6300-LX USB Router Changelog

### **18.10.225.15 - November 28, 2018**

* IPSec IKEv2 support
* GRE tunneling support with keepalives
* Added configuration options for domain-based routing
	+ set as a Destination option in Policy-based routes
* DRM support on all ACL products
* Change 6310-DX to passthrough mode by default (WAN port still enabled)
* Updated DHCP tftpserver option to accept http URL
* Fixed bug where OpenVPN connection information wasn't being cleared when OpenVPN restarts
* Updated the Status page of the local web UI to display WiFi channel and frequency information
* Added configuration option to select the country for WiFi (controls Tx Power and Channel requirements)
* Added configuration options to control IPSec SA lifetime and IKE lifetime settings
* Added configuration options to use x509 or RSA authentication methods for IPSec tunnels
* Added configuration option to the aView tunnel for it to use as an x.509 authentication the same signed SSL certificate used by the device to get its configuration settings from aView (disabled by default)
* Fixed bug where users had to lock the APN for a 1002-CM04 to connect with a Verizon SIM

### **18.8.14.124 - October 10, 2018**

* Full support for the IX14 model
* Full support for the ConnectIT4 model
* Support for all Telit LE910 modem variants
* Added CaptivePortal feature, which can be configured and applied to both wired and wireless interfaces
* Added support in device configuration for setting up exernal USB-to-serial adapters and accessing them via the console login prompt
* Added option in device configuration to enable/disable roaming on a cellular modem interface
* Added new options for **Scheduled tasks → custom scripts** to control memory limit, log output, singlethreaded versus multi-threaded execution, and follow-up action(s) once the custom script finishes
* Added new option for **Network → Modems → Modem** entries to limit the maximum number of interfaces that can be associated to a particular modem
* Added crmstatic.bell.ca.ioe to APN fallback list for Bell Canada SIMs
* Added 12655.mcs to APN fallback list for AT&T SIMs
* Added orange.m2m.spec and orange.m2m to APN fallback list for Orange (France) SIMs
* Added Telemach carrier (Slovenia), Telia carrier (Finland), data.dna.fi (Finland) and julkinen.dna.fi (Finland) APNs to APN fallback list
* Added button on System page of web UI to reboot the device
* Added new WiFi scanning and setup tool on System page of the local web UI
* Updated local web UI to only show the Dashboard page if Intelliflow is enabled
* Enhanced load speed of WebUI's status page by loading each page tab as a new page
* Added **ipsec** option to Admin CLI to show debug info of device's IPSec tunnels
* Added **runtdump** and **runtget** options to the modem utility in the shell console
* Added sftp tool
* Added requirement for user to provide login credentials when accessing the 3-pin serial console of the device
* Enhanced serial login mode so sessions do not close/open on every reload
* Track and display the RSRP, RSRQ, and band for Telit LE910 modems
* Use RSRP and RSRQ of Telit modems for calculating signal strength, same as Sierra modems
* Updated default QoS settings to use the correct TOS headers to prioritize SIP/VoIP traffic
* Enhanced OpenVPN status in WebUI's tunnel page to include the state of 'connected'
* Improved reliability of carrier SIM/firmware matching by referencing PLMN first, then ICCID if no matching PLMN is found
* Added system log when someone presses the SIM select button
* Enhanced system log to show HTTP error code when aView certificate cannot be obtained
* Updated AT&T SSL certificate chain
* Updated service for handling remote commands to only accept POST HTTP requests, and deny GET requests
* Prevent HTTP Header Injection by allowing only alphanumeric characters in the username entered into the web UI
* Prevent HTTPS Cross Site Request Forgery (CSRF) by not accepting auth token in the cookie of POST requests
* Fixed vulnerability to WebUI clickjacking
* Fixed bug with carrier SIM/firmware matching when ICCID or MNC weren't the typical number of characters
* Fixed bug where signal strength LEDs were not displayed on 54xx-RM devices
	+ bug present in firmware versions 18.4.x.x
* Fixed bug where Intelliflow would reset if network interfaces were enabled or disabled, or if the order of those interfaces changed
* Fixed issue where WiFi AP would be setup first, choosing a channel, before the client connection, which would prevent it from scanning to find the desired SSID on the proper channel.
* Fixed bug where IMEI would not be displayed if a SIM wasn't present
* Fixed bug with obtaining internal temperature of Sierra-based modems
* Fixed bug where serial port could not be used if a user pressed Ctrl+d at the login prompt (restarting the seriald process or rebooting the device would temporarily fix this)
* Fixed bug where OpenVPN clients couldn't access other networks on the device running the OpenVPN server
* Fixed bug preventing users from remotely changing configuration settings through a SSH command
* Fixed bug with multicast support in OpenVPN
* Fixed bug where user could be required to enter in credentials twice to login to the local web UI
* Fixed bug where HTML/Javascript code could be executed from a SSH login without authenticating
* Fixed bug where management priority value would not be reset correctly after switching from WAN primary to backup, or vice-versa
* Fixed bug where tab completion in CLI would cause segmentation fault
* Fixed bug where large-sized packets would be lost when sent through an IPSec tunnel built over a WAN connection with a MTU lower than 1500 (e.g. cellular)
* Fixed bug where a policy-based router entry with a destination of "Zone Any" directed out an interface without a default route result in the firewall DROPping the packets
* Fixed bug with reconnecting Telit modem after device was power cycled.
* Fixed firmware downgrade functionality. Future firmware versions after 18.8.14.0 will be able to downgrade to 18.4.54.41 or newer
* Fixed bug with performing WebUI OTA updates for Telit LE910-NA V2 modems (previously, only manual firmware upload and aView remote commands worked)
* Fixed slowdown of initial connectivity with Optus SIMs
* Removed reporting of MSL code on the Modem page of the WebUI (Sprint only)
* Reduced TCP fragment limits for security vulnerability
* Linux kernel update from 4.15 to 4.17
* openssl update with 1.0.2o patch
* stunnel update from 5.37 to 5.46

