterprise network through secure IPSec VPN tunnels with the ability to support the highest level of encryption (256-bit AES). The U120 is powered by a dual core embedded processor providing 300-600 Mbs of IPSec throughput and 850-950 Mbs of unencrypted throughput. The operating system utilized by the AT&T U120 is an embedded version of Linux.

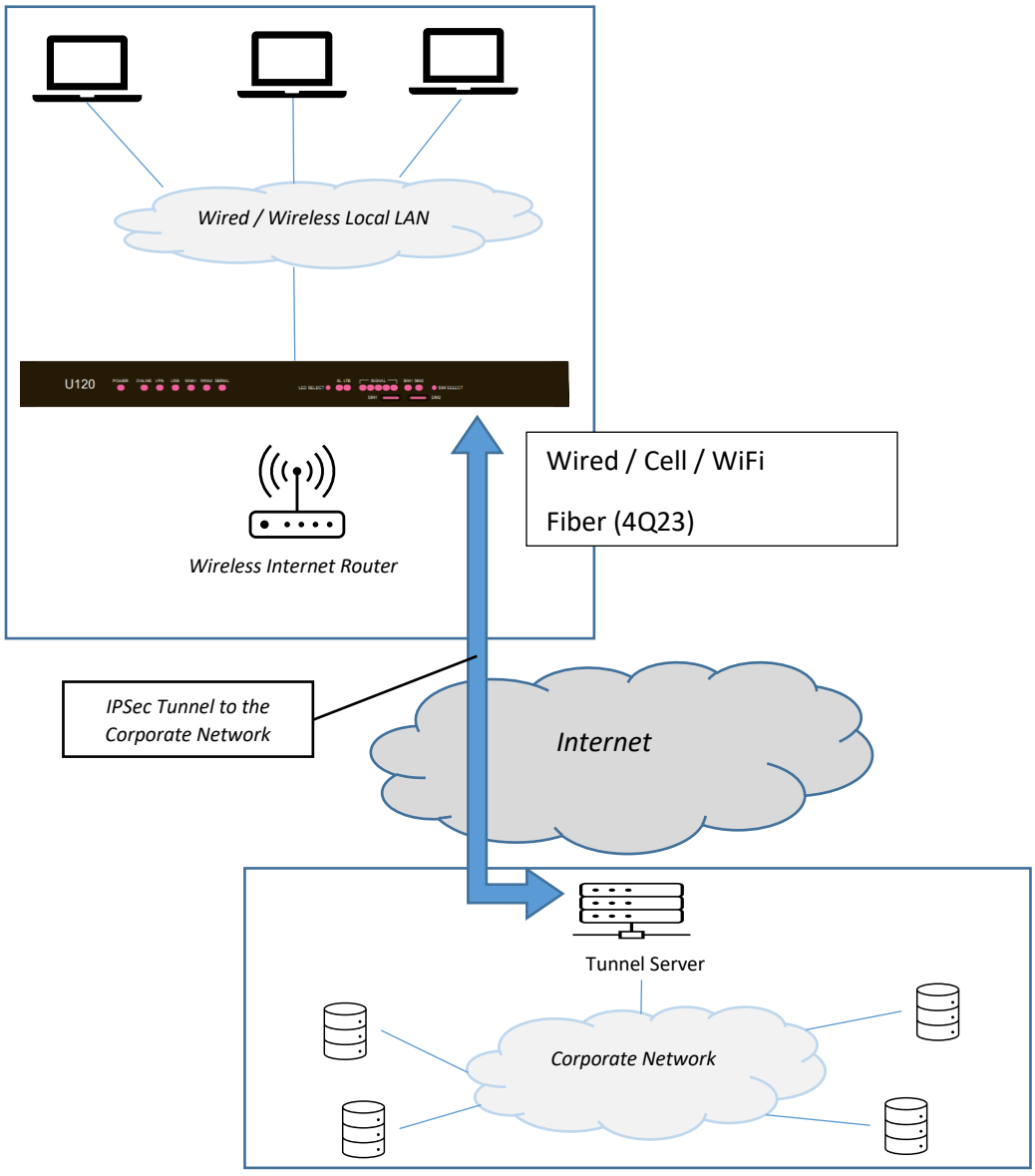
The U120 is the tenth-generation AT&T VPN Gateway that has been developed by AT&T and manufactured by Digi International. New features, which are constantly being added by the development team, can be automatically pushed to devices in the field during a customer defined maintenance window. The fully managed U120 is supported by a team of world class professionals with the ability to be notified by the U120 proactively of problems occurring at the customer’s location. With SNMP support included, customers can monitor devices securely through their VPN tunnel, via their local LAN or over the Internet. The U120 provides a user-friendly Web interface accessible through the local LAN or securely across the Internet. This interface provides customers the ability to view diagnostic and configuration information. The VPN tunnels can also be viewed and controlled via the web interface.

