napatech

Release Note for linux nt_driver_3gd Version 3.10.0

Release Date	2018-12-05
Description	This release note applies to version 3.10.0 of the SW driver package for Napatech SmartNICs.

Release history from version 3.9.1 to 3.10.0

New Features

ID	Related issues	Summary	Implemented in
42437	38866 (Feature Req.)	Support for Start-of-Frame (SOF) timestamp added	3.10.0
42408	42392 (Support)	IPFMode documentation has been updated	3.10.0
42347	42337 (Support)	Support for NT4E-INL image v9115-42-13 added	3.9.4
42309	41100 (FR)	Support for VN-tag has been added to the frame decoder	3.9.2
42307	42192 (FR)	Support added for 8x10G breakout from QSFP+ on NT200A01	3.9.3
41136	41092 (Support)	Adapter based multi-port transmit will allocate one host-buffer per adapter that has ports setup in the portmask specified to NetTxOpen. Each host-buffer allocated will be paired to a specific adapter - and will be able to serve all ports (only those mentioned on the portmask) on the paired adapter. The Tx port will be selected by the tx port field in each packet descriptor. A new option (called flags) is introduced to the attributes used by NTAPI function NT_NetTxOpen_Attr() The new NT_NETTX_OPEN_FLAGS_ADAPTER_MULTI_PORT_BUFFER flag/attribute is setup using NT_NetTxOpenAttrSetFlags()	3.9.2

Resolved Issues

ID	Related issues	Summary	Found in version	Resolved in version
42425	42284 (Support)	4GA adapters, (any 95xx FPGA image), may return unqualified TX path delay values	3.6.1	3.10.0
42420	42411 (Support)	A resource leak in the key matcher affecting NT200 adapters reduces the number of keys that can be programmed over time.	3.9.1	3.10.0
42394	42388	NTService fails to load during SDRAM initialization with an NT80E3 adapter	3.7.1	3.10.0

ID	Related issues	Summary	Found in version	Resolved in version
42393	42390 (Support)	Wrong adapter name in productinfo on NT200A01-2x100/40	3.6.1	3.10.0
42357	42352 (Support)	"afu.ini file not found" message appears on servers without any Intel PAC adapter	3.9.0	3.10.0
42349	42343 (Support)	NT4E-INL profile cannot be set to TrafficGen	3.9.0	3.9.5
42340	42333 / 42395 (Sup.)	When NtService is configured to use PCAP descriptors with PCAP_NS timestamps monitoring shows traffic in packet- and byte-counters - but incorrectly shows port rate 0	3.9.1	3.9.4
42320	42317 (Support)	Missing/unclear documentation on the "rx_port" field in dynamic descriptors.	3.8.1	3.9.3
42287	42285 (Support)	Incorrect doxygen documentation for retransmit command	3.8.6	3.9.2
42248	42236 (Support)	In certain scenarios Rx streams - especially streams with multiple subscriber clients - may end up hanging and loose packets. Either deleting/reapplying the NTPL og restarting can typically resolve the situation.	3.8.6	3.9.2
42240	42216 (Support)	Using 3GA FPGA applying pattern match filters can result in a reference bug stopping ntservice	3.8.1	3.8.7
42239	42229 (Support)	Calling NT_StatRead() (specificly command NT_STATISTICS_READ_CMD_USAGE_DATA_V0) while changing/reassigning filters through NTPL can cause ntservice to crash.	3.8.1	3.9.2
42222	42177 (Support)	When dynamically assigning, deleting and reassigning Inline Tx NTPL streams - in certain scenarios the result is that the inline stream data would be received but never properly inline transmtted with NTPL dynamically reassigned. Typicallly the ntsservice log will contain messages like. Adapter 0: Hbh4gaTxMonThreadFunc: Tx TBH delineation error on Tx feed 4: some packets may not have been transmitted	3.8.5	3.9.2

Known issues

ID	Related issues	Summary	Found in version
42257		Dynamic hostbuffers are not supported by Intel PAC A10 accelerators. Therefore NTAPI Inline features are not supported by Intel PAC A10 accelerators. However, applications using DPDK will support Inline for Intel PAC A10 accelerators.	3.9.1
42256		The performance when using 1 hostbuffer and small packets (64-65 bytes length) is limited to approximately 95% of the theoretical performance. In all other scenarios full performance (100%) can be expected.	3.9.1
42225	42224	In some cases, backward time-stamp jumps can be observed when host-buffer allowance is configured.	3.8.6
41150		The Automatic over-temperature shutdown is not implemented yet on the Intel® Programmable Acceleration Card.	3.9.0

