

Solution Overview:

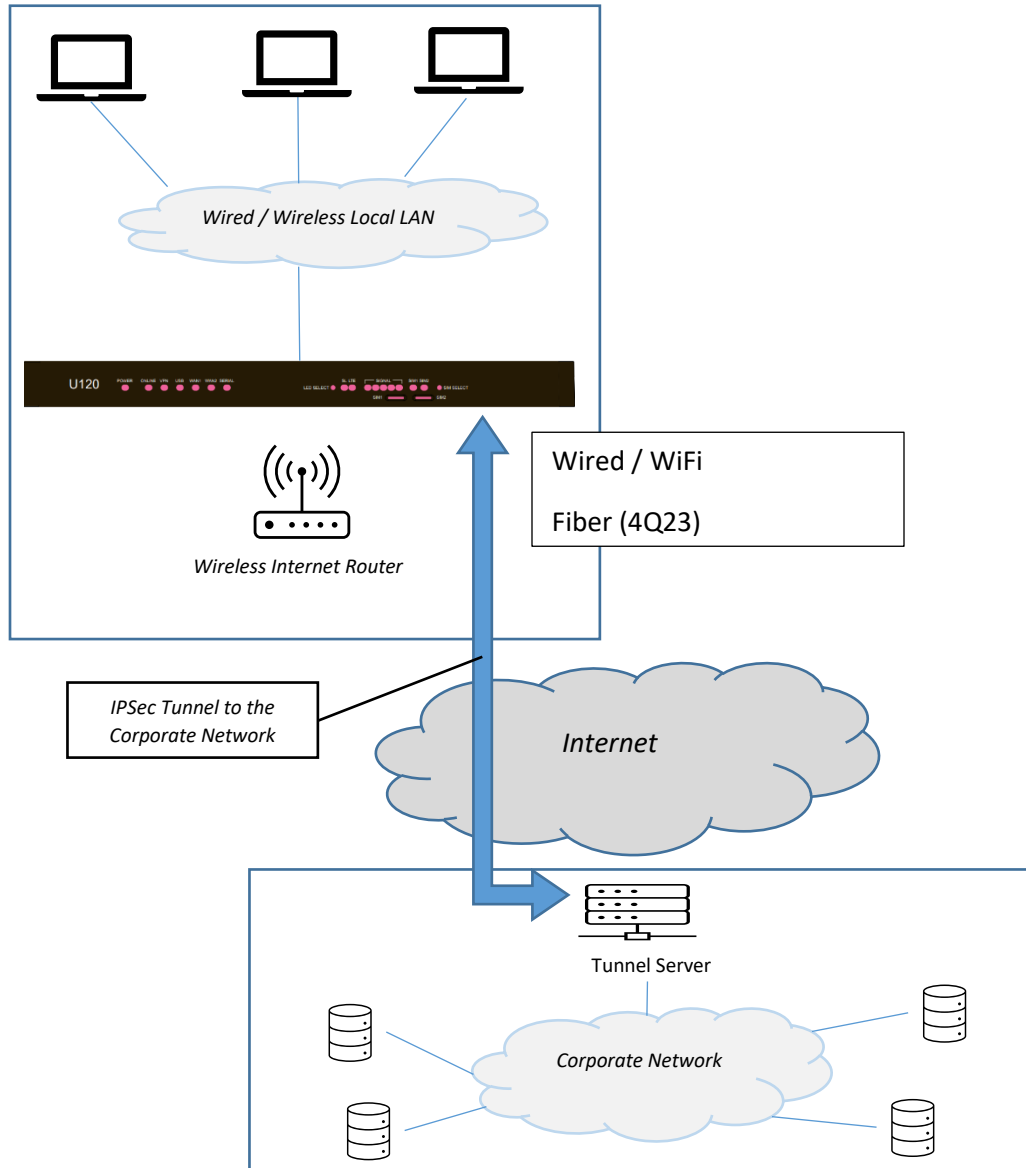
The AT&T VPN Gateway U120 (“U120”) operates as a centrally managed firewall, WiFi enabled router, and VPN device with a VLAN switch on the secure local LAN side. As a fully managed security device, the U120 protects the customer’s premise from the Internet while providing secure access to the customer’s 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 any 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 prior version, U115):

- Support for WiFi6 on the WAN and LAN
- 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
- Increased IPSec performance via software optimization