U120 Enhancements:

Following is a list of the enhancements in the U120 (from the U115):

- Support for WiFi6 on the WAN and LAN
- Built-In LTE support via Sierra Wireless Cat7 modem
- SFP interface for direct Fiber connectivity for the primary WAN
- Three Serial ports for use with Out-Of-Band device management
- Lightweight and sturdy hard plastic casing
- Slide design for future 5G modem support
- Increased IPSec performance via software optimization

Typical Deployments



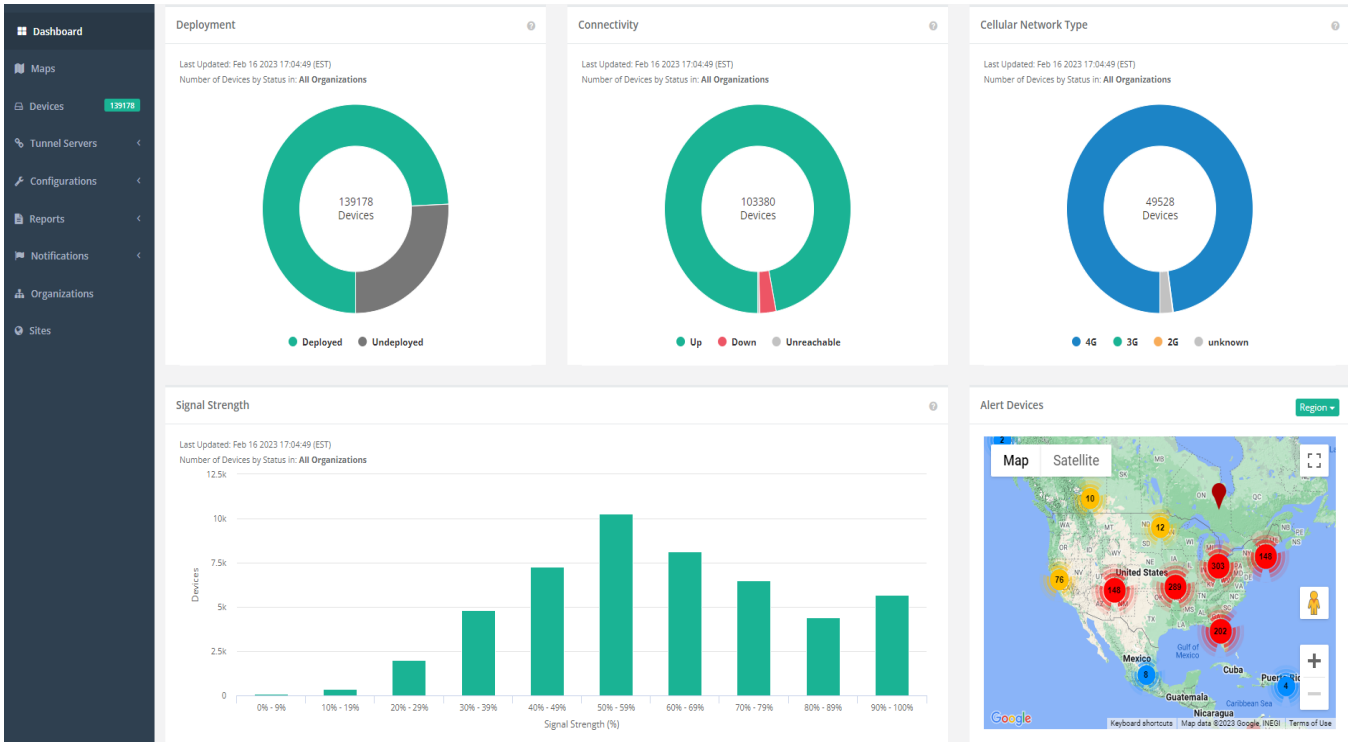
ARMT Overview