### **18.4.54.41 - July 5, 2018**

* Fixed bug where resetting management priority option back to 0 would not set correctly unless the device was rebooted.
	+ Bug present in firmware versions 16.10.32-18.4.54.28
* Fixed bug where ICCID values starting with 890 would have the zero not displayed in the web UI or Accelerated View
	+ Bug present in firmware versions 18.4.54-18.4.54.28
* Fixed bug preventing devices from being configured to connect to Verizon-only SIMs
	+ Bug present in firmware versions 18.4.54-18.4.54.28
* Fixed bug preventing SIM failover if no modem interfaces matched the SIM present in the active SIM slot, or if no SIM was detected in the active SIM slot.
	+ Bug present in firmware versions 18.4.54-18.4.54.28
* Fix bug preventing Carrier Smart Select from functioning properly on cat3 and cat6 Sierra MC73xx/MC74xx modems.
	+ Bug present in firmware versions 18.4.54-18.4.54.28
* Shorten the time between when a device establishes its tunnel to ispec.accns.com and when it logs its management IP address to aView.
	+ Previously, this could take up to 5 minutes. Now, it should happen within seconds.
* Cleaned up the **Configuration** page of the local web UI to show the appropriate default settings when central management is enabled.
	+ Bug present in firmware versions 18.4.54-18.4.54.28
* Fixed bug where IPSec packets could be corrupted when sent through a Sierra modem.
	+ Bug present in firmware versions 18.4.54-18.4.54.22

### **18.4.54.28 - June 25, 2018**

* Fixed bug where firmware cannot be correctly downgraded from aView (bug present in firmware versions 17.10.74 to 18.4.54.22)
* Fixed bug with mangling IPSec tunnel traffic on firmware 18.4.54 with Sierra modems
* Fixed inbound modem passthrough filtering
* Fixed bug preventing modem interfaces from establishing an IPv4-only or IPv6-only connection
* Fixed bug where tab complete causes segmentation fault in empty arrays in CLI interface

