

# EVERFOX

## DATASHEET

# High Speed Verifier - Turnkey

High Assurance Hardware-Enforced Security for Air-Gapped Networks.

The HSV-T is an implementation of the Everfox High Speed Verifier that is designed for use in Turnkey or Tactical applications where it is embedded in customer equipment.

## Benefits

- Full semantic verification in logic.
- Bi-directional byte stream operation at line speed for low latency verification.
- Connects two separate networks.
- Separate verifiers for data passing between each interface.
- Multiple streams verified concurrently.
- Scale-out for higher throughput.
- Configured via USB interface.

## Verification in Hardware Logic

The Everfox High Speed Verifier - Turnkey (HSV-T) can be used to embed high assurance data verification into custom Cross Domain systems that are installed and configured at base prior to deployment.

## Hardware Logic Protocol Break

Data passes into and out of the HSV-T using standard network protocols that are handled in software by protocol proxies. The proxies run on network processors associated with each network interface.

Data is streamed through the verifiers using a simple protocol built on raw Ethernet, implemented by the proxies and the logic, so no TCP or IP protocols pass across the verifier and the internal logic is enforcing a protocol break.

- No data bypasses verification
- Application layer protocol envelopes are treated like payload data
- No software needs to be trusted to ensure verification is not bypassed
- Independent verifiers for each direction

## Device Management

Each HSV-T has a specialised micro-controller (security processor) for managing the device. The controller authenticates configuration data and firmware/software updates. It also controls the start-up sequence to ensure the device is always in a secure state.

- Configuration data, software and firmware signatures are validated before being applied
- Secure boot of network processor software and verifier logic controlled by security processor

## Form Factor

HSV-T is a Low-Profile/Slim PCIe card with dual RJ45 copper 1GbE network interfaces. The PCI bus connector is used only for mechanical restraint and electrical power. Data only passes through the external Ethernet connections.

HSV-T has an integral heat sink which requires airflow of 35.7m<sup>3</sup>/h from the chassis.

DIMENSIONS	Height: 68.90mm (2.731in.) x Length: 167.65mm (6.600in.) x Width: 32mm (0.8in.)
POWER REQUIREMENTS	Consumption 18W (when processors not passing traffic) Consumption 20W (when handling full traffic load)
BATTERY LIFE	A CR2012 battery provides standby power for the real time clock. (regardless of whether the device is externally powered).

## Performance

Throughput depends on the protocols and data formats used. Simple types are verified at line speed, but more complex structures require more time and so the maximum throughput may not be reached.

VERIFIER THROUGHPUT	1Gbit/sec.
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## Custom Enclosure

A small enclosure is available for the HSV-T, which can be used to run it outside a computer chassis.

DIMENSIONS	Height: 32mm x Length: 175mm x Width: 90mm 375g including HSV-T
POWER REQUIREMENTS	DC 8V/4A to 14V/3A – 12V/3A nominal

## Management

HSVT is managed via two USB ports – one internal and one presented on the face plate – that provide a dedicated management interface.

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# Software Development Kit (SDK)

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## Scalar Types

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## Compound Types

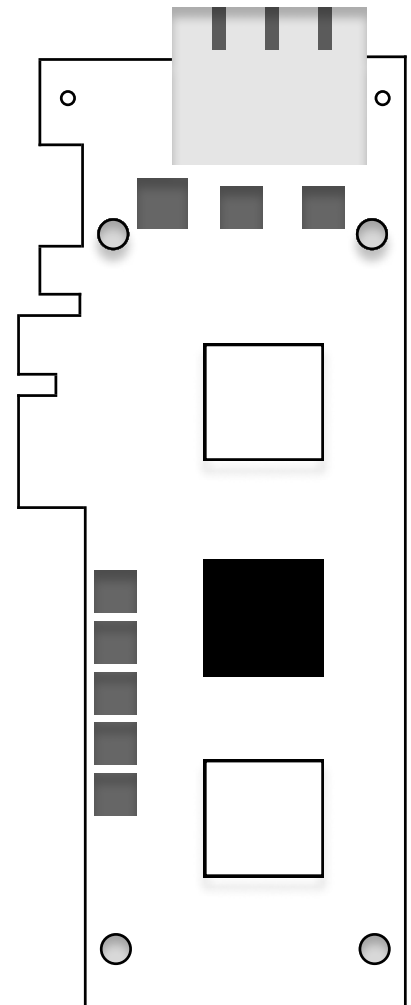
- Structures, arrays, lists, and tagged choices.

## Constraints

- Integer and floating-point ranges, decimal precision.
- String, array, and list lengths.

## Note:

The separate Everfox Content Disarm and Reconstruction SDK provides the ability to extract information from common complex data file formats and serialise this for transmission through HSV-T, and to build new safe data from the verified information



# About Everfox

Everfox, formerly Forcepoint Federal, has been a trailblazer in defense-grade cybersecurity for more than two decades. Leading the way in delivering innovative, high-assurance solutions. But we're just getting started.