ARMT is a web-based application that monitors and communicates with the VPN GW devices (all models). Via ARMT, the user can real-time manage and support all their devices. The device communication is via a secure IPSec tunnel utilizing IPv6 addressing. Some functions that can be performed remotely via ARMT are:

- Reboot
- Enable/Disable LAN Port
- Firmware upgrade
- Perform a speed test
- Initiate a profile update
- Test the backup WAN connection
- Run a Ping, Traceroute, Tracepath test

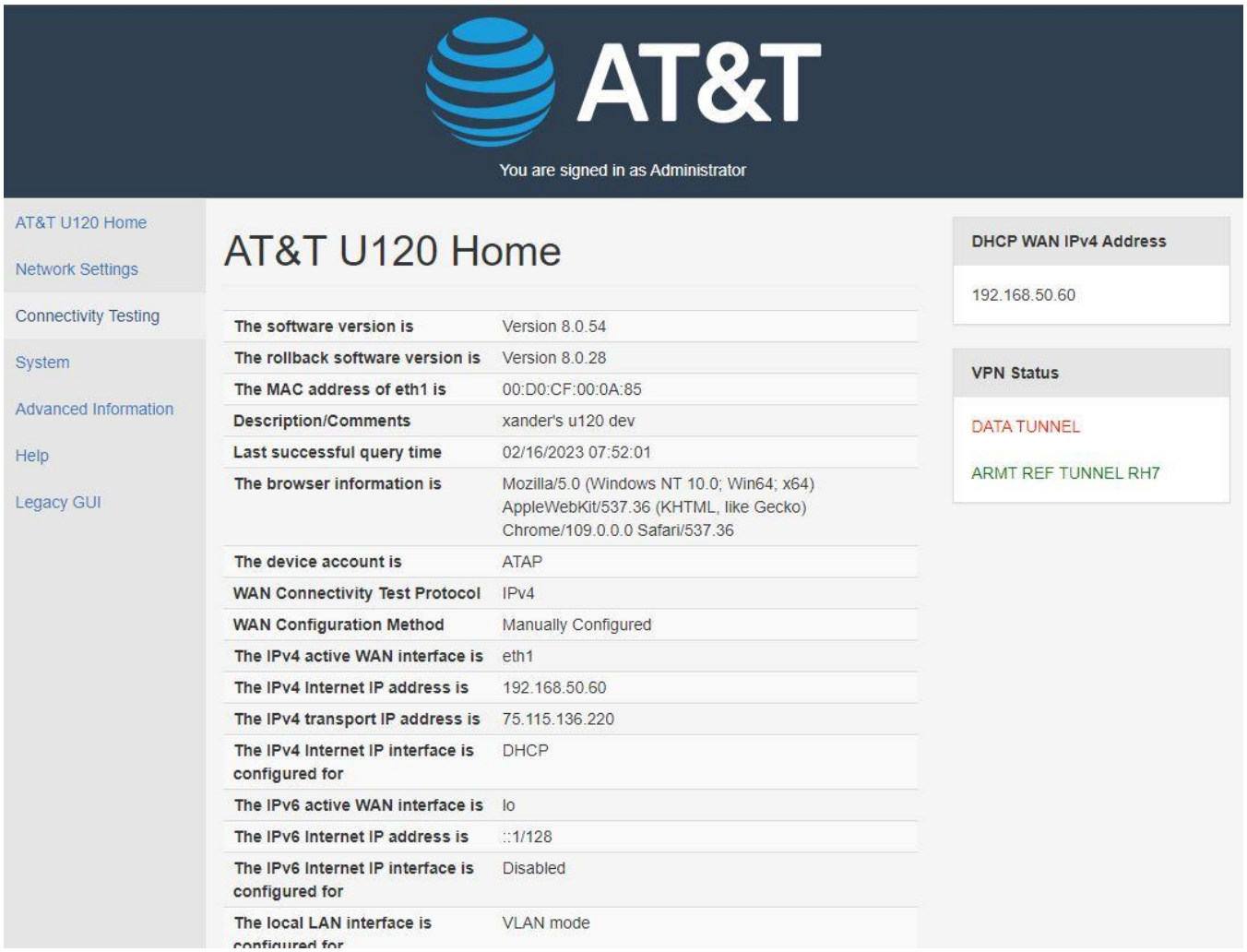
In addition to the commands that can be initiated via ARMT, the VPN Gateway's are communicating status and important information to ARMT via SNMP.