Typical Deployments

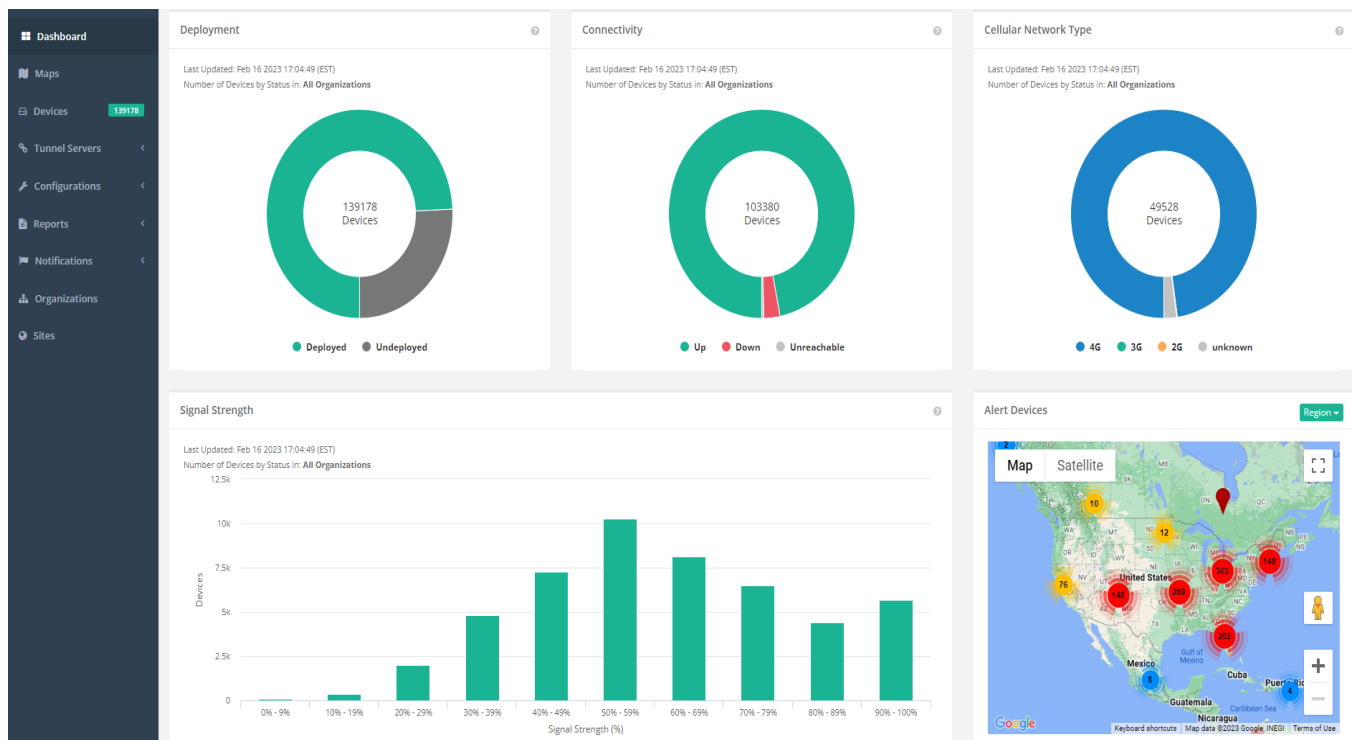
ARMT Overview

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, or Tracepath test

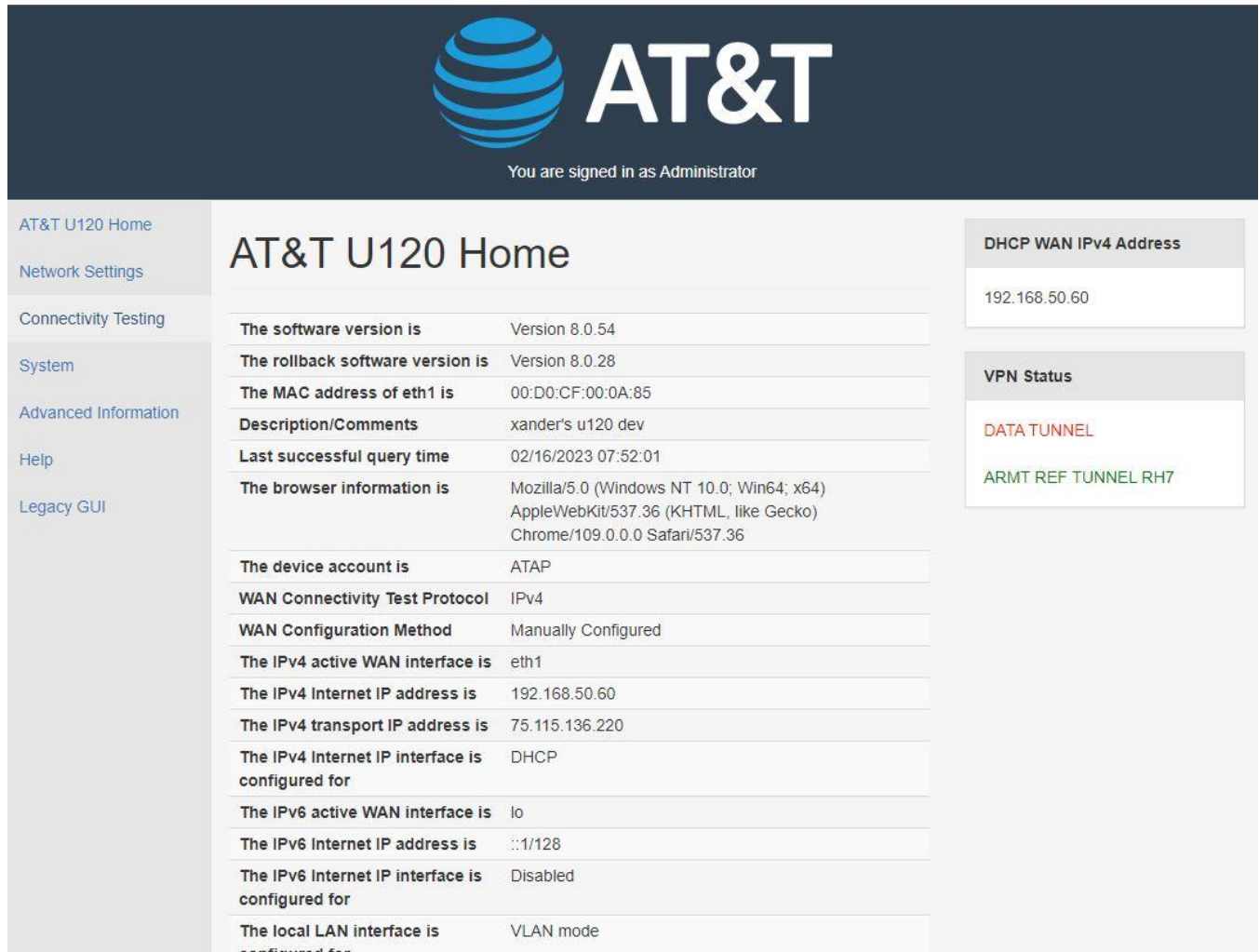
In addition to the commands that can be initiated via ARMT, the VPN Gateways are communicating status and important information to ARMT via SNMP.

ARMT Main Page



New Graphical User Interface (GUI)

The old GUI has been 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.



AT&T U120 Home

You are signed in as Administrator

- AT&T U120 Home
- Network Settings
- Connectivity Testing
- System
- Advanced Information
- Help
- Legacy GUI

The software version is	Version 8.0.54
The rollback software version is	Version 8.0.28
The MAC address of eth1 is	00:D0:CF:00:0A:85
Description/Comments	xander's u120 dev
Last successful query time	02/16/2023 07:52:01
The browser information is	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/109.0.0.0 Safari/537.36
The device account is	ATAP
WAN Connectivity Test Protocol	IPv4
WAN Configuration Method	Manually Configured
The IPv4 active WAN interface is	eth1
The IPv4 Internet IP address is	192.168.50.60
The IPv4 transport IP address is	75.115.136.220
The IPv4 Internet IP interface is configured for	DHCP
The IPv6 active WAN interface is	lo
The IPv6 Internet IP address is	::1/128
The IPv6 Internet IP interface is configured for	Disabled
The local LAN interface is configured for	VLAN mode

