

Krakatoa 7956 Product Sheet

Six-Port SFP Gigabit Ethernet Network Adapter with Integrated IPSec Processor



Highlights:

- **Integrated Multi-port Gigabit Ethernet and Security Processor**
- **Highest Port Density**
- **Maximum Network Bandwidth**
- **7 Gb/s Clear Text**
- **525 Mb/s 3DES or AES128**
- **Native Ethernet Driver support for all major Operating Systems**

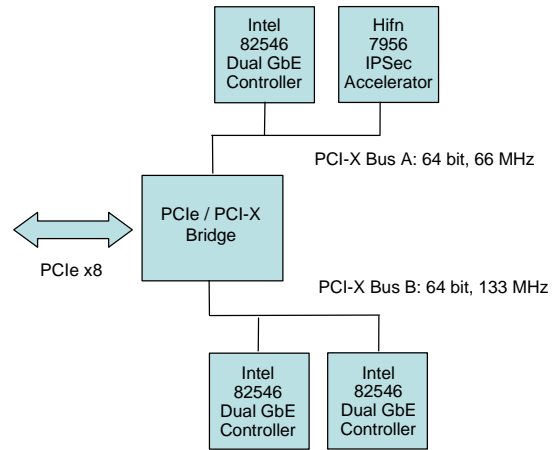
Six Independent Gigabit Ethernet Ports – SFP Optical or Copper

The Krakatoa 7956 is a RoHS compliant adapter offering six independent SFP gigabit Ethernet channels and an IPSec security processor on a single PCI Express card. Ideally suited for space constrained network appliances and servers, it accelerates VPN operations and offers maximum port density and network bandwidth.

Applications

Network Security Appliances	Firewall / VPN Gateway Multi-purpose Gateway / Router High Availability / Redundancy Load Balancing
Servers	Link Aggregation High Availability / Redundancy Backup Networks Storage / Web / DNS
NAS	iSCSI, AoE, SoIP
Virtualization	Multiple Dedicated VM Ports Maximize Network Bandwidth Redundancy / Backup
Video over IP	Surveillance, IPTV

Block Diagram



Controller Specific Data

<h3>Intel 82546 Ethernet Controller Features</h3> <ul style="list-style-type: none"> • Highest Ethernet Port Density • Small Form Pluggable (SFP) Transceivers • IEEE 802.3ab compliance • Ultra Deep 64KB Packet Buffers • Large Send Off-load & TCP Segmentation Off-load • Adapter Fault Tolerance • Switch Fault Tolerance • Adaptive Load Balancing • 802.3AD Link Aggregation • 802.1Q VLAN Tagging • 802.3x Flow Control • 802.1p Class of Services • TCP Checksum Offload • TCP Segmentation Offload • Interrupt Moderation 	<h3>Hifn 7956 Security Processor Features</h3> <p>Security Regulatory Compliance:</p> <ul style="list-style-type: none"> • NIST certified hardware implementation of standard strong cryptography functions • AES FIPS 197; Cert. #101 • DES FIPS 46-3; FIPS 81 Cert. #236 • 3DES FIPS 46-3; FIPS 81, Cert. #214 • SHA FIPS 180-1, Cert. #193 • HMAC FIPS 198, Cert. #TBD • PRNG FIPS 186-2, ANSIX9.62, ANSIX9.31 Cert. #110 <p>Lossless Data Compression:</p> <ul style="list-style-type: none"> • LZS, MPPC <p>Encryption:</p> <ul style="list-style-type: none"> • AES (128, 192, 256); CBC, ECB, and CTR modes) • 3DES/DES, ARC4 <p>Public Key Cryptography:</p> <ul style="list-style-type: none"> • RSA, Diffie-Hellman, DSA • True random number generator • 3K Bignum ALU <p>Symmetric Key Cryptography</p> <ul style="list-style-type: none"> • AES (128, 192, 256-bit keys); ECB, CBC, CTR modes • ARC4 <p>Secure Hash</p> <ul style="list-style-type: none"> • SHA-1, MD5 <p>Message Authentication</p> <ul style="list-style-type: none"> • HMAC, SSL-MAC <p>Protocol Support:</p> <ul style="list-style-type: none"> • IPSec (ESP, AH, Transport and Tunnel modes) • UDP encapsulation for NAT traversal • IKE, IPPCP, SSL/TLS/DTLS, 802.11i, IPv4, IPv6
<h3>Intel 82546 Ethernet Controller Performance</h3> <p>Clear Text Performance</p> <ul style="list-style-type: none"> • 7 Gbps sustained (1500 byte pkts) 	<h3>Hifn 7956 Security Processor Performance</h3> <p>IPSec Performance</p> <ul style="list-style-type: none"> • 3DES/SHA1 – 525 Mbps (1500 byte), 150 Mbps (64-byte) • AES/SHA1 – 525 Mbps (1500 byte), 190 Mbps (64-byte) <p>Public key performance</p> <ul style="list-style-type: none"> • 1K IKE handshakes/sec (quick mode w/2DH) • 1K SSL/TLS handshakes/sec • Support for up to 3,072-bit public keys native <p>Compression</p> <ul style="list-style-type: none"> • Up to 700 Mbps LZS, MPPC, PPP
<h3>Hifn 7956 Operating System Support</h3> <ul style="list-style-type: none"> • Linux 2.6x • VxWorks • Windows • Inferno 	<h3>Intel 82546 Ethernet Controller Operating System Support</h3> <ul style="list-style-type: none"> • Windows Server 2003 and 2000 • Windows XP, 32 & 64 bit • Windows NT 4.0 • Linux 2.4x or later, 32 bit & 64 bit • FreeBSD 4.x or later • NetBSD 1.6.x or later • Novell Netware 4.11 or later • Solaris 7 or later • UnixWare 7.x • OpenUNIX 8 (ddl8) • SCO5 • VxWorks • Inferno • Xen, XenEnterprise • VMWare ESX • Mac OS X (from Small Tree Communications, www.small-tree.com)

Onboard Controllers	(3) Intel 82546GB Dual Port Gigabit Ethernet, (1) Hifn 7956 IPsec Processor	Power	22W Max
Status LEDs	Link Active, Link Activity, VPN Activity	Media Connector	(6) SFP Optical or SFP Copper Duplex LC Connector
IEEE Compliance	802.3z, 802.3ad, 802.1q, 802.3x, 802.1p, 802.11i	Network Topology	1000BASE-SX, 1000BASE-LX, 1000BASE-T
Onboard Memory	384 KB (64 KB/port) for Ethernet	Form Factor	7.32 in x 4.38 in
Environmental		Slot Type	PCI Express, x8. Operable in x8 and x16 slots
Operating Temp	0 to 55° C with 200 LFM air flow		
Storage Temp	-40 to 80° C		
Operating Humidity	5 to 85% non-condensing		
Storage Humidity	0 to 85% non-condensing		
RoHS Compliant	Yes - 6/6		

Ordering Information

Product Name	Part Number	Description
Krakatoa 7956	6S1E465610	Six-port PCI-Express SFP Gigabit Ethernet NIC with Integrated Hifn 7956 IPsec Processor