### **18.4.54.22 - May 25, 2018**

* Fixed bug with LE910v2 LTE registration on AT&T
* Fixed bug where IPSec's source address assignment was often incorrect
* Added Quality Of Service (QOS)
* Major modem support update
	+ Dual PDN/APN
	+ Support for multiple modems
	+ Complex modem/SIM/APN mappings
* Added configuration option to manually set SIM phone number
* Added 11904.mcs and wbb.attbusines.net to the AT&T APN list
* Added NAT keep alive configuration for IPSec tunnels
* Added Telit modem firmware update support on devices
* Added basic multi-interface support for PCAP based DAQ intrusion detection in SNORT
* Added links to **System** page of web UI for downloading OpenVPN (.ovpn) configuration files
* Added ability to toggle SIM slot based on remote command received from aView
* Fixed bug to allow IPv6 passthrough and DHCPv6 server to run on a device
* Fixed rare bug where duplicate static IP addresses would cause DHCP server crash
* Fixed rare bug where pressing the enter key for a text entry on the Configuration page of the web UI would inherently save the configuration instead of performing the "Add" action.
* Fixed rare bug where cellular modem service would crash if no SIM was detected
* Fixed bug with setting a custom gateway for static bearers
* Improved system resources by stop reloading configurations in system pages of the web UI
* Improved network interface/device status format on the Dashboard page of the web UI
* Improved web UI Device Details page to auto-refresh values
* Improved OpenVPN server configuration to allow specific designation of IP
* Implemented "Server managed certificate" modes in OpenVPN
* Redesigned network interface and modem configurations in WebUI
* Updated IntelliFlow copyright information
* **Network > Advanced** section is added from a WebUI restructuring
* Linux Kernel update: from 4.14 to 4.15
* Fixed bug where OpenVPN tunnel names would clash for servers and clients due to the use of the same "o\_" prefix
* Fixed bug with incorrectly matching MAC addresses 6330-MX bootenv variables
* Fixed bug where temperature milliCelsius was incorrectly converted to Celsius
* Improved SIM ICCID accuracy by revised search logic
* Fixed bug where MNC and ICCID does not match correctly
* Fixed bug where 540X signal strength was not displayed on LEDs

### **18.1.29.41 - March 16, 2018**

* Add ability to customize skin and logo of the local web UI
* Added ability to sync with AT&T-owned instances of Accelerated View by default
* Added wbb.attbusiness.net APN to the list of fallback APNs for AT&T/Vodafone SIMs
* Updated OpenVPN to support operating as a fully fledged netifd client
* Fixed bug where devices in passthrough mode would not send their primary IP address to Accelerated View

### **18.1.29.10 - February 1, 2018**

* Improved system resource by only setting up the Intelliflow process if a collector is configured.
* Improves upon the 18.1.29 firmware implementation
* Improved caching on the **Configuration** page of the local web UI
* Auto-refresh details displayed on the **Status** page of the local web UI
* Improved support report to include ARP-related information
* Updated company logo on local web UI
* Added new **System → Log → Event categories → Active recovery** configuration option to allow enabling/disabling of success or error logs resulting from Active recovery tests
* Fixed bug preventing users from saving a configuration on a device's local web UI if the config settings included a single-quote to (i.e. ').
* Bug present on firmware version 18.1.29
* Fixed bug where IPv6 forwarding packets could get mistakenly dropped by the firewall

### **18.1.29 - January 26, 2018**

* SNMP agent support
* New Intelliflow tool for displaying the Accelerated device's system resources, and the data/port usage of connected local clients.
* Support for 5-tuple Policy-based routing
* Support for OpenVPN inbound and outbound tunnels (client/server)
* Multicast routing support
* Added option to set a IPv4 and/or IPv6 MTU on each network interface
* Added Group rekey interval option to set a group rekey interval on each SSID (default 10 minutes)
* Improved isolated IPSec tunnel setup and management. Changing settings on one tunnel won't cause all tunnels to reestablish
* Enhanced user authentication settings to allow stacked authentication methods.
* Reduced the frequency of logging the last modem disconnect reason
* Improved DNS entry cleanup to prevent duplicate and non-applicable entries
* Increased font size of navigation links on the local web UI
* Added ARMT and AVWOB servers to list of default central configuration domains
* Enabled localhost DNS rebinding by default
* Added new log to report system/CPU info to Accelerated View
* Fixed bug where device would not always log that its central config was disabled
* Fixed broken routing after unplug/repluging passthrough device
* Fixed bug preventing devices in passthrough mode from using the 192.168.210.254 default gateway in the absence of another WAN connection
* Fixed bug when setting up static IPv6 passthrough routes
* Improved system resources by only starting DynDNS service when enabled
* Fixed WAN failover consistenct when the primary link bounces quickly (less than 5 seconds)
* Fixed bug where different status events inherited the same counter value (i.e. cnt=)
* Fixed bug when setting a specific SIM slot in **Modem → Active SIM** slot where switching to the SIM slot would fail if both SIM slots weren't occupied
* Fixed bug preventing devices from operating in passthrough mode if the cellular connection didn't provide any DNS servers
* Upgrade to Linux kernel 4.14
* Upgrade libcyrussasl to version 2.1.26
* Upgrade libldap to version 2.4.45
* Update pam\_ldap to version 185
* Improved user authentication with tokenized password validation
* Update curl to version 7.56.1
* Removed auto-refreshing of some values on the Status page of the local web UI

