Allied Telesis™

AT-VNC10S

PCI-Express 2 x SFP+ 10 Gigabit Interface Card

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PCIe x 8 (channels) 2 x SFP+ 10 Gigabit interface card

Optimized for Virtualization

Using multi-port cards in virtualized environments critical to the application in order to provide redundancy and data connectivity for the workloads in the virtual machines. Due to specific slot limitations and the need for redundancy/data connectivity, it is usually recommended virtualized servers use at least six Gigabit ports to satisfy the I/O demands.

Virtual Machine Device queues (VMware Direct Path)

VMware Direct Path (SR-IOV) reduces I/O overhead on the hypervisor in a virtualized server by performing data sorting and uniting it in the network silicon (this feature requires an O/S that supports VMware Direct Path (SR-IOV).

VMDQ (Virtual Machine Device Queues) makes use of multiple queues in the network controller. As data packets enter the card, they are sorted, and packets traveling to the same destination/ virtual machine get grouped together in a single queue. The packets are sent to the hypervisor, which directs them to their respective virtual machines. Taking the strain of packet filtering and sorting from the hypervisor improves overall CPU usage and throughput.

The AT-VNC10S Gigabit interface card provides improved performance with the next-generation (VMware Direct Path, Netqueue, SR-IOV) technology, which includes features such as loop back (inter-VM communication), priority-weighted bandwidth management, and doubling the number of data queues per port from 4 to 8. It also supports multicast and broadcast data on a virtualized server.

Superior Functionality

The AT-VNC10S includes dedicated hardware and processors to process frames at the highest levels in the operating system for both transmit and receive paths - advantageous for virtualization applications.

The AT-VNC10S enables convergence of all the networked communications possible in a server, such as data (LAN), storage networks (iSCSI), clustering.

More Bandwidth with PCI-Express Interface

The PCI-Express (PCIe) design gives you the maximum possible bandwidth and bus efficiency. Other benefits are capability and low power consumption.

High Reliability

The AT-VNC10S Gigabit interface card comes with a comprehensive Microsoft Windows utility that performs detailed tests, diagnostics and analysis.

Key Features

Management Software
- Virtual cable tester
- VLAN support
- Link aggregation LACP
- Link aggregation smart switch
- Failover

Advance Properties
- Jumbo frames (9K)
- Checksum offloading
- PCI-Express (PCIe) v2.0 compliant
- IEEE 802.1x flow control
- Processes receive and transmit frames at the highest level
- IEEE 802.1p-based traffic prioritization
- PXE remote boot support
- Standard height brackets included
- Microsoft certified drivers
- RoHS compliant
- Teaming for Layer 2, 4 and 5
- Giant send offload
- Message Signal Interrupt (MSI and MSI-X)
- Receive Side Scaling
- On-board 78KB memory
- CPU task offload
- TCP segmentation
- TCP Offload Engine (TOE)
- SNMP
- IPv6
- iSCSI offloading
- RDMA capable

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Overview

The Allied Telesis AT-VNC10S dual-port direct attach 10 Gigabit Ethernet (GbE) PCI-Express Network Interface Card (NIC) with TCP/IP Offload Engine (TOE) and iSCSI offload is the next-generation in C-NIC, combining offload technology with standard Ethernet functionality. Together, these features provide the necessary performance and bandwidth critical to I/O intensive applications such as virtualization and High Performance Computing (HPC).

Performance and Reliability

Allied Telesis, using the Broadcom NetXtreme II chipset, validates its Network Interface Cards over a variety of operating systems and platforms, ensuring compatibility and interoperability. This 10 GbE server adapter takes full advantage of the PCI-Express bus architecture to maximize network throughput. Teaming enables Smart Load Balancing (SLB) to help increase throughput and fault tolerance when multiple adapters are configured to work together as a team to share traffic and provide data reliability with failover.

iCSI Support

Host Bus Adapter (HBA) functionality on the Allied Telesis AT-VNC10S adapter supports accelerated iSCSI. This converges block storage and network processing over standard TCP infrastructure, eliminating the need for a separate storage adapter and cabling while providing fiber channel comparable performance and reliability at a fraction of the cost. There is no need to maintain a separate storage infrastructure and no need for additional training. The AT-VNC10S also provides the iSCSI HBA functionality by offloading the iSCSI block level storage processing onto the NIC and running iSCSI through the existing Ethernet infrastructure. This eliminates the cost burden to acquire HBAs and additional fiber cabling. The iSCSI Boot also provides the ability for a diskless server to boot from a designated Storage Area Network (SAN) to ensure a secure booting environment while eliminating the cost and maintenance of a local hard drive.

Advanced Technology

The AT-VNC10S features TOE technology for Windows, which reduces the server Central Processing Unit (CPU) utilization and improves application performance. TOE offloads the TCP protocol processing from the server CPU onto the server adapter. This preserves valuable CPU cycles for applications processing and improves overall server performance and network efficiency. Receive Side Scaling (RSS) also enables packet receive processing to scale with the number of available processors.

Powerful Control Software

The Broadcom Advanced Control Suite 3 (BACS3) included in the AT-VNC10S provides an unprecedented level of governance across your entire network, enabling detailed tests, analyses, and diagnostics to be performed for each network adapter installed in your system. In addition, BACS3 includes utilities to help you configure VLANs and set up teams for link aggregation, Smart Load Balancing, failover, and more.

Specifications

Management Features

WMI
ACPI 1.1
PXE 2.1 Boot ROM
SNMP

Bus Type

PCIe x8

Ethernet Standards

IEEE 802.1p	Quality of Service
IEEE 802.1Q	VLANs
IEEE 802.2	LLC
IEEE 802.3ac	MAC
IEEE 802.3	10 Ethernet
IEEE 802.3u	Fast Ethernet
IEEE 802.3ab	Gigabit standard
IEEE 802.3x	Flow control auto-negotiation
IEEE 802.3ad	Link aggregation
IEEE 802.3ab	1000T

Drivers

Supported

Windows 2003, 32 and 64-bit
Windows 2008, 32 and 64-bit
Windows Hyper-V
Citrix XenServer
VMware
Linux 2.6

Available

Solaris
NetWare 6.x

Compliance

RoHS
UL
FCC/EN55022 Class B
TUV
EN55024
CE
C-TICK
VCCI
BCM57711

Connectors

SFP+

Environmental Specifications

Operating temperature	0°C to 50°C
Storage temperature	-25°C to 70°C
Relative humidity	5% to 90% non-condensing

Power

Power consumption	TBD
Signaling voltage	TBD

Status Indicators

LED		2 port
LINK	ON	10Gbps link up
	OFF	10Gbps link down
ACT	ON	Data
	OFF	No data

L/A (link/activity)
Blinking - activity

Physical Characteristics

Dimensions (W x H)	16cm x 6.89cm (6.3in x 2.71in)
Weight	.09kg (.21lb)

Ships with low profile attached, standard in box.

Network Type

10 Gigabit

Network Speed

10 Gigabit (dependant on SFP+ module)

Network Controller

Broadcom BCM57711

Ordering Information

AT-VNC10S-901
PCIe 2 x 10 Gigabit SFP+ interface card

Ships with low profile attached, standard in box.

Connecting The (IP) World

Allied Telesis