DHCP WAN IPv4 Address

192.168.50.60

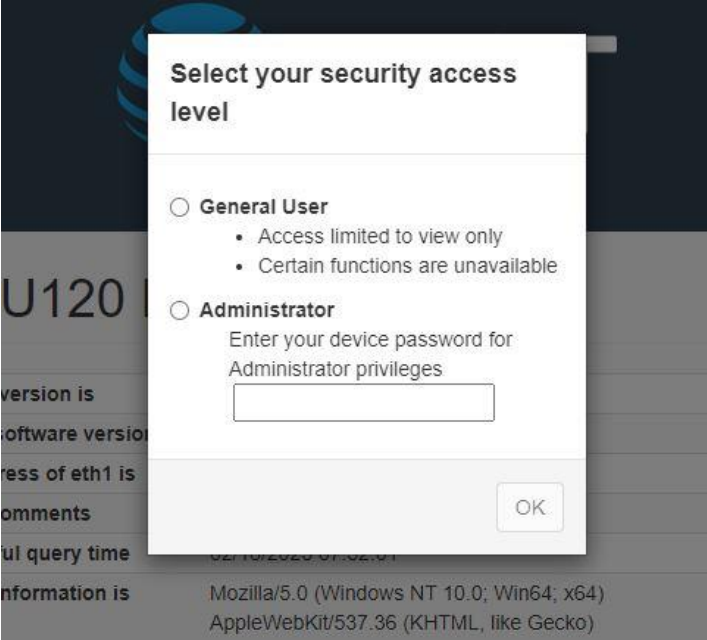
VPN Status

DATA TUNNEL

ARMT REF TUNNEL RH7

Technical Specifications

Throughput	300-600 Mbs of IPSec throughput; 850-950 Mbs of unencrypted throughput
IPsec VPN Compatibility	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ○ 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)

	<ul style="list-style-type: none"> 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  <ul style="list-style-type: none"> SNMP polling access using version 2c or 3 for basic MIB-II support SNMP traps/informs using version 2c or 3 Fully integrated with ARMT portal for real-time proactive monitoring including email alerts, reporting, and management.
VLAN Features	<ul style="list-style-type: none"> 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.

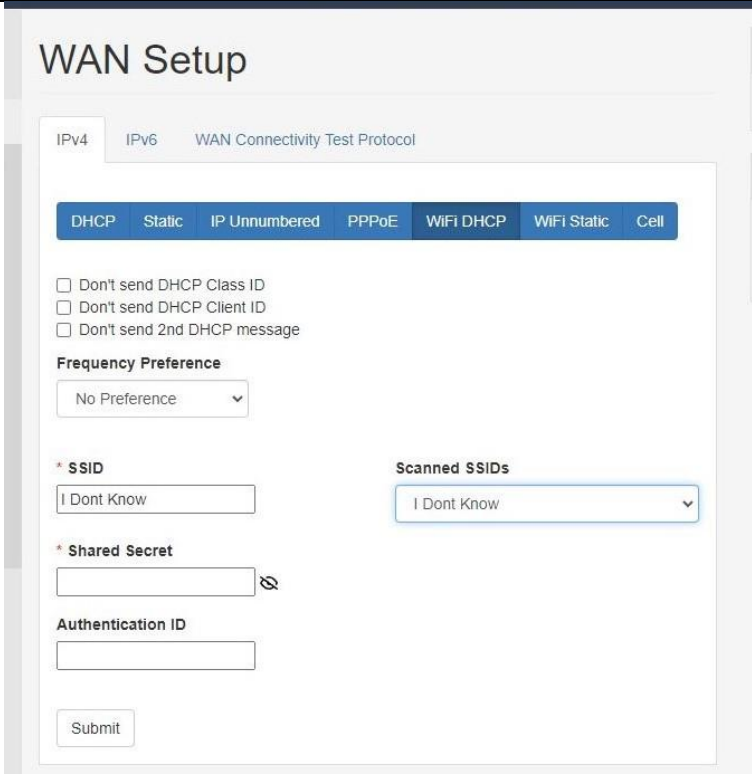
VLAN ID	DHCP / DHCPv6	VPN Enabled	No NAT	Port	LAN Speed*	Auto / Manual
10	Y / N	Y	N	1	No Link	Auto
	Y / N	Y	N	2	1000 Mb Full Duplex	Auto
	Y / N	Y	N	3	No Link	Auto
	Y / N	Y	N	4	1000 Mb Full Duplex	Auto
	Y / N	Y	N	5	No Link	Auto
	Y / N	Y	N	6	No Link	Auto
	Y / N	Y	N	7	No Link	Auto
	Y / N	Y	N	WiFi		
100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

