Release Note for linux nt_driver_3gd Version 3.11.0

Release Date	2019-03-06
Description	This release note applies to version 3.11.0 of the SW driver package for Napatech SmartNICs.

Release history from version 3.10.0 to 3.11.0

New Features

ID	Related issues	Summary	Implemented in
42586		Added support for NT200A02-2x100/40	3.11.0
42559	42445 (support)	The driver source rpm now correctly sets the provides information of the shared libraries libntapi, libntos, libntutil.	3.10.2
42459	42443 (Support)	Added new version of hash calc function NT_HashRefCalcV2() that returns 32-bit hash value	3.10.1
42458	42405 (Support/FR)	Added a systemd unit configuration example of a systemd service that depends on the Napatech 3GD Service (ntservice.service)	3.11.0
33327	33005 (Support)	ntpcap_capture and ntpcap_replay now does case-insensitive interface name comparisons	3.11.0

Resolved Issues

ID	Related issues	Summary	Found in version	Resolved in version
42571	42543 (support)	For large hostbuffer configurations the NtService startup time can be reduced by setting "HostBufferInitMode=0" into the System section of the ini-file ntservice.ini: [System] HostBufferInitMode=0	3.8.3	3.10.2
42558	42541 (Support)	If a transmit stream has been opened using a portmask which spans across multiple smartnics and NT_NetTxGet() subsequently is called with a port on the first adapter, then the client application might crash with a segmentation fault.	3.7.0	3.10.2

ID	Related issues	Summary	Found in version	Resolved in version
42490	42486	When support for Coordinated Time Synchronized Transmit (globalSync) was	3.10.0	3.11.0

42499	42496 (Support)	When support for Coordinated Time-Synchronized Transmit (globalSync) was introduced for 4GA adapters, it stopped working with 3GA adapters.	3.10.0	3.11.0
42452	42450 (Support)	Syslog warnings when running "supportinfo" tool (HB4)	3.8.6	3.11.0
42319		Known issue with enable/disable of port host loopback: - TX-traffic may be "stalled" if port host loopback is enabled and disabled on a port with a present QSFP28-transceiver. - the issue is not observed on an empty port.	3.9.5	3.11.0
42225	42224 / 42551 (Supp)	In some cases, backward time-stamp jumps can be observed when host-buffer allowance is configured.	3.8.6	3.10.2

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
41150		The Automatic over-temperature shutdown is not implemented yet on the Intel® Programmable Acceleration Card.	3.9.0
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

ID	Related issues	Summary	Found in version
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

HW	FPGA images
NT4E	200-9015-42-08, 200-9015-42-13, 200-9015-42-14
NT4E-STD	200-9017-42-09, 200-9017-42-10
NT4E-INL	200-9115-42-13
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, 200-9220-47-03, 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, 200-9501-18-07
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, 200-9503-18-07, 200-9503-08-07, 200-9519-10-05, 200-9519-10-07, 200-9519-15-02, 200-9519-17-02, 200-9519-18-07, 200-8005-10-01, 200-8005-15-02, 200-8005-17-02

HW	FPGA images
NT200A01	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, 200-9515-18-09, 200-9516-09-08, 200-9516-10-07, 200-9516-15-05, 200-9516-18-09, 200-8002-09-01, 200-8002-09-02, 200-8002-09-04, 200-8002-10-02, 200-8002-15-02, 200-9512-07-02, 200-9512-08-08, 200-9512-08-09, 200-9512-09-08, 200-9512-10-07, 200-9512-15-02, 200-9512-18-07, 200-9522-15-03, 200-9522-18-07, 200-8001-08-00, 200-8001-08-01, 200-8003-09-01, 200-8003-09-03, 200-8003-10-02, 200-8003-15-02, 200-8004-10-03, 200-8004-15-02, 200-8006-15-03
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, 200-9500-18-07
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, 200-9505-18-07
NT40E2-1	200-9222-52-05
NT40E2-4	200-9221-44-13, 200-9221-50-04
NT40A01	200-9517-09-08
INTEL-A10	200-7000-12-00, 200-7000-12-02, 200-7000-12-06, 200-7001-12-00, 200-7001-12-03, 200-7001-12-06
NT200A02	200-9521-18-11, 200-9526-18-10

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.

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