

# RTX64 Real-Time Network

## Supported Network Interface Cards (NICs)

This document provides a listing of NIC drivers that are provided for use with the RTX64 Real-Time Network. These drivers are intended to be loaded by the Network Abstraction Layer (NAL) and are not compatible with versions of the RTX64 RT-TCP/IP Stack offered prior to 4.0. Note that you can write your own custom drivers for NICs that are not included in this document.

## Legend



This Network Interface card (NIC) has been tested using RTX64. The card has been tested for both Internet Protocol version 4 (IPv4) and next generation Internet Protocol version 6 (IPv6).



This NIC has been tested using RTX64. The manufacturer has listed this chipset as End-Of-Life, and it will likely be deprecated in a future release of RTX64.



This NIC has not been tested, but based on its chipset it should work correctly with RTX64.



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This NIC has been tested and confirmed not to work correctly with RTX64.

**NOTE: The RtNalE1000 and RtNalIPCH drivers do not support transmit timestamps or receive filtering.**

**NOTE: All drivers support Link Status monitoring.**

**NOTE: All tested (  ,  ) drivers support Jumbo Packets.**

**NOTE: Windows uses the Device ID and Vendor ID when associating devices. The friendly name of a device in Windows may differ slightly from the corresponding name provided in this document.**



## Driver RtNallPCH

**NOTE: This driver does not support receive filtering.**












Maximum packet size:

Devices	Driver limits	Device limits
All	1514-9014	1514-9212












Supported devices:

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x15d6	Intel® Ethernet Connection (5) I219-V5	Rx: 1, Tx: 2	Update 2 for RTX64 4.0	
0x8086	0x15e3	Intel® Ethernet Connection (5) I219-LM5	Rx: 1, Tx: 2	Update 2 for RTX64 4.0	
0x8086	0x1502	Intel® 82579LM Gigabit Network Adapter (RTX64)	Rx: 1, Tx: 2	4.0	
<p><b>NOTE: This controller does not work correctly on systems with the Intel® C200 PCH.</b></p>					
0x8086	0x1503	Intel® 82579V Gigabit Network Adapter (RTX64)	Rx: 1, Tx: 2	4.0	












RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x153A	Intel® I217LM PHY 1000BASE with C220 Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x153B	Intel® I217V PHY 1000BASE with C220 Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x155A	Intel® I218LM PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x1559	Intel® I218V PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x15A0	Intel® I218LM PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x15A1	Intel® I218V PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x15A2	Intel® I218LM PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x15A3	Intel® I218V PHY 1000BASE with Ethernet Controller (RTX64)	Rx: 1, Tx: 2	4.0	
0x8086	0x15D7	Intel® I219LM Ethernet Connection	Rx: 1, Tx: 2	4.0	
0x8086	0x10BA	Intel® 80003ES2 Ethernet Controller Copper SPT	Rx: 1, Tx: 2	4.0	
0x8086	0x10BB	Intel® 80003ES2 Ethernet Controller Serdes SPT	Rx: 1, Tx: 2	4.0	











RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x1096	Intel® 80003ES2 Ethernet Controller Copper DPT	Rx: 1, Tx: 2	4.0	
0x8086	0x1098	Intel® 80003ES2 Ethernet Controller Serdes DPT	Rx: 1, Tx: 2	4.0	
0x8086	0x1049	Intel® ICH8 IGP M AMT Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x104A	Intel® ICH8 IGP AMT Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0X104C	Intel® ICH8 IFE Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10C4	Intel® ICH8 IFE GT Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10C5	Intel® ICH8 IFE G Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x104D	Intel® ICH8 IGP M Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x1501	Intel® ICH8 82567 V3 Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10F5	Intel® ICH9 IGP M AMT Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10BD	Intel® ICH9 IGP AMT Ethernet Controller	Rx: 1, Tx: 2	4.0	

RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x294C	Intel® ICH9 IGP C Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10BF	Intel® ICH9 IGP M Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10C0	Intel® ICH9 IFE Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10C3	Intel® ICH9 IFE GT Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10C2	Intel® ICH9 IFE G Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10E5	Intel® ICH9 BM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10CC	Intel® ICH10 R BM LM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10CD	Intel® ICH10 R BM LF Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10CE	Intel® ICH10 R BM V Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10DE	Intel® ICH10 D BM LM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10DF	Intel® ICH10 D BM LF Ethernet Controller	Rx: 1, Tx: 2	4.0	

RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x1525	Intel® ICH10 D BM V Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10EA	Intel® PCH M HV LM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10EB	Intel® PCH M HV LC Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10EF	Intel® PCH D HV DM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x10F0	Intel® PCH D HV DC Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x156F	Intel® PCH SPT I219 LM Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x1570	Intel® PCH SPT I219 V Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x15B7	Intel® PCH SPT I219 LM2 Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x15B8	Intel® PCH SPT I219 V2 Ethernet Controller	Rx: 1, Tx: 2	4.0	
0x8086	0x15B9	Intel® PCH SPT I219 LM3 Ethernet Controller	Rx: 1, Tx: 2	4.0	

## Driver RtNall10GB







**NOTE: This driver currently supports packet timestamps for Receive (Rx) and Transmit (Tx) read from registers.**

**NOTE: This driver does not support timestamps in packet buffers for receive, or timestamps in DMA descriptors for transmit.**

Maximum packet size:












Devices	Driver limits	Device limits
All	1514-15868	1514-15868






Supported devices:

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x10B6	Intel® 82598 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10E1	Intel® 82598 SR DUAL PORT EM 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10DB	Intel® 82598 EB SFP LOM 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10F7	Intel® 82599 KX4 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1514	Intel® 82599 KX4 MEZZ 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10FB	Intel® 82599 SFP 10GB Network Connection	Rx: 16, Tx: 16	4.0	



RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x10FC	Intel® 82599 XAUI LOM 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10F9	Intel® 82599 CX4 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x151C	Intel® 82599 T3 LOM 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10F8	Intel® 82599 COMBO BACKPLANE 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x152A	Intel® 82599 BACKPLANE FCOE 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x154D	Intel® 82599 SFP SF2 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1529	Intel® 82599 SFP FCOE 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1577	Intel® 82599 EN SFP 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x154A	Intel® 82599 SFP SF QP 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1558	Intel® 82599 QSFP SF QP 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1528	Intel® X540 T 10GB Network Connection	Rx: 16, Tx: 16	4.0	

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x1560	Intel® X540 T1 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x1563	Intel® X550 T 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x15AB	Intel® X550 EM X KR 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x15AA	Intel® X550 EM X KX4 10GB Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x15AD	Intel® X550 EM X 10G T 10GB Network Connection	Rx: 16, Tx: 16	4.0	

## Driver RtNalIGB









**NOTE: All devices support packet timestamps for receive and transmit read from registers, and support timestamps in packet buffers for receive.**

**NOTE: Only the I210 and I211 devices support timestamps in DMA descriptors for transmit.**








Maximum packet size:

Devices	Driver limits	Device limits
All	1514-9724	1514-9724

## Supported devices:

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x1533	Intel® I210 Copper-only Ethernet Controller (RTX64)	Rx: 4, Tx: 4	4.0	
0x8086	0x157B	Intel® I210 Flash-less Copper-only Ethernet Controller (RTX64)	Rx: 4, Tx: 4	4.0	
0x8086	0x1521	Intel® I350 Quad/Dual PCIe Copper Ethernet Controller (RTX64)	Rx: 8, Tx: 8	4.0	
<b>NOTE: This controller does not support timestamps in DMA descriptors for transmit.</b>					
0x8086	0x1523	Intel® I350 Quad/Dual PCIe 1000BASE-KX/BX Ethernet Controller (RTX64)	Rx: 8, Tx: 8	4.0	
<b>NOTE: This controller does not support timestamps in DMA descriptors for transmit.</b>					
0x8086	0x1539	Intel® I211 PCIe 1000BASE Ethernet Controller (RTX64)	Rx: 2, Tx: 2	4.0	
0x8086	0x10C9	Intel® 82576 Gigabit ET Dual Port Server Adapter	Rx: 16, Tx: 16	4.0	
0x8086	0x10E6	Intel® 82576 Gigabit Network Connection	Rx: 16, Tx: 16	4.0	
0x8086	0x10E7	Intel® 82576 Gigabit Network Connection	Rx: 16, Tx: 16	4.0	

RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x1526	Intel® 82576 Gigabit ET2 Quad Port Server Adapter	Rx: 16, Tx: 16	4.0	
0x8086	0x150E	Intel® Quad Port 10/100/100 Mb/s Ethernet Controller, Copper	Rx: 8, Tx: 8	4.0	
0x8086	0x10A7	Intel® 82575EB Gigabit Ethernet Controller	Rx: 16, Tx: 16	4.0	
0x8086	0x150F	Intel® 82580 Quad port 10/100/1000 Mb/s Ethernet Controller, Fiber	Rx: 8, Tx: 8	4.0	
0x8086	0x1510	Intel® 82580 Quad port 10/100/1000 Mb/s Ethernet controller, 1000BASE-KX/1000BASE-BX backplane	Rx: 8, Tx: 8	4.0	
0x8086	0x1511	Intel® 82580 Quad port 10/100/1000 Mb/s Ethernet controller, External SGMII PHY	Rx: 8, Tx: 8	4.0	
0x8086	0x1516	Intel® 82580 Dual port 10/100/1000 Mb/s Ethernet controller, Copper	Rx: 8, Tx: 8	4.0	





## Driver RtNaIE1000

**NOTE: This driver does not support shared line-based interrupts, timestamps for receive or transmit, receive filtering or receive or transmit packet callbacks, receive polling, and transmitting multiple packets in one request.**

Maximum packet size:

Devices	Driver limits	Device limits
0x1000, 0x104B, 0x104D, 0x104C, 0x108B, 0x108C, 0x109A	1514-1514	1514-1514
All others	1514-9014	1514-9212







Supported devices:

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x109A	Intel® 82573L Intel® Motherboard D975XBX Intel® PRO/1000 PL Network Adaptor Found on IBM ThinkPads T60s and X60s	Rx: 1, Tx: 1	4.0	
0x8086	0x104B	Intel® 82566 DC Gigabit Ethernet Controller	Rx: 1, Tx: 1	4.0	
0x8086	0x10D3	Intel® 82574L Gigabit Ethernet Controller	Rx: 1, Tx: 1	4.0	
0x8086	0x10F6	Intel® 82574LA Ethernet Controller	Rx: 1, Tx: 1	4.0	

RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x10D4	Concord GE (customized Intel® 82574) Ethernet Controller	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1003	Intel® 82543PC (COPPER)	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x100D	Intel® 82544GC LOM Gigabit Ethernet Controller (LOM), mostly found on motherboard	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1015	Intel® 82540EM LOM Gigabit Ethernet Controller (LOM), mostly found on motherboard PRO/1000 MT Mobile Connection	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1017	Intel® 82540EP Gigabit Ethernet Controller (LOM), mostly found on motherboard	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1077	Intel® 82541GI MOBILE Gigabit Ethernet Controller 82541EI	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1019	Intel® 82547EI Gigabit Ethernet Controller (LOM) PRO/1000 CT Network Connection	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x1051	Intel® 82801EB/ER PRO/100 VE Network Connection	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x108B	Intel® 82573E (PC82573V) Network Controller (PCIE Gigabit Ethernet)	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x108C	Intel® 82573E IAMT	Rx: 1, Tx: 1	4.0	⚠
0x8086	0x10D9	Intel® 82571EB Ethernet Controller Serdes Dual	Rx: 1, Tx: 1	4.0	⚠

RTX64 Supported Network Interface Cards

Vendor ID	Device ID	Device Description	Supported Queues (Rx, Tx)	Minimum RTX64 Version	Status
0x8086	0x10DA	Intel® 82571EB Ethernet Controller Serdes Quad	Rx: 1, Tx: 1	4.0	
0x8086	0x10BC	Intel® 82571EB Ethernet Controller Copper Quad LP	Rx: 1, Tx: 1	4.0	
0x8086	0x10D5	Intel® 82571PT Ethernet Controller Copper Quad	Rx: 1, Tx: 1	4.0	
0x8086	0x105E	Intel® 82571 PRO/1000 PT Dual Port Network Connection Gigabit Ethernet Controller	Rx: 1, Tx: 1	4.0	
0x8086	0x105F	Intel® 82571EB FIBER	Rx: 1, Tx: 1	4.0	
0x8086	0x1060	Intel® 82571EB SERDES	Rx: 1, Tx: 1	4.0	
0x8086	0x150C	Intel® 82583 Gigabit Ethernet Controller	Rx: 1, Tx: 1	4.0	