ARMT Main Page



New Graphical User Interface (GUI)

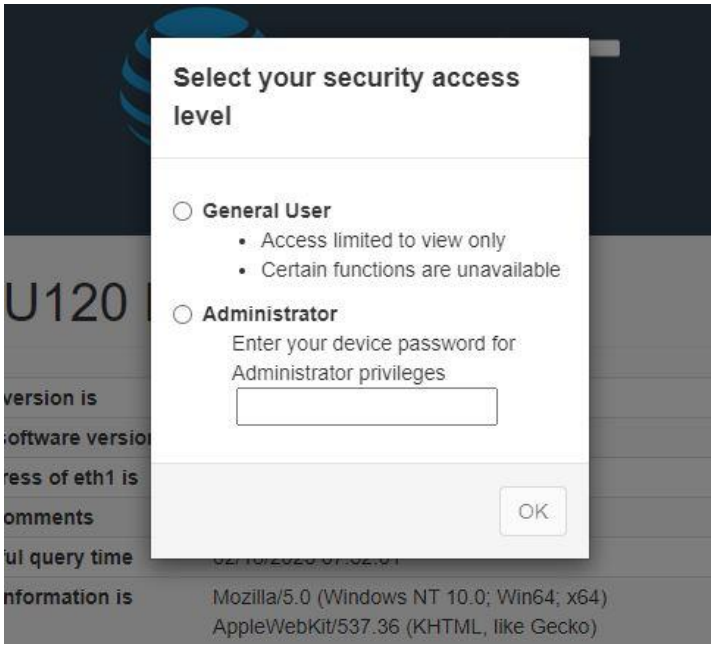
The old GUI will be replaced on the U120 with a much more modern and user-friendly GUI. The menus are larger and more legible in addition to having many processes which took multiple screens condensed into one, such as the WAN Setup page. The new GUI also directly shows links and information which are often used directly on the home page, such as the link to the Advanced Information.

