

# **ALLNET**

## **ALL0131-2SFP-10G**

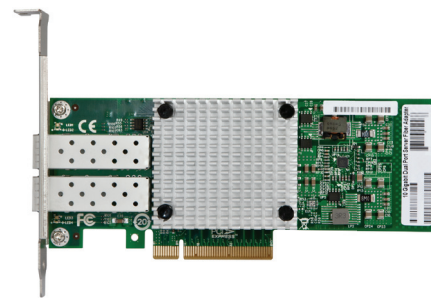
### **10 Gigabit Dual SFP+ Port Server Adapter**

- 10 Gigabit Dual SFP+ Port Server Adapter
- Intel 82599 Gigabit Ethernet Controller
- PCI Express: 2.0 (2.5 GT/s)
- support for Single Route I/O virtualization (SR-IOV)
- Tx/Rx IP, SCTP, TCP, and UDP checksum offloading (IPv4, IPv6) capabilities
- Support for iSCSI, NFS
- Designed For Multi-core Processors

Art.-Nr. 103585

Note: Product specification is subject to change without notice.

[www.allnet.de](http://www.allnet.de)



The ALLNET ALL0131-2SFP-10G Server Adapters with SFP+ connectivity are the most flexible and scalable Ethernet adapters for today's demanding data center environments. Data center networks are being pushed to their limits. The escalating deployments of servers with multi-core processors and demanding applications such as High Performance Computing (HPC), database clusters, and video-on-demand are driving the need for 10 Gigabit connections. Customers require flexible and scalable I/O solutions to meet the rigorous requirements of running mission-critical applications in virtualized and unified storage environments.

Powered by the Intel® Ethernet 82599 10 Gigabit Ethernet Controller, the ALLNET ALL0131-2SFP-10G addresses the demanding needs of the next-generation data center by providing unmatched features for virtualization, flexibility for LAN and SAN networking, and proven, reliable performance.

### **Best Choice for Virtualization**

The explosive growth in virtualization is leading to an increasing demand for network performance. With more Virtual Machines (VMs) running on each multi-core server, networking traffic is dramatically increased with each VM competing for available I/O bandwidth. Intel's family of ALLNET ALL0131-2SFP-10G Server Adapters addresses networking bottlenecks in virtualized environments. These adapters enable network-intensive applications to achieve the performance expected in a virtualized environment.

The ALLNET ALL0131-2SFP-10G server adapter provides the best networking performance available in the industry, whether the physical port is configured in an emulation mode using the virtual switch in the Virtual Machine Monitor (VMM), or is directly assigned to a virtual machine. In the emulation mode, Intel's I/O technology, Virtual Machine Device queues<sup>1</sup> (VMDq) optimizes network performance by offloading data sorting and copying from the software Virtual Switch in the VMM to the Intel Ethernet 82599 10 Gigabit Controller. This configuration is best suited for a large number of VMs running standard applications that have limited bandwidth and latency requirements.

For mission-critical applications, where dedicated I/O is required for maximum network performance, users can assign a dedicated virtual adapter port to a VM. Using the PCI-SIG SR-IOV capability on an ALLNET ALL0131-2SFP-10G server adapter provides direct VM connectivity and data protection across VMs. SR-IOV technology allows the data to bypass the software virtual switch and provides near-native performance. It assigns either physical or virtual I/O ports to individual VMs directly. This technology is best suited for applications that demand the highest I/O throughput and lowest latency performance such as database, storage, financial and other applications.

PCI-SIG SR-IOV is a mechanism for devices to advertise their ability to be directly assigned to multiple virtual machines. SR-IOV allows for the partitioning of a PCI function into many virtual interfaces for the purpose of sharing the resources of a PCI Express\* (PCIe) device in a virtual environment. These virtual interfaces are called Virtual Functions. Each virtual function

can support a unique and separate data path for I/O-related functions within the PCI Express hierarchy. Use of SR-IOV with a networking device, for example, allows the bandwidth of a single port (function) to be partitioned into smaller slices that may be allocated to specific VMs, or guests, via a standard interface.

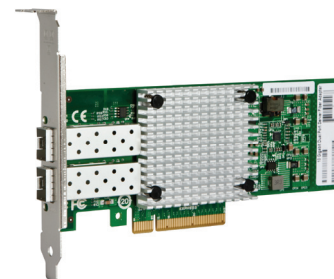
The ALLNET ALL0131-2SFP-10G server adapter delivers the same functionality and throughput as ten dual-port, one gigabit adapters, saving cost, power, and complexity.

### **Unified Networking and Storage**

The family of ALLNET ALL0131-2SFP-10G server adapters lowers your data center total cost of ownership (TCO) by providing the ability to route LAN and SAN traffic over a single fabric.

### **Support for Fiber Channel over Ethernet (FCoE)**

FCoE encapsulates Fiber Channel frames over standard Ethernet networks, enabling Fiber Channel to take advantage of 10 GbE networks while preserving its native protocol. The ALLNET ALL0131-2SFP-10G server adapter offer FCoE hardware acceleration to provide performance comparable to FC HBAs. The server adapters support Data Center Bridging, also known as Converged Enhanced Ethernet (CEE), which allows customers to configure traffic classes and priorities to deliver a lossless Ethernet fabric. An Intel Ethernet X520 server adapter reduces TCO by eliminating redundant fabrics and saves the cost of expensive FC HBAs and FC switch ports.



### **Support for iSCSI**

The server adapters provide complete support for proven native OS and VMM iSCSI initiators as well as iSCSI boot. Historically, CRC32C computation has degraded system performance, but now with the CRC instruction set included in the latest Intel® Xeon® processors, CRC validation is possible with minimal impact to network throughput while delivering superior data integrity. The ALLNET ALL0131-2SFP-10G server adapters do it all 10 Gigabit LAN, FCoE, and iSCSI; truly delivering on the promise of unified Networking.

### **Reliable Performance**

The family of ALLNET ALL0131-2SFP-10G server adapters include a number of advanced features that allow it to provide industry-leading performance and reliability.

### **Security Optimizations**

The adapters support IPsec offload for Microsoft's Network Access Protection (NAP), Active Directory,\* and future security capabilities in Windows\* 7. An ALLNET ALL0131-2SFP-10G server adapter allows customers to run a secure network environment without sacrificing performance.

### **PCIe v2.0 (5 GT/s)**

PCIe v2.0 (5 GT/s) support enables customers to take full advantage of 10 GbE by providing a maximum of 20 Gbps bi-directional throughput per port on a single dual port card.

### **Designed For Multi-core Processors**

Support for technologies such as multiple queues, receive-side scaling, multiple MSI-X vectors, and Low Latency Interrupts allow the ALLNET ALL0131-2SFP-10G server adapter to provide high-performance, 10 Gigabit connectivity in multi-core server blades. These technologies distribute network processing across multiple CPU cores, improving overall performance.