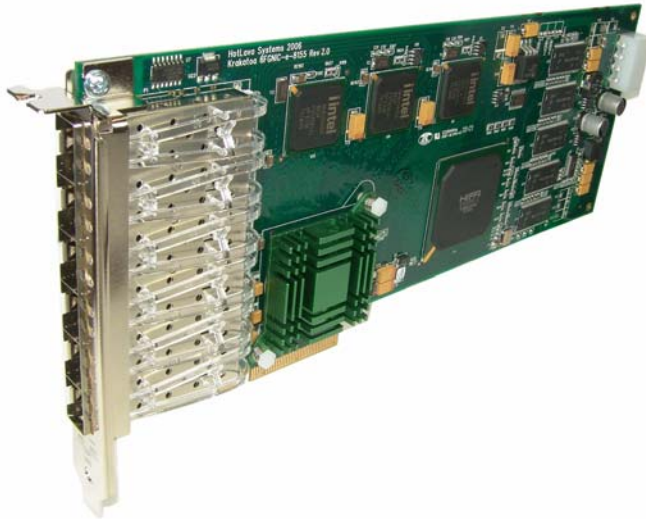


## Krakatoa 8155-6P Product Sheet

# Six-Port Gigabit Ethernet Network Adapter with Integrated IPsec and SSL Processor



### Highlights:

- Integrated Multi-port Ethernet and Security Processor
- Highest Port Density
- Maximum Network Bandwidth
- Hot Swappable Copper or Optical SFP Transceivers
- 10.4 Gb/s Clear Text
- Up to 2 Gb/s 3DES or AES128
- Native Ethernet Driver support for all major Operating Systems

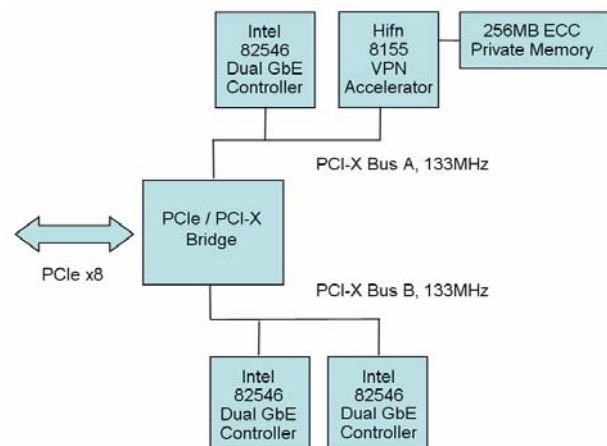
## Six Independent Gigabit Ethernet Ports – Fiber or Copper

The Krakatoa 8155 is a RoHS compliant adapter offering six independent gigabit Ethernet channels and a security processor on a single PCI Express card. Ideally suited for space constrained network appliances and servers, it offers maximum port density and network bandwidth at multi-gigabit encryption speed.