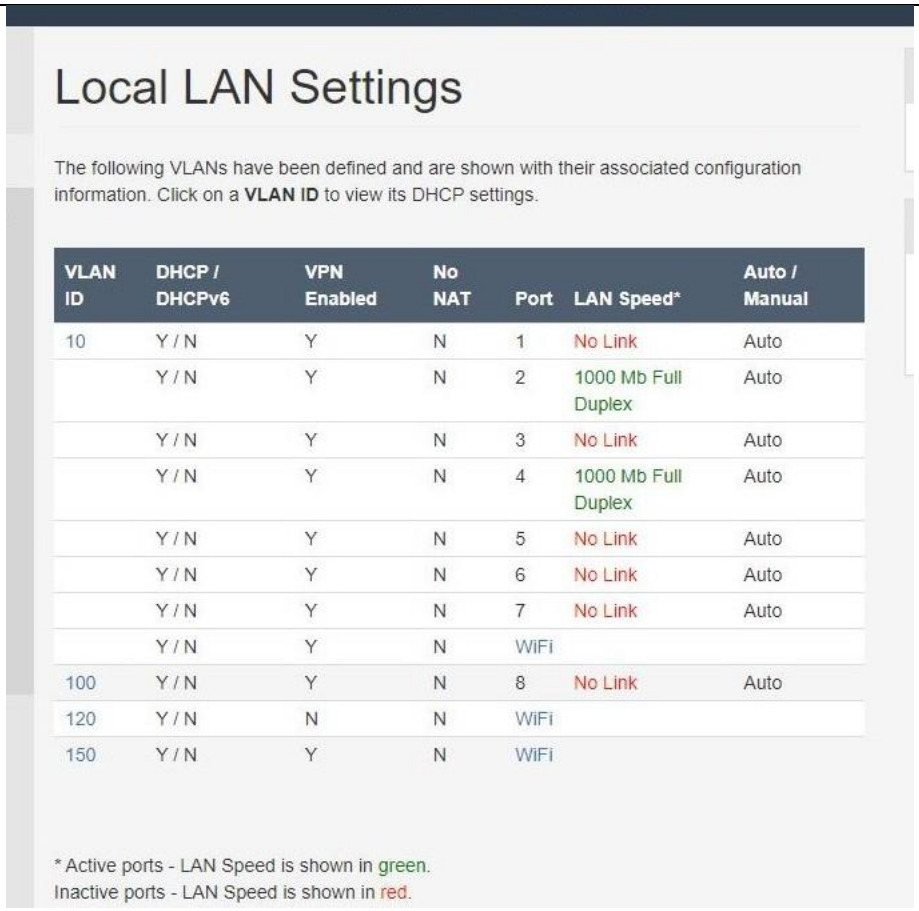


Technical Specifications

Throughput	300-600 Mbs of IPSec throughput; 850-950 Mbs of unencrypted throughput
IPsec VPN Compatibility	• AT&T SIG (Remote Access) • AT&T VIG (AVPN Gateway) • AT&T U120 or AT&T U115 inbound tunnels • Cisco ASA • Tunnel servers for Blue Coat (Symantec), zScaler, Palo Alto • Central configuration of IPSec tunnel encryption/authentication methods including: DES, 3DES, AES 128/192/256, SHA-1, SHA2 (256, 384 or 512 bit), MD5

Features	• Class of Service (Cos/QoS): the ability to mark each packet with DSCP markings, and shape the traffic inbound and outbound for each traffic class.
	• Automatic WAN bandwidth determination logic used for CoS. CoS also supports Static WAN bandwidth settings.
	• Centrally managed Stateful firewall
	• Port Address Translation NAT for Internet traffic or the ability to route traffic initiated on specifically configured VLANs straight through to the Internet without a NAT.
	• Multiple options for address translation when sending traffic through the VPN
	  ○ No NAT: route natively (Internet or VPN)
	  ○ Source NAT: NAT entire subnets of addresses
	  ○ Source NAT plus PAT: NAT entire subnets of addresses with the rest of the subnet not NAT'd sent using a single PAT'd address
	  ○ 1 to 1 NAT: NAT single addresses through central configuration
	• Port Forwarding on Internet and VPN interfaces
	• RIP routing available on the Local VLAN networks and used for communicating within the VPN tunnel to a SIG
	• VRRP on the Local VLAN interfaces
	• Multiple outbound tunnels (up to 6)
	• Support for inbound tunnels (up to 100)

	• Local and remote access to the Web interface for configuration, diagnostic information and VPN tunnel control • Admin password and SSL security available to secure Web interface access ○  • SNMP polling access using version 2, or 3 for basic MIB-II support • SNMP traps/informs using version 2 or 3 • Fully integrated with ARMT portal for real-time proactive monitoring including email alerts, reporting, and management.
VLAN Features	• Built in 8 port VLAN switch with the ability to support up to 24 VLANs through 802.1 Q trunking



