Release Notes for Endace Measurement Systems Software Driver Package 2.5.7.5 for Linux/FreeBSD and Windows.

28th August 2006

General

Please note this 2.5.7.5 release is an update to the 2.5.7.1 release

Important Note for customers who use DAG 4.3GE and DAG 4.3S cards

The 2.5.7.5 release contains new firmware which <u>is required</u> to support a new QDR-DRAM FIFO component on the DAG 4.3GE and DAG 4.3S cards. This new firmware only affects DAG 4.3GE cards with serial numbers <u>3-002226 and above</u>, and DAG 4.3S cards with serial numbers <u>7-000957 and above</u>. This firmware is backwards compatible with older DAG 4.3GE and DAG 4.3S cards and software releases.

Supported Cards

The following cards are supported in this release:

DAG	Link Type	Ports	PCI Type
3.5S	OC3c/12c ATM/PoS	1 ch	PCI
3.6D	DS3 ATM	2 ch	PCI
3.6ET/P	10/100 Ethernet	2 ch	PCI
3.6GE	10/ 100/1000 (Copper) Ethernet	1 ch	PCI
3.7D	DS3/E3 ATM/HDLC/Frame Relay	2 ch	PCI
3.7GP/GF	10/100/1000 Copper Ethernet	2 ch	PCI
3.7T	E1/T1 HDLC/ATM	16 ch	PCI
3.8S	OC3c/12c ATM/PoS	2 ch	PCIX
4.2S	OC48c ATM/PoS	2 ch	PCI
4.2GE	Optical Gigabit Ethernet	2 ch	PCI
4.3S	OC48c ATM/PoS	1 ch	PCIX
4.3GE	Optical Gigabit Ethernet	2 ch	PCIX
4.5G2/4	10/100/1000 Optical Gigabit Ethernet	2/4 ch	PCIX
6.1SE	OC192c/10G Ethernet	1 ch	PCIX
6.2SE	OC192c/10G Ethernet	1 ch	PCIX
7.1S	OC3c/OC3/OC12c/OC12 ATM/PoS/bit-HDLC	4 ch	PCIe

New Features in this Release

The following new features are included in this release.

> **Note:** These are additional to the new features contained in the 2.5.7.1 release which are also listed below.

- Separate firmware images for the DAG 4.5G2 and DAG 4.5G4 cards which include both DSM and TERF (transmit) functionality in the same image
- The DAG 4.5G4 card now supports transmit at full line rate on all 4 ports
- Updated user documentation for the DAG 4.5G2, DAG 4.5G4 and DAG 4.5GF cards
- Updated firmware for the DAG 4.3GE and DAG 4.3S cards to address the QDR-DRAM FIFO hardware issue.
- Updated firmware for the DAG 7.1S card

New Features in 2.5.7.1 Release

- Support for the DAG 3.7D (Dual Port DS3 ATM/HDLC/Frame Relay)
- Support for the DAG 7.1S (Quad Port, 4x STM-1 (OC3) or 2x STM-4 (OC12), channelised and concatenated ATM/PoS/bit-HDLC).
- AAL2/AAL5 Reassembly and IMA rx now available on the DAG 3.7T
- Configuration and Status API now available for most DAG cards*
- Improved throughput performance on the DAG 3.7GP/GF
- 10/100 support is now available on the DAG 4.5G2 and DAG4.5G4 cards
- Enhancement to ATMR functionality to allow PATH OAM frames to be reassembled.
- Updated firmware for the DAG 3.7GP/F, DAG 3.7T, DAG 3.8S (ATMR), DAG 4.5G2/4, DAG 4.3S, DAG 4.3S (ATMR) and DAG 6.2S.
- Multi Channel ERF Support now available in libpcap (http://www.endace.com/OpenSource_libpcap.htm)
- Updated user documentation

> **Note:** * Configuration and Status API is not available on the following cards; DAG 3.5S, DAG 3.6D, DAG 3.6EP/T, DAG 3.6GE, DAG 4.2GE and DAG 4.2S.

