Product Brief

Intel® QuickAssist Adapter 8960/8970

Hardware Acceleration for Data Center Security, Networking, Storage, and Communications Applications

Key Features

- Up to 100Gbps hardware acceleration performance
- Commercial ready Intel-branded solution
- Low-profile PCI Express 3.0 x8 (8960) and x16 (8970) compliant adapter cards
- Virtualization support for Network Function Virtualization (NFV) deployments
- Utilizes existing Intel® QuickAssist Technology Software Libraries and APIs supporting IPsec, SSL/TLS, network, storage, communications services, and workloads

Overview

Intel® QuickAssist Adapters 8960/8970 deliver turn-key standard PCI Express (PCIe) access to hardware acceleration for compute intensive applications.

- Hardware acceleration performance is designed specifically to meet the thermal, power, and form factor requirements for data center servers.
- Seamlessly support industry standard server deployments to comply with low-profile form factor constraints, passive thermal needs, and PCI Express 3.0 specifications.
- One physical adapter supports several virtual data center applications using single root input/output virtualization (SR-IOV) technology.
- Intel® QuickAssist Library provides an acceleration stack with a common interface for both application and accelerator function developers.
- APIs and driver capabilities for standard operating systems provide flexibility to adapt to new applications.

Intel® QuickAssist Adapters, with virtualization support, software libraries, and APIs, offer a complete and versatile acceleration stack for compute-intensive markets.

Features	Description
General	
Software	• Intel® QuickAssist Technology Software Library and API Support: Linux, KVM, open source framework patches, and OpenSSL
Power	• Onboard voltages are generated from the +12V main power supplied by the PCIe edge connector. The 3.3V auxiliary supply is used for the FRU EEPROM during an auxiliary state, and the 3.3V power supply is not used.
Virtualization	• Single Root I/O Virtualization (SR-IOV); Up to 48 Virtual Functions and 3 Physical Functions
Mechanical and I/O	• 8960 supports PCI Express 3.0 x8 low-form factor dimensions • 8970 supports PCI Express 3.0 x16 low-form factor dimensions • Passive heat sink solution • Complies with the mechanical specifications given in the PCI Express Card Electromechanical Specification, Revision 3.0
Security	
Security	• Provides hardware acceleration for industry standard security algorithms for VPN, SSL/TLS, IPSec and firewall applications
Symmetric (Bulk) Cryptography	• Ciphers (AES, 3DES/DES, RC4, KASUMI, ZUC, Snow 3G) • Message digest/hash (MD5, SHA-1, SHA-2, SHA-3) and authentication (HMAC, AES-XCBC) • Algorithm chaining (one cipher and one hash in a single operation) • Authenticated encryption (AES-GCM, AES-CCM) • AES-XTS
Asymmetric (Public Key) Cryptography	• Modular exponentiation for Diffie-Hellman (DH) • RSA key generation, encryption/decryption and digital signature generation/verification • DSA parameter generation and digital signature generation/verification • Elliptic Curve Cryptography: ECDSA, ECDHE, Curve25519
Compression	
Provider hardware acceleration for Industry Standard compression/decompression algorithms for Network Bandwidth and Storage Applications	• DEFLATE: LZ77 compression followed by Huffman coding, with a gzip or zlib header • Stateless Compression and Decompression
Wireless	
Provides hardware acceleration for Common Mobile Wireless Standards including 5G	• KASUMI, Snow 3G and ZUC in encryption and authentication modes - ZUC/ 128-EEA3 Cipher - ZUC/128-EIA3 Wireless MAC - SHA3-256