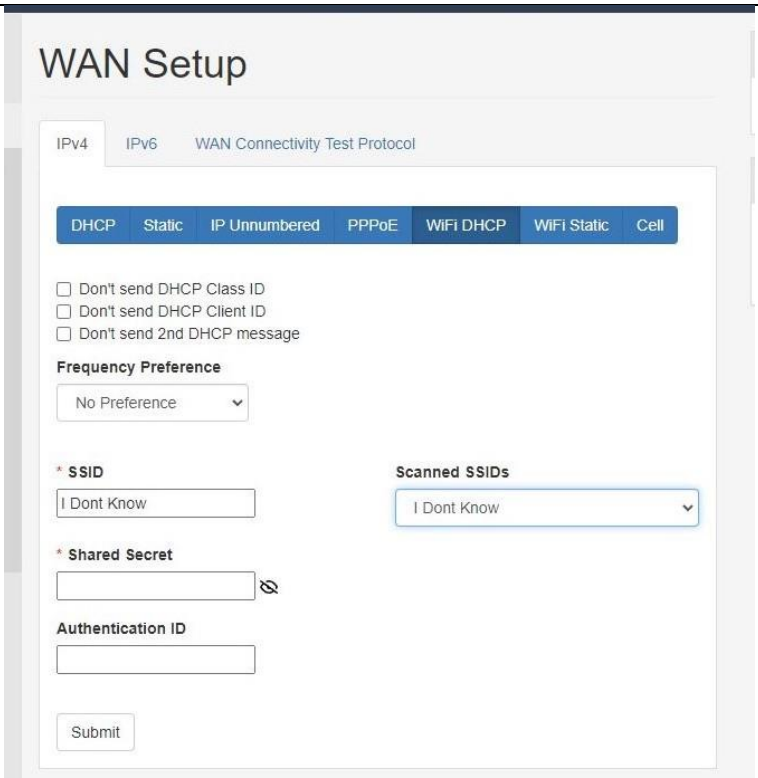
Local LAN Settings

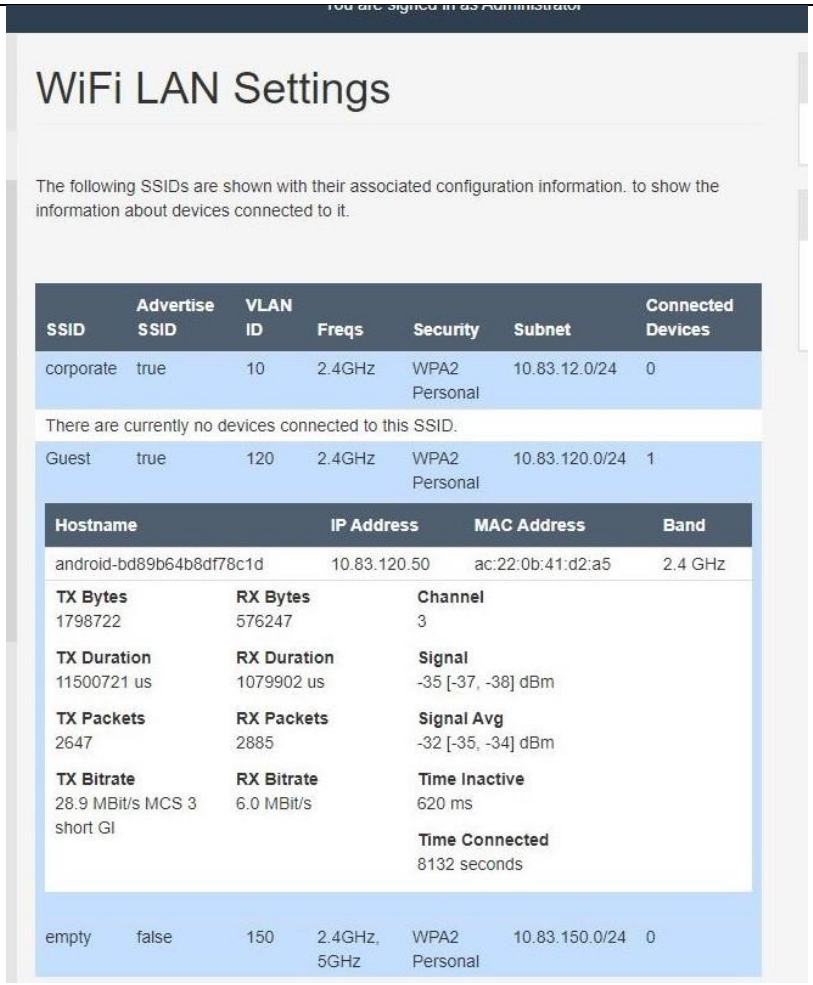
The following VLANs have been defined and are shown with their associated configuration information. Click on a **VLAN ID** to view its DHCP settings.

