Release Notes for the AnywhereUSB/2
82002116_P firmware / v1.95.2161 (PN: 93000951_P)

February 2, 2018

INTRODUCTION

This is a production release of the AnywhereUSB/2 firmware (EOS).

SUPPORTED PRODUCTS

AnywhereUSB/2

ENHANCEMENTS
None

BUG FIXES
1. * Power off port when relinquishing ownership of a group instead of disabling the port (AWUSB-501).
2. TCP port for Encrypted Realport was incorrectly saved for the Encrypted AnywhereUSB TCP Port. Fixed. (AWUSB-470)
3. Disable TLS 1.0 for all secure connections. (AWUSB-424)
4. Only use SHA-256 for self-generated cert. (AWUSB-525)
5. When a user uploaded an identity certificate and private key pair, the TLS server mistakenly used the self-generated key with the user-supplied certificate instead of the user-supplied key (AWUSB-434). Fixed.

* Bug fix 1 only affects AnywhereUSB/14 and AnywhereUSB/5m which support
Dynamic Group Assignment.

KNOWN ISSUES

Although AnywhereUSB lets you install multiple identity certificates we recommend
you only install a single certificate.

AnywhereUSB DOES NOT let you install SSL certificate chains. Only an end-user certificate can
be installed on AnywhereUSB. This means that the trusted certificate authority (CA) should
directly sign the end-user certificate.

If you upgrade to this version or rev M1 from an older version there is a possibility that
when you install (upload) an SSL certificate from the Web UI it will not persist across a reboot.
If this happens, you will see a 1024-bit RSA certificate highlighted in red indicating "No matching
certificate found". You can work around this issue by restoring factory defaults and re-installing
the SSL certificate. The SSL certificate is installed from
http://[host]/admin/certificate_management/ssl_tls_identity.htm

ENHANCEMENT HISTORY
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Rev N1 (v1.93.21)
TLS v1.2 and SHA-2 (SHA-256) support.

AnywhereUSB now supports TLS v1.2 "Encrypted AnywhereUSB" connections and HTTPS connections. Along
with this, AnywhereUSB also supports SHA-2 (SHA-256) certificates as well as SHA-1 certificates.

This means web browsers which require TLS 1.2 servers (that is, they no longer fallback to TLS 1.0 or TLS 1.1) can still use the secure HTTPS protocol with AnywhereUSB's web server.

It also means that customers may use SHA-2 certificates as well as SHA-1 certificates to authenticate "Encrypted AnywhereUSB" connections.

NOTE: TLS v1.2 support for "Encrypted AnywhereUSB" connections requires an upgrade to driver Rev P (v3.90.223).

Rev M1 (v1.92.2001)
    None.

Rev M (v1.90.1853)
Remote Management (previously know as Device Cloud) support. A user can now remotely manage AnywhereUSB via my.devicecloud.com.
See User's Guide for details.

Rev L4 (v1.84.1762)
None.

Rev L3 (v1.83.1730)
None.

Rev L2 (v1.82.1641)
None.

Rev L1 (v1.81.1567)
    None.

Rev L (v1.80.1543)
- Tunneling support so that all traffic between a host computer and the AnywhereUSB goes over a single
  connection instead of multiple connections. This substantially reduces enumeration latencies.
  This requires AnywhereUSB driver v3.70 and up. Refer to driver release notes.

Rev K1 (v1.70.1473)
    None.

Rev K (v1.60.1419)
- Configurable exception handling. From the CLI, the user can specify how the AnywhereUSB behaves if and when an exception
  happens.

There are 3 Behaviors which can be selected:

1. Blink LEDs. This is the original behavior. When this happens, the user must press the front panel button
   to reset the unit or put it in crashdump upload mode.
2. Reset. This is now the new default behavior. If and when an exception happens, the unit will reboot itself and preserve
   the panic record so that it may be displayed from the CLI.
3. Crashdump Mode. If and when an exception happens, the unit automatically goes into crashdump mode so that
   a user can upload the crashdump from a TFTP client.

For help, type "help set exception" from the CLI.

- Firmware support for encrypted Anywhere/USB traffic. This requires a new client driver which has not
 yet been released.

- The default Duplex Mode for the Ethernet Interface (found in Network Configuration / Advanced Network
Settings) has
 been changed from Half-Duplex to Full-Duplex. This may not take effect if you upgrade from an earlier firmware
release.

- Support for High Speed USB devices at actual High Speed link speed. Users should not expect performance
 like that of a directly attached USB connection since the ethernet adapter is limited to is 100 MB/s . For
 example, it takes 234 seconds to read a 1Gb file from a USB flash drive connected to the AnywhereUSB/14. It
only
 takes 60 seconds for a USB flash drive connected directly to a PC USB port. However, that is a big improvement
 from previous firmware which takes 1175 seconds. This firmware is incompatible with Windows driver releases
 prior to v3.51.

Rev H (v1.51.1218)
- Added TFTP support for uploading crash dumps. Crash dumps can no longer be uploaded via serial ports. TFTP
 is simpler and supported across entire product line instead of just those with serial ports.

BUG-FIX HISTORY

Rev N1 (v1.93.2117)
 None.

