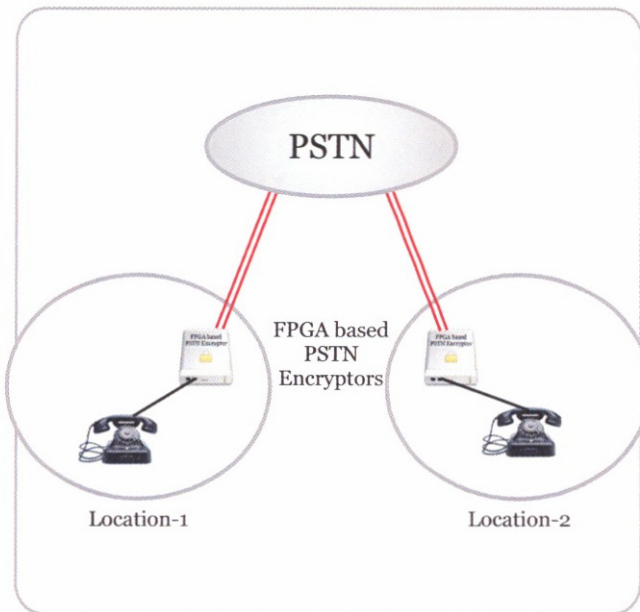


HIGHLY SECURE VOICE COMMUNICATION OVER PSTN



In today's world, government/defense organizations and also enterprises have become heavily dependent between their networked offices spread widely across the various geographical locations, on their uninterrupted operation to sustain day-to-day business and are essentially required to secure the confidentiality of their Voice & Fax communications over Public Switched Telephone Networks (PSTN).

Various organizations - large & small, private & public, also banks & financial institutions - realizing the sensitivity of their information and that it must be protected at all times and from all possible dangers - from theft, corruption and loss, particularly during the common carrier communication transit.

The SVC-101-P is a plug-and-play security appliance that encrypts Voice communication over PSTN from eavesdroppers trying to listen and monitor. The PSTN based Voice Encryptor appliance is compatible with all the standard analog phone sets.

Key Features:

- Security for mission-critical common carrier networks
- Full Duplex encryption/decryption appliance
- Symmetric Block/Stream Ciphers burned on FPGA based Crypto-engine
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- Key-generation algorithm:
 - Very large key diversity
 - Key management and distribution — SD cards
 - Maintenance free operation including automatic key change without line interruption.
- Suite of Crypto algorithms on same FPGA
- Provision for custom algorithm porting

SVC-101-P

Secure Voice over PSTN

The SVC-101-P is a FPGA based Voice Encryptor appliance over PSTN, designed for encrypting the voice communication in independent mode that requires strategic level security and high reliability. The SVC-101-P works on a standard PSTN common carrier connectivity.

The SVC-101-P appliance is fabricated around a Crypto Engine developed on a Xilinx Spartan-3L FPGA. AES Algorithm (Rijndael — 128, 196 & 256 bit, OFB mode) is the de-facto crypto standard, but can be replaced by any choice of standard Stream ciphers by the client. In special cases, the algorithm can be customized according to crypto knowledgeable user community.

The SVC-101-P appliance encrypts the Voice using the key stream

output of a highly sophisticated, nonlinear, pseudo-random key generator. The SVC-101-P appliance uses non-error-propagating encryption algorithm and burst synchronization techniques. In full duplex mode, Key variables can be loaded via an electronic key injector, or can be automatically downloaded.

The SVC-101-P is an emission-hardened unit designed to operate in a fail-safe communications network environment. The unit is operator transparent, with user-friendly features to reduce the probability of operator error.

Tamper and probe resistant design, as well as lock protected access control, ensure operational integrity.

Technical features

Data Transfer Rates:

- From 2400 bps to 33600 bps; and with automatic fallback depending on line quality.

Encryption Algorithms:

- AES (128, 192 & 256 bit, OFB mode), SNOW2.0, Trivium
- Customizable with user proprietary algorithm

Key Management:

- Signed Diffie-Hellman key agreement protocol
- Paired key
- All key lengths up to 256 bits
- Number of keys: 255 or more



- Hardware random number generation
- Automatic time triggered key change without interruption of connections
- Key distribution and backup via electronic key injector

Device Management and Interfaces:

- Integrated Element Management application
- Management using standard UART / USB 2.0 interface
- Two standard RJ11 phone jacks

Compatibility:

- Deployed on Voice channels of PSTN
- Clear Voice
- Secure Voice - CELP

Power:

- Standard external power supply
- Auto-sensing 100-240V AC/50-60Hz

Environmental:

Operating temperature:

- 4° C to 370 C (40° F to 100° F)

Storage temperature:

- -40° C to 66° C (5° F to 1400 F)



Potential users

- Government Organizations
- Defense / Military Services
- Financial Institutions
- Intra-Banking Networks
- Enterprises
- Insurance Companies
- Research Organizations



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