VLAN ID	DHCP / DHCPv6	VPN Enabled	No NAT	Port	LAN Speed*	Auto / Manual
10	Y / N	Y	N	1	No Link	Auto
	Y / N	Y	N	2	1000 Mb Full Duplex	Auto
	Y / N	Y	N	3	No Link	Auto
	Y / N	Y	N	4	1000 Mb Full Duplex	Auto
	Y / N	Y	N	5	No Link	Auto
	Y / N	Y	N	6	No Link	Auto
	Y / N	Y	N	7	No Link	Auto
	Y / N	Y	N	WiFi		
100	Y / N	Y	N	8	No Link	Auto
120	Y / N	N	N	WiFi		
150	Y / N	Y	N	WiFi		

* Active ports - LAN Speed is shown in green.
Inactive ports - LAN Speed is shown in red.

	• Power over Ethernet (POE) supported on ports 7 and 8 • VLAN and Cascaded Network classification allowed for Internet Only and VPN Only designations • Centrally managed DHCP Server, also supporting DHCP Relay • Rogue MAC detection • 802.1x support • Native VLAN support
WAN Access Methods	• Static IP, DHCP, PPPoE • Cellular • WiFi using a DHCP or Static IP address assignment

	
Tunnel Control Options	• Maintenance, Persistent, Traffic initiated, User initiated, VRRP controlled
Upgrades	• Centrally managed automatic upgrades from AT&T at no charge • Ability to control update days and times • Ability to lock a customer's device to a specific version of code
WiFi6 Features	• WiFi Chipset MT7915DAN • 80Mhz band supported on 5Ghz frequency • 40Mhz band supported on 2.4Ghz frequency • 2 antennas are attached internally to the MT7915DAN WiFi chip. • Provides support for up to 8 x 2.4Ghz and 5Ghz Wireless Access Points simultaneously on our Local LAN side. These SSIDs are centrally managed and optionally associated with wired VLAN configurations. • Provides support for access to the WAN over WiFi while optionally simultaneously supporting the WAP configuration on the Local LAN side.



External Interfaces:	
Ethernet ports	8 X IEEE 802.3-2008 GbE specifications VLAN switch capable LAN ports 2 X IEEE 802.3-2008 GbE specifications WAN ports
Power over Ethernet	2 X PoE GbE LAN ports IEEE 802.3af
USB 2.0 ports	1
Cellular LEDs	1 Cell Type; 5 Signal Strength; 2 SIM
SFP Port	Speeds up to 1 Gigabit
Internal Cellular Modem:	(available only on SKU: ASB-U120-7ATT-OUS)
4G LTE Cellular	Sierra Wireless EM7411 Cat-7 modem
Cellular Certifications	PTCRB, AT&T and Verizon

4G LTE Bands	Sierra Wireless EM7411 supports (B2, B4, B5, B7, B12, B13, B14, B25, B26, B41, B42, B43, B48, B66, B71)
Supported USB Devices:	No external USB devices supported
SKU	ASB-U120-7ATT-OUS
Environmental Operating Ranges:	
Operating Temp.	0 – 40 deg C
Relative Humidity	0 – 95% non-condensing
Storage Temperature	-20 – 70 deg C
Power:	
INPUT	
Line voltage range	100-240V
Current	1.5A
Frequency	50-60 Hz
OUTPUT	
Line voltage range	19V DC +-5%
Current	2.63A
Physical Specifications:	
Dimensions (LxWxH)	13.9” x 5.3” x 1.4 inches / 35.3 x 13.5 x 3.5 cm
Weight	2.1 lbs / 0.96 kgs

Regulatory and Standards Compliance:	
Electrical Safety	IEC 62368-1
Immunity	Not applicable
Emissions	FCC Part 15, Subpart B, Class A;
Marks	FCC; cTUVus

Other Product Information:	
Manufacturer	Appliance is manufactured by Digi for AT&T and is marketed by AT&T as the AT&T U120. Digi Florida Regional Office 1120 E. Kennedy Blvd, Suite 227 Tampa FL 33602
Part Number	U120
SKUs	ASB-U120-7ATT-OUS