Rev M1 (v1.92.2001)
- [NDS-575 / AWUSB-381] This AnywhereUSB device has a critical vulnerability:
  CVE-2014-9222. Fixed.
- [NDS-574 / AWUSB-381] This AnywhereUSB device has a related critical vulnerability:
  CVE-2014-9223. Fixed.
- [AWUSB-390] Rare exception occurred related to network outages. Fixed.

Rev M (v1.90.1853)
None.

Rev L4 (v1.84.1762)
Add 10ms delay between resetting device and setting its address to get it to work with FTDI USB to Serial
converters.

Rev L3
- Latest version of Chrome (45) fails with an error code of
ERR_SSL_FALLBACK_BEYOND_MINIMUM_VERSION
 when you try to open a a secure WebUI connection with an AnywhereUSB hub because of
 a bug in TLS v1.0. Fixed. JIRA AWUSB-274.
- Disable TCP Port fields for AnywhereUSB and Encrypted AnywhereUSB services since they are not
 configurable. JIRA AWUSB-275.

Rev L2
None.

Rev L1
- Inbound USB transfers over an encrypted connection which were larger than 1024 bytes were corrupted. Fixed.
- On an encrypted connection AnywhereUSB reported the IP address of the "owned by" host computer incorrectly

as the local host IP address of 127.0.0.1. The AnywhereUSB Configuration Utility would display this incorrectly. It has been fixed.

Rev L
- Remove SSL v3.0 support in order to defend against Poodle Attack.

Rev K1
- Fix possible race condition which could lead to a device lockup in a condition with many
  port connection changes.
- Fix an exception that happened if the AnywhereUSB lost its host connection during a device enumeration.
- An exception could occur with many devices because of resource exhaustion. This was a false positive and
  has been fixed.
- Backups (backup.cfg) were corrupted. Fixed.
Rev K
- Fix two bugs that led to exceptions and/or BSODs when errors occur during device enumeration.
- Workaround for IRP mapping to recover in case a sequence number never comes in.

Rev H
- Enabled TCP ACK PUSH option to expedite URB cancellations. This sped up the removal of the Rhode Scwarz NRPZ-31
  Power Sensor which queues many URBs during normal operation.
- During device enumeration if Select Configuration failed, the firmware would still try to use the returned
  NULL pipe handle(s) leading to an ASSERT! Fixed.
- Eliminate ASSERT when an attempt to free a USB device's address failed.
- In certain networking environments the AnywhereUSB would see ethernet Jumbo Frames and throw an exception.
  This has been fixed, although it is highly recommended that customers configure their switches to block transmission
  of Jumbo Frames to the Anywhere/USB if possible since it may affect the AnywhereUSB's performance.

Rev G
 - Network packets received with default RSH and RLOGIN ports caused AnywhereUSB to ASSERT. Fixed.
 - Don't ASSERT if a device gets removed before its USB address has been set. Very unusual conditon
   but firmware shouldn't ASSERT.
 - Fix Cancel race condition. This could happen when IRPs are cancelled upon a device removal.
 - Disable Smart ARP caching because it could cause the AnywhereUSB hub to be very unresponsive
   in certain network environments with lots of ARP requests.
 - Increased the size of a text field which could be overrun for certain devices and cause an exception.
 - Added a delay between resetting the device and reading its Device Descriptor. Some devices aren't
   ready right away.
 - Several buggy devices did not enumerate because they failed partial Device Descriptor reads, returning
   the entire length of a Device Descriptor and causing a USBD_STATUS_DATA_OVERRUN. We now just ignore
   the failure and go on to do a full Device Descriptor which succeeds.
 - Certain firewalls were dropping inactive connections unknownst to the Anywhere/USB hub. TCP Keep Alives
   have been optioned for these connections to keep that from happening.
 - DNS server IP addresses were saved backwards (in host order instead of network order). Fixed.
 - Front Panel reset button behavior has changed with regards to rebooting and factory resetting AnywhereUSB
   Gen 2 products. See User's Manual for details.

Rev F
- Added KeepAlive's for each AnywhereUSB remote hub TCP/IP connection type: endpoint,
  host controller, and system. This fixes a problem with firewalls that disconnect inactive
  TCP/IP connections.
- Change RSH and RLOGIN network services defaults to disabled.

- Add work-around for non-compliant USB devices which improperly return full Device Descriptors in response to partial "Get Device Descriptor" requests.
- For security purposes, the AnywhereUSB Configuration Utility can no longer change the settings of AnywhereUSB devices nor reboot them. Rebooting and settings changes can only be done via the device's WebUI. The config utility is still used to connect/disconnect with AnywhereUSB devices/groups.
- Eliminated "File Management" from WebUI. It is never used and could be a potential security issue.
- Fixed Ethernet speed/duplex negotiation bug.
- Front Panel reset button behavior has changed with regards to rebooting and factory resetting AnywhereUSB Gen 2 products. See User's Manual for details.

Rev E
- Fix Vantive #37074. When doing a Device-to-Host Setup packet (Get operation), if the TransferBufferLength was 0, we were sending an IN for the status stage, when we should have been sending an OUT.

Rev D
- Fix ethernet lockup problem
- Small ethernet performance improvements
- Fix Vantive #36418 ("assertion: rlogin auth failed")
- Fix Vantive #33549 (iDigi displayed version number incorrectly)
- Fix assertion/reboot caused by host disconnection
- Fix bug with Aladdin dongle enumeration

Rev C
- Fixed several cases where the firmware would crash or reboot under heavy load.