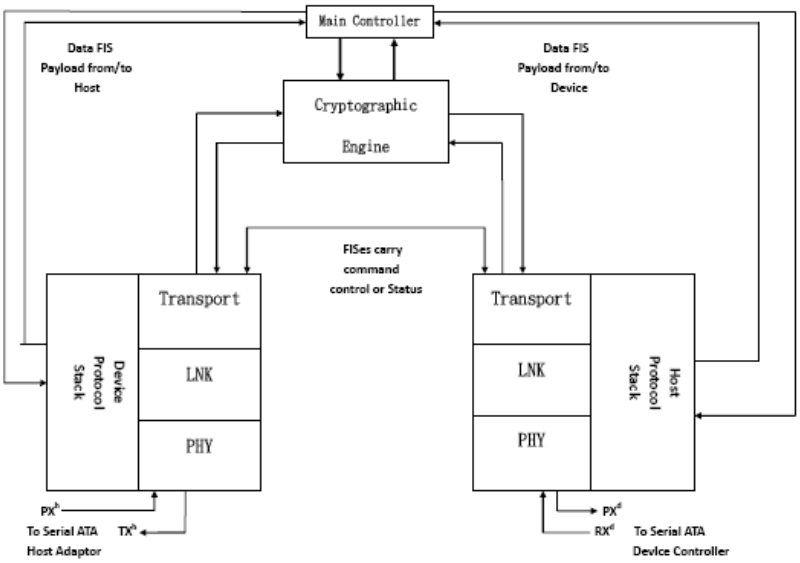
Feb. 18, 2015 - Enova Technology Corp.

Announcing availability of ***X-Wall MX+***, SATA-to-SATA (Gen 3, 2 & 1) Real-Time Cryptographic ASIC Protecting Sensitive "Data-in-Transit" and "Data-at-Rest" with AES CBC 256-bit Strength

The ***X-Wall® MX+*** family ASIC (Application Specific Integrated Circuit) is the 10th generation of patented[1] ***X-Wall* Technology**. It is engineered specifically to encrypt/decrypt entire SATA disk drive including boot sector and operating system with SATA Generation III at 6Gbps performance. The *X-Wall MX+* enhances both security and performance of its predecessor *MX* and is progressing for FIPS 140-2 level 2/3 single chip crypto module certification.

How does it work?



The *X-Wall MX+*, an SATA-to-SATA cryptographic ASIC, sits right in between host SATA adapter and the device SATA controller, encrypting entire SATA drive with wire speed performance while providing 256-bit AES hardware strength in ECB, CBC or XTS mode of operation.

System performance with *X-Wall MX+* engaged is unaffected. *X-Wall MX+* can be operated with SATA Generation III, II and I compliant storage drives with a maximum cryptographic throughput at 6Gbps. The performance-optimized AES hardware engine performs all encryption and decryption. There are no extra software driver to be loaded, eliminating entirely the memory and interrupt overheads.

X-Wall MX+ is independent from and invisible to all known Operating Systems including embedded OS. As long as the drive is SATA compliant, *X-Wall MX+* will work in the system. Once authenticated, its operation is completely transparent to all users. There is no complex GUI involved therefore your regular computing behavior is unchanged.

Full Disk Encryption, or FDE

The *X-Wall MX+* can be configured to perform full disk encryption just like its predecessor *MX*, protecting entire Data-at-Rest. This is the default function and solution which is OS independent.

File/Folder Encryption, or FFE

With add-on software components, the *X-Wall MX+* can be configured to perform file/folder encryption, encrypting Data-in-Transit such that files stored in the Cloud storage remain *MX+* hardware encrypted. Only the right secret key can successfully decrypt those encrypted files, solution that is OS dependent.

Enhanced Security for Authentication

The *X-Wall MX+* has equipped with *HMAC, SHA256, RSA 2048, and DRBG*, all in hardware. Those cryptographic components, when proper procedures are applied, can be allowed to perform secure authentication. Therefore, key management can be versatile, which includes PIN/Password through Pre-boot authentication, TPM, Smartcard, Fingerprint, Single Sign On, or USB type external key token. One or more factor authentications are applicable.

Key Benefits

- Offers real-time performance at SATA Generation III speed (6Gbps) on all encryption strengths
- Operating System independent
- Provides iron-clad security through FIPS 140-2 Level 2/3 certified hardware-based cryptographic components

As the entire SATA disk drive is encrypted, there is no possibility of any secret being left unprotected on the drive, including password and "*Secret Key*." In an *X-Wall MX+* protected system (drive), there is no simple way to read the data without the right "*Secret Key*." Only YOU have the right *Key* to unlock your data.

The *X-Wall MX+* technology is compatible with all system designs incorporating SATA disk drive technologies. A limited amount of sample chips will be made available for qualified customers for testing and evaluation. Make request to your Enova Technology Sales representatives, or fill in the query form here.

■ Features

- Power-On-Self-Test (POST) ability to ensure product reliability
- Versatile Key Management
- 100% hardware AES ECB, CBC or XTS cryptographic engine producing real-time SATA Gen 3/2/1 performance
- HMAC, SHA256, RSA 2048 and DRBG hardware cryptographic components
- 64-pin TQFP small form factor
- 64-pin QFN package can be requested
- RoHS & Lead-free compliant

■ System Requirement

- All Microsoft Windows Operating Systems
- Linux OS with SATA support
- Unix OS with SATA support
- All embedded OS with SATA support
- SATA Gen 3/2/1 compliant disk drive

[1] US patents 7,136,995; 7,386,734; 7,900,057.