### **17.8.128.63 - November 9, 2017**

* Fixed bug preventing devices in passthrough mode from building their AView IPSec tunnel.
* Improved process for uploading custom modem firmware with large file sizes.
* Fixed bug preventing **atcmd** option in the Admin CLI from selecting the correct command port.

### **17.5.108.6 - June 2, 2017**

* Peer-to-peer tunneling support
* Add option in configuration to add mutliple APN entries and tie any APN to a specific carrier.
* Add option in configuration to schedule the device to reboot at a given time of day.
* Verizon certification on 6350-SR with MC7455 modem.
* Report product SKU to Accelerated View.
* Add verbosity to system logs when errors are found establishing a cellular connection.
* Improved cleanup after updating the embedded modem's firmware.
* Add support for processing SMS command from AView to temporarily build a management IPSec tunnel.
* APN reordering for AT&T (removed 11315, managedvpn, added 11226.mcs)
* Send counter and uptime status in heartbeat logs to Accelerated View.
* Improved fail-over routing
* Added safeguards when modem is updating or restarting.
* Added lsusb output, ubus details, netstat output, process list, and disk usage details to support report.
* Report WiFi details in web UI and client connections to AView.
* Improved Telit LE910v2 support
* Improved IPSec service to consume less system resources when idle.
* Extended **atcmd** tool in Admin CLI to support sending AT commands to all supported modem.
* Reduce memory/CPU usage from system logging
* Add labeling to configuration settings with multiple entries (e.g. hostnames, port forwarding rules, static routes, etc).
* Renamed Connectivity monitoring in configuration settings to Active recovery.
* Changed default Router-mode IP address from 192.168.0.1/24 to 192.168.2.1/24
* Updated configuration settings to enable DHCP informational syslogs by default.
* ARP bug in passthrough mode
* Fixed bug where cellular connection would connect with the wrong APN when using a SIM provisioned with multiple APNs.
* Fixed bug where entries of "any" in an ACL config section were not interpreted properly.
* Support for remote command **ARPping** (in passthrough mode only).
* Support for remote command **WOL**, aka Wake-on-LAN (in passthrough mode only).

### **17.2.22.5 - February 21, 2017**

* Added conﬁguration option to enable/disable storing system logs across reboots.
* Added new **Firewall -> Custom Rules** options in the device conﬁguration.
* Added expand/collapse all button to the **Conﬁguration** page of the web UI.
* Improved **Modem -> Custom Gateway** ﬁeld to allow setting the gateway IP and subnet separately (i.e. you can us the ﬁeld to set only the gateway IP, only the subnet, or both).
* Added conﬁguration option to enable/disable syslog servers.
* Improved **Network -> Bridges** section to allow interfaces to be set on bridge devices.
* Reduced size of support report.
* Improved automated modem recovery.
* Improved responsiveness in passthrough mode.
* Reduced time between reconnect attempts by 15 seconds.
* Improved IPSec tunnels to not shutdown when certain passthrough routing is setup.