AT&T U120 Hardware / Signal Overview

Front Panel Indicators, Switches & Slots

POWER	Indicates power being delivered to the device.
ONLINE	SOLID: Indicates the device has connectivity to the Internet. FLASHING: Indicates the device has connectivity to the Internet over a backup connection.
VPN	Indicates if the user-controlled VPN tunnel is connected. If no user-controlled VPN tunnel is defined then indicates that all of the user-view VPN tunnels are connected.
USB	Indicates when a supported device is connected to the USB port.
WAN1	Flickers when traffic is passing over the WAN1 interface.
WAN2	Flickers when traffic is passing over the WAN2 interface.
SERIAL	Turns on when there is Carrier Detect over at least one of the RS232 serial ports.
LED SELECT	Recessed switch to change the SIGNAL strength indicators from cellular to WiFi.
SL	SOLID BLUE: indicates the SIGNAL lights will display cellular signal strength. SOLID GREEN: indicates the SIGNAL lights will display WiFi signal strength. FLASHING BLUE: indicates transition of SIGNAL lights to cellular signal strength being displayed. FLASHING GREEN: indicates transition of SIGNAL lights to WiFi signal strength being displayed.
LTE	Indicates the installed SIM is active and an LTE network is available.
SIGNAL	Bank of 5 LEDs indicating signal strength of an active SIM or WAN over WiFi connection, increasing from left to right.
SIM1	GREEN: Indicates the SIM1 slot is currently active and SIM found. RED: Indicates SIM1 slot was chosen but no SIM found.
SIM2	GREEN: Indicates the SIM2 slot is currently active and SIM found. RED: Indicates SIM2 slot was chosen but no SIM found.
SIM SELECT	For dual SIM operation, toggles which SIM is currently active.
SIM1 SLOT	The SIM1 slot accepts a size 4FF nano-SIM from AT&T or Verizon.
SIM2 SLOT	The SIM2 slot accepts a size 4FF nano-SIM from AT&T or Verizon.

Special Cases

SOFTWARE ROLLBACK	When a software rollback is underway, the POWER light will be on solid while ONLINE, VPN, USB, WAN1, WAN2, SERIAL cycle in an inward flashing pattern with the rightmost bank of lights off.
SOFTWARE UPGRADE	When a software upgrade image is being downloaded, the POWER and ONLINE lights are on solid while the VPN light flashes. When the software upgrade is underway, the ONLINE, VPN, USB, WAN1, WAN2, SERIAL will cycle in an inward flashing pattern with the rightmost bank of lights off.
CAT RESET - software	When a catastrophic reset is initiated from the web interface, the POWER light will be on solid while ONLINE, VPN, USB, WAN1, WAN2, SERIAL cycle in an inward flashing pattern with the rightmost bank of lights off.
CAT RESET - hardware	When a catastrophic reset is initiated from the RESET button, the POWER light will be on solid while ONLINE, VPN, USB, WAN1, WAN2, SERIAL illuminate one by one from left to right. To initiate a hardware reset, depress the RESET button on the back panel while powering on the device from the barrel connector or rocker switch then release it after a 3 count.

Rear Panel Ports & Connectors

A1-A4	SMA post connectors for use with cellular antennae. Initially A1 and A3 are available.
RS232 1-3	RJ45-based RS232 serial ports for use with the Out of Band feature.
USB	USB port for legacy Out of Band cable and potential future expansion.
WAN1-SFP	SFP interface for direct Fiber connectivity up to 1 Gb as a primary WAN connection (optional SFP module required).
RESET	Recessed catastrophic hardware reset button.
WAN1	RJ45 Ethernet connection for the WAN1 port (primary).
WAN2	RJ45 Ethernet connection for the WAN2 port (optional).
LAN 1-8	RJ45 Ethernet ports for VLAN connectivity. Ports 7 and 8 provide PoE (IEEE 802.3af).
Power - Switch	Rocker switch to toggle power to the device. 0: OFF 1: ON
Power - Barrel Connector	19V 2.5A power input to the device.

Right Side Expansion Slot

EXPANSION SLOT	A black plastic cover snaps into the chassis via 2 clips; push each clip inward to release and remove the cover. This slot will support future expansion.