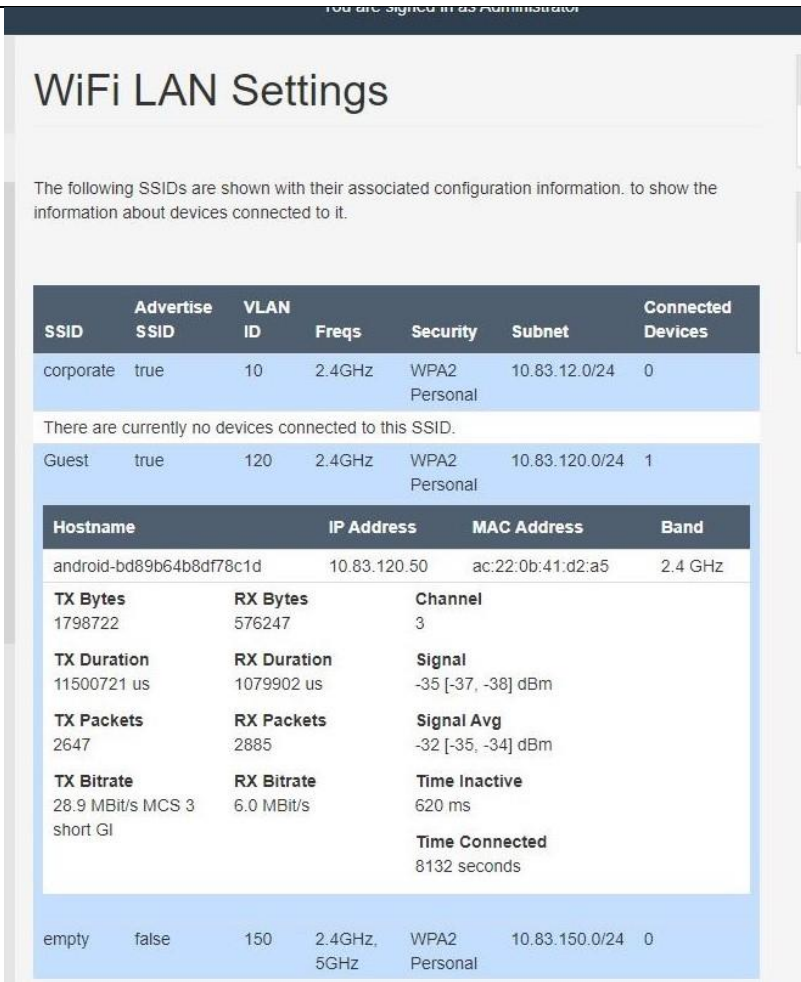
* Active ports - LAN Speed is shown in green.
Inactive ports - LAN Speed is shown in red.

- 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
- WiFi using a DHCP or Static IP address assignment

	 <p>The screenshot shows the 'WAN Setup' configuration page. It has tabs for 'IPv4', 'IPv6', and 'WAN Connectivity Test Protocol'. Underneath, there are buttons for 'DHCP', 'Static', 'IP Unnumbered', 'PPPoE', 'WiFi DHCP', 'WiFi Static', and 'Cell'. The 'DHCP' button is selected. Below the buttons are three checkboxes: 'Don't send DHCP Class ID', 'Don't send DHCP Client ID', and 'Don't send 2nd DHCP message'. There is a 'Frequency Preference' dropdown menu set to 'No Preference'. Below that are two dropdown menus: '* SSID' and 'Scanned SSIDs', both set to 'I Dont Know'. There is a 'Shared Secret' field with a toggle icon and an 'Authentication ID' field. A 'Submit' button is at the bottom.</p>
Tunnel Control Options	<ul style="list-style-type: none"> • Maintenance, Persistent, Traffic initiated, User initiated, VRRP controlled
Upgrades	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