### **16.11.142 - November 30, 2016**

* Added 10.0.0.1/24 ancillary/setup network so users can connect via DHCP to a device in passthrough mode before it establishes a cellular connection.
* Complete IPv6 networking functionality.
* Implement key-based authentication for SSH.
* Reduced data consumption of Accelerated remote control tunnel from 100MB per month to 15MB per month.
* Added altaworx02.com.attz APN to AT&T APN list.
* Added live.vodafone.com APN to AU Vodafone APN list.
* Report "connecting" state when an IPsec tunnel is in the process of being built.
* Report "failed" state on the **Status** page of the web interface for the cellular modem when the cellular modem fails to initialize.
* Added support for configuring multiple IKE policies for an IPSec tunnel.
* Improved **Support Report** tool to include debug-level details for the cellular modem.
* Improved **Support Report** tool to list events and details for the device.
* Improve **Modem → Access technology** setting to work properly on a wider range of modes and/or modem firmware.
* Added a **Tunnels** tab to the **Status** page of the web interface to list IPsec tunnel status.
* Improved speed of firmware updates.
* Improved automated modem recovery.
* Enhanced **Configuration** page of the web interface so double-clicking a section of configuration settings will expand all options under that drop-down.
* Fix Verizon connectivity issues on vzwinternet APN.
* Fixed bug preventing SIM cards with PINs from being unlocked.
* Fixed bug where invalid data usage measurements were reported to Accelerated View if the modem was reconnecting.
* Handle cases where passthrough connections would not receive a gateway IP from the cellular network. In this case, the gateway IP is determined from the passthrough IP.
* Fixed bug where packets above MTU size for an IPSec tunnel were not being fragmented.
* Fixed bug where transient firewall rules would not get updated.
* Fixed bug where SMS commands were not processed while the cellular modem was establishing a cellular connection.
* Fixed bug preventing changes to the **Modem → Metric** configuration setting from updating as part of the configuration update.
* Fixed timing issue that would sometimes prevent configuration changes from the web interface from taking effect.
* Updated stunnel to version 5.37

### **16.10.32 - October 18, 2016**

* VLAN support. VLANs can be assigned per Ethernet interface, with each interface supporting one or more VLANs.
* Support for bridging multiple interfaces together.
* Reporting of the active band used by the cellular modem.
* System logs are now stored across reboots.
* Official implementation of StrongSwan IPSec tool. The new implementation includes added configuration options when setting up an IPSec tunnel, including:
	+ additional local/remote endpoint types
	+ customizable IKE phase 1 & 2 proposal settings
	+ customizable policy for setting a static IP or requesting an IP from the IPSec server
* Added a configuration option to specify management priority of each interface. The priority is used by Accelerated View to determine which IP address is used to access the device.
* Redesigned System Log page in the web UI. Logs are now color-coded by priority, paginated, re-sizable, and filterable.
* Improved networking so gateway IP address is always pingable in passthrough mode.
* Added option in configuration to define a customer gateway and subnet to be used in passthrough mode.
* Added option to reboot device if connectivity tests fail.
* Added option in configuration to set a password for VRRP authentication.
* Reduced default domain/host map sizes for Netflow.
* Improved behind-the-scenes structuring of configuration settings and migrating from older to new firmware.
* Improved 4G LTE signal strength reporting in low coverage areas.
* Improved default packet filtering.
* Improved keepalived process to better handle IPv6 addresses on VRRP instances.
* Improved highlighting if errors are preset when editing or saving a configuration.
* Improved automation of DNS setup for network interfaces.
* Improved guarantee of displaying the correct primary IP address in Accelerated View.
* Add Rogers ltemobile.com APN to fallback APN list.
* Moved vzwinternet APN behind Verizon static APNs in the fallback APN list.
* Improved signal strength and network type icons on Status page of web UI.
* Added device local time to Status page of web UI.
* Improved passthrough mode support by adjusting networking settings if subnet (typically /30) does not match a valid range for the passthrough IP address.
* Fixed DNS TTL issue preventing syslogs from being sent to endpoints with hard-coded DNS hostnames or IP addresses.
* Added proper validation for minimum and maximum values in configuration settings.
* Fixed bug where the firmware update progress bar in the web UI would get stuck at 5%, even though the upgrade would proceed.
* Fixed bug where pressing the enter key while adding a configuration field would submit the entire configuration. The enter key now adds the new field in this scenario.
* Bug fix to show more than one CNTI technology on web UI
* Security update to address leaked TCP ACKs (CVE-2016-5696)
* Updated OpenSSH to version 7.3
* Updated OpenSSL to version 1.0.2j
* keepalived updated to version 1.2.23
* Removed support for the USB-to-Ethernet adapter; it was clashing with Ethernet-based USB modems

### **16.7.49.12 - August 22, 2016**

* Improved 4G LTE signal strength reporting in low coverage areas.