ID	Related issues	Summary	Found in version
38699		Using NT_NetRxGet* or NT_NetRxGetMult* first time on newly created or reconfigured streams can lead to initial package drops when the system is configured with large hostbuffers or many client applications. This will only be triggered on newly created and reconfigured streams. **Workaround:** If packet loss is observed, to get clean statistics no traffic should be received on connected ports while streams are being started.	3.7.5
38364		The performance of host based transmission may be degraded in the following scenario: 1. Local retransmit is taking place at full line rate on a subset of the ports of the adapter. 2. In parallel with 1., host based transmission is taking place on a separate port of the adapter (i.e. the combined host and local retransmit functionality is not used.)	3.7.1
32765		When using the GlobalSync feature, link down/up events causes the port to enter 'unknown' state	2.9.4
14086		If NUMA node zero is offline and /opt/napatech3/config/ntservice.ini does not exist, the driver cannot start because it fails to allocate memory for the default host buffer set-up. **Workaround:** Use an existing ntservice.ini or specify the host buffer set-up on an online NUMA node: '/opt/napatech3/bin/start.sh -o adapter0.BusId=0000:04:00.0 -o adapter0.AdapterType=NT40E3_4_PTP -o adapter0.HostBuffersRx=[4,32,1] -o adapter0.HostBuffersTx=[2,16,1]'. BusId and AdapterType are only required if there are multiple adapters in the server; the BusId can be obtained with 'lspci | grep Napa'.	2.8.5
10740		When using a Cisco DAC pluggable, link is detected even if the other end of the cable is unplugged.	2.7.0
9189	9137 (Support)	The Linux kernel v3.8->v3.12 has a bug in the NUMA balancing code which was introduced in v3.8. See https://bugzilla.kernel.org/show_bug.cgi?id=60734 The issue causes high execution delays on cores running on other than NUMA 0 if the feature is enabled. To work around the problem, disable the NUMA balancing by adding "numa_balancing=disable" to the kernel command line. The Linux kernel 3.13 received significant NUMA updates which fixes this issue. The 3.10 kernel in RHEL 7, CentOS 7 and Oracle Linux 7 (not the 3.8.13 uek kernel) contains a fix for this, thus the work around is not needed.	0.1.1
8719		Setting TimeSyncTimeJumpThreshold for OS timesync to values > 0, will enable the time jump feature and results in a jump threshold of 1 second.	2.4.1
4324		3GD requires at least gcc 4.0 to build and at least glibc 2.5 to run.	1.1.0

Notes

Operating systems

The Napatech SW driver version applies to these operating systems:

- Linux 3.0 -> 3.19 (64-bit)
- Linux 4.0 -> 4.18 (64-bit)

The software has been qualified on: CentOS 6, CentOS 7, Ubuntu 16.04LTS and Fedora 18/23

SmartNIC compatibility

SmartNIC	Version
NT4E	200-9015-42-08, 200-9015-42-14
NT4E-STD	200-9017-42-09, 200-9017-42-10
NT4E2-4-PTP	200-9226-46-12, 200-9226-46-13, 200-9226-48-05, 200-9226-50-03, 200-9226-50-04, 200-9226-51-03, 200-9226-51-04
NT20E2	200-9220-44-10, 200-9220-44-12, 200-9220-45-06, 200-9220-46-09, 200-9220-50-03, 200-9220-50-04, 200-9220-50-05
NT20E2-PTP	200-9227-50-03, 200-9227-51-03, 200-9227-51-04
NT20E3-2-PTP	200-9233-52-13, 200-9233-53-01, 200-9501-02-16, 200-9501-04-04, 200-9501-06-06, 200-9501-08-06, 200-9501-09-08, 200-9501-10-07, 200-9501-15-02, 200-9501-17-02
NT40E3-4-PTP	200-9232-50-04, 200-9232-51-04, 200-9232-51-07, 200-9232-52-13, 200-9232-53-01, 200-9502-02-16, 200-9502-04-04, 200-9502-06-06, 200-9502-06-07, 200-9502-08-06, 200-9502-08-07, 200-9502-08-08, 200-9502-09-08, 200-9502-10-07
NT80E3-2-PTP	200-9503-02-16, 200-9503-04-04, 200-9503-06-05, 200-9503-08-06, 200-9503-08-07, 200-9503-08-08, 200-9503-09-08, 200-9503-10-07, 200-9503-10-09, 200-9503-15-02, 200-9503-17-02, 200-9503-08-07, 200-9519-10-05, 200-9519-10-07, 200-9519-15-02, 200-9519-17-02, 200-8005-15-02
NT200A01-2x100	200-9508-05-08, 200-9508-05-17, 200-9508-06-06, 200-9508-07-06, 200-9508-07-07, 200-9515-09-08, 200-9515-10-07, 200-9515-15-02, 200-9516-09-08, 200-9516-10-07, 200-9516-15-05, 200-8002-09-01, 200-8002-09-02, 200-8002-10-02, 200-8002-15-02
NT40A01-4x1	200-9500-06-06, 200-9500-06-07, 200-9500-08-06, 200-9500-09-08, 200-9500-10-07, 200-9500-15-02
NT100E3-1-PTP	200-9504-01-12, 200-9505-02-16, 200-9505-04-04, 200-9505-06-05, 200-9505-08-06, 200-9505-09-08, 200-9505-10-08, 200-9505-10-09, 200-9505-15-02
NT40E2-1	200-9222-52-05
NT40E2-4	200-9221-44-13, 200-9221-50-04
NT200A01-2x40	200-9512-07-02, 200-9512-08-08, 200-9512-08-09, 200-9512-09-08, 200-9512-10-07, 200-9512-15-02, 200-9522-15-03, 200-8006-15-03
NT200A01-2x100/40	200-8001-08-00, 200-8001-08-01, 200-8003-09-01, 200-8003-10-02, 200-8003-15-02, 200-8004-10-03, 200-8004-15-02
NT40A01-4x10/1-SLB	200-9517-09-08
INTEL-A10-4x10	200-7000-12-02
INTEL-A10-1x40	200-7001-12-03

Microcontroller compatibility

- AVR-firmware v1.x
- AVR-firmware v2.x
- AVR-firmware v3.x

Test status

Complete test plan

Documentation

See the Documentation Portal, WebHelp or DN-0449 for reference

documentation on Napatech Software Suite.

Release note generated at   2018-12-05