Issues Fixed

The following issues have been fixed in this release:

- **DAG 3.7GP/GF** – Issue fixed whereby 64 byte packets were found to be transmitted incorrectly

- **DAG 4.3S** – Issue fixed with Record Pointers

- **DAG 6.2S and DAG 4.5G2/4 (DSM)** – Issue fixed when DSM firmware is loaded onto the DAG 6.2S or DAG 4.5G2/4 cards and no packets are received.

  Issue with DSM filter hit counters not latching correctly has been fixed.

  Bug with MAC addresses that start with SFD byte being corrupted has been fixed

- **DAG 4.5G4 –** The DAG 4.5G4 card now transmits on all 4 ports at full line rate

- **DAG 3.7T – AAL2/5 Reassembly – The below issue is fixed in 2.5.7.5**

  Throughput is limited when using 512 reassembling connections to 8 physical lines at full line rate. When all 16 physical lines are used 288 connections can be reassembled simultaneously.

  When adding filters to the AAL reassembler it is recommended to use 32 board level filters and 32 channel level filters per channel. However if more filters are configured they will not currently be treated as errors (no error return codes when calling set filter functions). This is an experimental feature and further testing may be required for throughput rates with more filters configured than the recommendation.

Known Issues

- **DAG 3.7D** – No support for E3

- **DAG 3.7T** – Mixed ATM and HDLC channel configuration, and HDLC/IMA combined boot loader image. These features are still in beta and not yet fully tested.

- **DAG 4.5G2/4**
  TERF loses the very first packet transmitted on each physical interface after programming the FPGA.

  TERF must be configured with the option 'noterf_strip' via dagconfig in order to make sure that it does not strip off the 4 bytes of trailing CRC value. Moreover, each and every ERF record transmitted by the host software must have a properly calculated CRC value.

  10/100/1000 Mbps full-duplex speeds using the copper SFP modules are not supported. Only full-duplex 1000 Mbps speed using optical SFP modules are supported.

- **DAG 6.2S** DSM
  The datapath may stall occasionally after running the "dagsix command" with the "default" option and no packets will be received while the GPP drop counters will keep increasing rapidly. The work-around is to stop capturing and re-run the command to reset the datapath a second time and then start capturing again.

- **DAG 7.1S**
  The 7.1S can capture full line rate 2x OC12 or 1.3Gbit/s to the card, but the PCIe interface limits the bandwidth to the host to between 1Gbit/s (Intel 915/955 desktop chipsets) to 1.3Gbit/s (Intel 7250 server chipset).

Known Issues (cont.)

- **Hot Swapping Filters on IP Filtering in Windows**
  When switching from one bank of IP filter rules to another using the Windows OS the switch may not occur immediately. There may be a delay of up to one minute before the new filter rules take effect. During that time traffic will continue to be filtered according to the previous rules

- **Configure Script for FreeBSD 4**
  Because FreeBSD 4.x does not search in `/usr/local` for required includes you must call the configure script as follows:

  ```
  CFLAGS="-I/usr/local/include"
  ```

- **libxml Development Headers**
  If you have not already done so, this 2.5.7.5 version requires that you install the appropriate `libxml` development libraries for your linux distribution.

  Note: A `libxml12` package is included on the installation CD for RHEL 3.0

- **Align64**
  In rare circumstances it is possible, if after loading the firmware, you send exactly one packet which is not a multiple of 8 bytes in length, and do not send a second or subsequent packet; your offset pointer will be incorrect. In addition you will not receive the frame because it is not 64 bit aligned ("stuck packet").This issue potentially affects all DAG cards which support 64 bit alignment.

  In the unlikely event that you experience this issue you should do one of the following:
  - Enable the `align64` option. **Note:** This issue will not occur if `align64` is already enabled.
  - Stop and restart capture.

  If neither of the above actions resolves the issue please contact Endace Technical Support at support@endace.com for further advice.

Support

If you experience problems with any aspect of installing or using this version 2.5.7.5 for Linux/FreeBSD and Windows and are unable to resolve them, please contact Endace Technical Support at support@endace.com for further assistance.