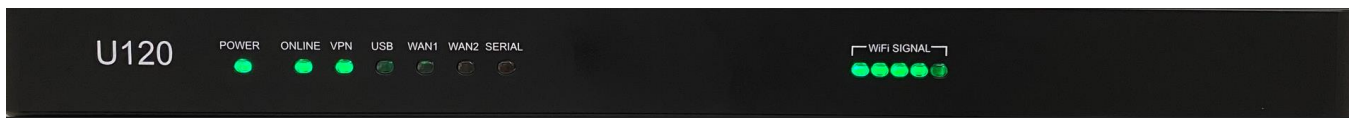
	 <p>The following SSIDs are shown with their associated configuration information, to show the information about devices connected to it.</p> <table border="1"> <thead> <tr> <th>SSID</th> <th>Advertise SSID</th> <th>VLAN ID</th> <th>Freqs</th> <th>Security</th> <th>Subnet</th> <th>Connected Devices</th> </tr> </thead> <tbody> <tr> <td>corporate</td> <td>true</td> <td>10</td> <td>2.4GHz</td> <td>WPA2 Personal</td> <td>10.83.12.0/24</td> <td>0</td> </tr> <tr> <td colspan="7">There are currently no devices connected to this SSID.</td> </tr> <tr> <td>Guest</td> <td>true</td> <td>120</td> <td>2.4GHz</td> <td>WPA2 Personal</td> <td>10.83.120.0/24</td> <td>1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Hostname</th> <th>IP Address</th> <th>MAC Address</th> <th>Band</th> </tr> </thead> <tbody> <tr> <td>android-bd89b64b8df78c1d</td> <td>10.83.120.50</td> <td>ac:22:0b:41:d2:a5</td> <td>2.4 GHz</td> </tr> </tbody> </table> <table border="1"> <tbody> <tr> <td>TX Bytes 1798722</td> <td>RX Bytes 576247</td> <td>Channel 3</td> </tr> <tr> <td>TX Duration 11500721 us</td> <td>RX Duration 1079902 us</td> <td>Signal -35 [-37, -38] dBm</td> </tr> <tr> <td>TX Packets 2647</td> <td>RX Packets 2885</td> <td>Signal Avg -32 [-35, -34] dBm</td> </tr> <tr> <td>TX Bitrate 28.9 MBit/s MCS 3 short GI</td> <td>RX Bitrate 6.0 MBit/s</td> <td>Time Inactive 620 ms</td> </tr> <tr> <td></td> <td></td> <td>Time Connected 8132 seconds</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>SSID</th> <th>Advertise SSID</th> <th>VLAN ID</th> <th>Freqs</th> <th>Security</th> <th>Subnet</th> <th>Connected Devices</th> </tr> </thead> <tbody> <tr> <td>empty</td> <td>false</td> <td>150</td> <td>2.4GHz, 5GHz</td> <td>WPA2 Personal</td> <td>10.83.150.0/24</td> <td>0</td> </tr> </tbody> </table>	SSID	Advertise SSID	VLAN ID	Freqs	Security	Subnet	Connected Devices	corporate	true	10	2.4GHz	WPA2 Personal	10.83.12.0/24	0	There are currently no devices connected to this SSID.							Guest	true	120	2.4GHz	WPA2 Personal	10.83.120.0/24	1	Hostname	IP Address	MAC Address	Band	android-bd89b64b8df78c1d	10.83.120.50	ac:22:0b:41:d2:a5	2.4 GHz	TX Bytes 1798722	RX Bytes 576247	Channel 3	TX Duration 11500721 us	RX Duration 1079902 us	Signal -35 [-37, -38] dBm	TX Packets 2647	RX Packets 2885	Signal Avg -32 [-35, -34] dBm	TX Bitrate 28.9 MBit/s MCS 3 short GI	RX Bitrate 6.0 MBit/s	Time Inactive 620 ms			Time Connected 8132 seconds	SSID	Advertise SSID	VLAN ID	Freqs	Security	Subnet	Connected Devices	empty	false	150	2.4GHz, 5GHz	WPA2 Personal	10.83.150.0/24	0
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SFP Port	Speeds up to 1 Gigabit																																																																	
Internal Cellular Modem:	(available only on SKU: ASB-U120-7ATT-OUS)																																																																	
Supported USB Devices:	No external USB devices supported																																																																	
SKU	ASB-U120-XATT-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-XATT-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.
WiFi SIGNAL	Bank of 5 LEDs indicating signal strength of WAN over WiFi connection, increasing from left to right.

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

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.