## Applications

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

## Block Diagram



## Controller Specific Data

<h3>Intel 82546 Ethernet Controller Features</h3> <ul style="list-style-type: none"> <li>• Highest Ethernet Port Density</li> <li>• Small Form Pluggable (SFP) Transceivers</li> <li>• IEEE 802.3ab compliance</li> <li>• Ultra Deep 64KB Packet Buffers</li> <li>• Large Send Off-load &amp; TCP Segmentation Off-load</li> <li>• Adapter Fault Tolerance</li> <li>• Switch Fault Tolerance</li> <li>• Adaptive Load Balancing</li> <li>• 802.3AD Link Aggregation</li> <li>• 802.1Q VLAN Tagging</li> <li>• 802.3x Flow Control</li> <li>• 802.1p Class of Services</li> <li>• TCP Checksum Offload</li> <li>• TCP Segmentation Offload</li> <li>• Interrupt Moderation</li> </ul>	<h3>Hifn 8155 Security Processor Features</h3> <p><b>Security Regulatory Compliance:</b></p> <ul style="list-style-type: none"> <li>• NIST certified hardware implementation of standard strong cryptography functions</li> <li>• AES FIPS 197; Cert. #266</li> <li>• DES FIPS 46-3, FIPS 81 Cert. #322</li> <li>• 3DES FIPS 46-3, FIPS 81, Cert. #348</li> <li>• SHA FIPS 180-1, Cert. #345</li> <li>• HMAC FIPS 198, Cert. #78</li> <li>• PRNG FIPS 186-2, ANSi x9.62, ANSi x9.31 Cert. #110</li> </ul> <p><b>Lossless Data Compression:</b></p> <ul style="list-style-type: none"> <li>• LZS, MPPC</li> </ul> <p><b>Encryption:</b></p> <ul style="list-style-type: none"> <li>• AES (128, 192, 256); CBC, ECB, and CTR modes)</li> <li>• 3DES/DES, ARC4</li> </ul> <p><b>Public Key Cryptography:</b></p> <ul style="list-style-type: none"> <li>• RSA, Diffie-Hellman, DSA</li> <li>• True random number generator</li> <li>• 3K Bignum ALU</li> </ul> <p><b>Symmetric Key Cryptography</b></p> <ul style="list-style-type: none"> <li>• AES (128, 192, 256-bit keys); ECB, CBC, CTR modes</li> <li>• ARC4</li> </ul> <p><b>Secure Hash</b></p> <ul style="list-style-type: none"> <li>• SHA-1, MD5</li> </ul> <p><b>Message Authentication</b></p> <ul style="list-style-type: none"> <li>• HMAC, SSL-MAC</li> </ul> <p><b>Protocol Support:</b></p> <ul style="list-style-type: none"> <li>• IPSec (ESP, AH, Transport and Tunnel modes)</li> <li>• UDP encapsulation for NAT traversal</li> <li>• IKE, IPPCP, SSL/TLS/DTLS, 802.11i, IPv4, IPv6</li> </ul>
<h3>Intel 82546 Ethernet Controller Performance</h3> <p><b>Clear Text Performance</b></p> <ul style="list-style-type: none"> <li>• 10.4 Gbps sustained aggregate (1500 byte pkts) on Intel 7520 based system board</li> </ul>	<h3>Hifn 8155 Security Processor Performance</h3> <p><b>IPSec Performance</b></p> <ul style="list-style-type: none"> <li>• 3DES/SHA1 – 1.5 Gbps sustained (1500 byte pkts)</li> <li>• AES/SHA1 – 1.5 Gbps sustained (1500 byte pkts)</li> <li>• ARC4/MD5 – 1.5 Gbps sustained (1K byte and larger)</li> </ul> <p><b>Public key performance</b></p> <ul style="list-style-type: none"> <li>• 1K IKE handshakes/sec (quick mode w/2DH)</li> <li>• 1K SSL/TLS handshakes/sec</li> <li>• Support for up to 3,072-bit public keys native</li> </ul> <p><b>Compression</b></p> <ul style="list-style-type: none"> <li>• Up to 3.5 Gbps LZS, MPPC, PPP</li> </ul>
<h3>Hifn 8155 Operating System Support</h3> <ul style="list-style-type: none"> <li>• Linux 2.6x</li> <li>• VxWorks</li> <li>• Windows</li> <li>• Inferno</li> </ul>	<h3>Intel 82546 Ethernet Controller Operating System Support</h3> <ul style="list-style-type: none"> <li>• Windows Server 2003 and 2000</li> <li>• Windows XP, 32 &amp; 64 bit</li> <li>• Windows NT 4.0</li> <li>• Linux 2.4x or later, 32 bit &amp; 64 bit</li> <li>• FreeBSD 4.x or later</li> <li>• NetBSD 1.6.x or later</li> <li>• Novell Netware 4.11 or later</li> <li>• Solaris 7 or later</li> <li>• UnixWare 7.x</li> <li>• OpenUNIX 8 (ddl8)</li> <li>• SCO5</li> <li>• VxWorks</li> <li>• Inferno</li> <li>• Xen, XenEnterprise</li> <li>• VMWare ESX</li> <li>• Mac OS X (from Small Tree Communications, <a href="http://www.small-tree.com">www.small-tree.com</a>)</li> </ul>

<b>Onboard Controllers</b>	(3) Intel 82546GB Dual Port Gigabit Ethernet, (1) Hifn 8155 IPSec & SSL Processor	<b>Power</b>	30W Max w/six copper RJ-45 SFP transceivers 27W Max w/six optical 850nm SFP transceivers Power Input Connector: 5V / 12V
<b>Status LEDs</b>	Link Active, Link Activity, VPN Activity	<b>Media Connector</b>	(6) GbE mini-GBIC SFP
<b>IEEE Compliance</b>	802.3z, 802.3ad, 802.1q, 802.3x, 802.1p, 802.11i	<b>Network Topology</b>	1000BASE-SX, 1000BASE-LX, 1000BASE-LH, 1000BASE-T
<b>Onboard Memory</b>	384 KB (64 KB/port) for Ethernet 256MB ECC for Security Processor	<b>Form Factor</b>	10.43 in x 4.33 in
<b>Environmental</b>		<b>Slot Type</b>	PCI Express, x8. Operable in x8 and x16 slots
Operating Temp	0 to 55° C with 200 LFM air flow	<b>Emissions Certification</b>	USA – FCC Part 15, Class A
Storage Temp	-40 to 80° C		Canada – IC-ES003
Operating Humidity	5 to 85% non-condensing		EU – CE, EN55022/VCC, EN300-386-2, EMC Directive Class A
Storage Humidity	0 to 85% non-condensing		AS/NZS – 3548 CISPR PUB 22
RoHS Compliant	Yes		Japan – VCCI Class A

### Ordering Information

Product Name	Part Number	Description
Krakatoa 8155-6P	06S01E1465523	Six-port PCI-Express SFP Gigabit NIC with Integrated Hifn 8155 Security Processor