L3HARRIS™
FAST. FORWARD.

SureCORE™ - HIGH ASSURANCE CRYPTOGRAPHIC PROCESSOR

Programmable, multi-level, standards-based security engine

L3Harris' SureCORE high assurance cryptographic processor, is a fully-programmable, multi-level, standards-based security engine that is available as a SW/VHDL module or to be integrated onto L3Harris hardware.

PRODUCT DESCRIPTION

SureCORE is readily available to integrate into communications or computing mission system architectures. It uses a high assurance secure control plane architecture designed for National Security system applications for data-at-rest and data-in-transit protection. SureCORE provides a security infrastructure that meets stringent NSA Type-1 requirements for top secret and below processing and is ruggedized for tactical applications in ground, sea and air applications. SureCORE is comprised of software, VHDL, a test environment, design and test artifacts and a reference hardware implementation.

The SureCORE services include platform integrity, key management and authentication that ensures your system starts secure, runs secure and stays secure throughout its lifecycle.

SureCORE is a high-performance processing system that supports fast system startup to meet mission-critical timelines. It concurrently supports multiple data planes for user traffic encryption/decryption at various concurrent classifications using dynamic per-packet keys and algorithms. With its expandable data plane architecture, SureCORE can be used to support concurrent encryption modes and algorithms that are compatible with nearly any legacy system and at data rates limited only by semiconductor technology.

The SureCORE firmware provides all the Type-1 root-of-trust functionality required for a national security system. This includes secure startup, software upgrade, command processing, startup and commanded self-tests, alarm handling, a real-time clock, secure memory device protection and DS-101 key fill. Thirty client services are provided for various applications.

Built-in interfaces include DS-101 fill port, a secure battery-backed memory interface, CIK interface, and data plane interfaces. It is supported by a full Jenkins continuous integration test suite. Documentation includes an embedment manual and NSA-specific test artifacts (unit test, code quality, etc.). OTNK 3.1.2 compatibility is being included in SureCORE in near-term updates.

The SureCORE SW/VHDL is hardware-agnostic, but a reference hardware design using a SoC FPGA along with supporting memories and circuits has been produced and is being applied to existing programs of record. SureCORE can also be provided on a 3U or 6U VPX module, or 3U mezzanine, compliant with NSA Type-1 and Open System Architecture (OSA) requirements.

KEY MANAGEMENT SERVICES

- DS-101 fill port
  - EKMS 308, EKMS 608 and configurable key tag key fills
- Red and black key loads
  - ACCORDION
  - AES key wrap
  - Digital signatures
- Black key storage
  - AES key wrap
- CIK interface
- Key update
- Battery-backed secure memory

PLATFORM SECURITY

- Software download encryption
  - WATARI
- Software authentication
  - KMTG-003
- Physical interlocks
- TEMPEST design
- Self-tests

DATA PLANE INTERFACES (UP TO 4)

- Plaintext
- Ciphertext
- Keying
- Control

LICENSING

- Flexible license terms for a SW and VHDL only solution on your hardware
- Optional L3Harris provided implementation on 3U openVPX mezzanine card
- Custom hardware implementations supported 3U base card or 6U base card

SureCORE High Assurance Cryptographic Processor

This document consists of L3Harris general capabilities information that does not contain controlled technical data.

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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