### **16.3.15.16 & 16.7.49.10 - August 12, 2016**

* Improved Verizon connection reliability

### **16.7.49 - July 25, 2016**

* Verizon Private Network (APN3) certiﬁcation
* Modem antenna selection options (main only, aux only, or both). Modem is restarted at least once as part of this process.
* Load balacing for multiple default routes with same metric. Load balancing controlled by Metric and Weight options in the desired Network -> Interface section(s).
* Netﬂow probe (client)
* Network connectivity testing using ping, DNS, and/or HTTP protocols (Smart Connectivity MonitoringTM).
* Nagios client (includes server conﬁg template and plugin)
* Add option under System page of web UI to generate Support Report of all useful system information.
* Add signal strength indication and connection status on top-right of WebUI pages.
* Add checkbox in Network -> Routes section of conﬁguration to enable/disable network routes.
* Add option in conﬁguration to set Metric value for IPv6 interfaces.
* Add option to Modem section of conﬁguration to lock the modem to connect only with the conﬁgured APN.
* Show cellular details on Status page of web UI even if SIM is not present.
* Reduced APN search times
* Use vzwinternet as default APN for Verizon SIMs.
* Improved modem connect/disconnect state management.
* Updated cellular carrier database to support more international APNs and providers.
* Show all logs (current and old) on Logs page of webUI.
* Add new dump-public option to conﬁg command of Admin CLI and shell.
* Improved IPsec/ﬁrewall interactions
* Improved status LED to track Ethernet link connectivity in passthrough mode.
* Reduced size of ﬁrmware images.
* Improved speed of ﬁrmware update process.
* Remove legacy pppl syslogs.
* Fix bug preventing heart beat events from being syslogged. Bug affects ﬁrmware version 16.3.15
* Fix source NAT for multiple default routes via one interface. Bug affects ﬁrmware versions 15.9.23 - 16.3.15
* Remove HTML elements from logs (was affecting syslog display). Bug affects ﬁrmware versions 16.1.100 - 16.3.15
* Upgrade to linux-4.4 kernel.
* Update to openssl-1.0.2h
* Update stunnel to version 5.35
* disable anti-spooﬁng on loopback interfaces
* Upgrade ModemManager to latest 1.2.0 code
* Support for Huawei MS2131 USB modem.
* Support for USB-to-Ethernet adapter.

### **16.3.15 - March 03, 2016**

* New feature allowing configuration of DHCP relay settings.
* New feature to configure a MAC address whitelist for each network interface.
* New feature auto-supporting US-regional Verizon static APNs.
* Improved handling of configured network routes over IPv4 interfaces.
* Improved efficiency of packet filtering.
* Improved syslog process now honors DNS TTL for domain names.
* Faster performance when accessing the Config page of the device’s local web interface.
* Improved security with openssl updated to version 1.0.2g
* Improved security with ssh updated to version 7.2p1
* Simplified process to connect to the local web interface by supporting 169.254.100.100/16 as secondary default IP address on LAN Ethernet port, eliminating the need for Windows users to define a static IP address to connect to the device. Note: 192.168.210.1 will remain the only default IP address once the modem/Internet connection is established.
* Improved modem support expanding the supported modems list to include the Pantech UML290 and UML295 modems.

### **16.1.100 - February 26, 2016**

* New feature to include VRRP support
* Improved signal strength reporting for LTE using RSRP.
* New feature to include phone number in SMS logs.
* Improved Local Web UI, with improved controls, responsiveness, and consistency with Accelerated View.
* New feature to allow Local Web UI configuration “set to default” or “set to original”.
* Improved security with openssh updated to version 7.1p2
* Improved security with openssl updated to 1.0.2e
* Improved performance and packet delivery for the IPsec management tunnel.

### **15.11.16 - November 12, 2015**

* A notification syslog is now sent when the Reset button is pressed.
* Improved DNS lookup when resorting to backup DNS servers.
* Added support for IPv6 DNS resolution.
* Improved https performance on Internet Explorer browser.
* Improved https reliability.
* Added support for setting multiple time servers.
* Improved reliability of GSM location information.
* Fixed bug where configuration would get reset if a user downgraded the firmware on the 6300-LX.
* Added more information to the syslog updates for any IPSec tunnel, including IP addresses, netmasks, and other network-related details.

### **15.10.8 – October 16, 2015**

* Compatibility with the Verizon U620L USB modem.
* Create an event when the Reset button is pressed.
* Improved DNS lookup when resorting to backup DNS servers.
* Add ability to perform IPv6 DNS resolution.