CROSS-DOMAIN SOLUTIONS

SECURE DATA TRANSFERS BETWEEN DOMAINS

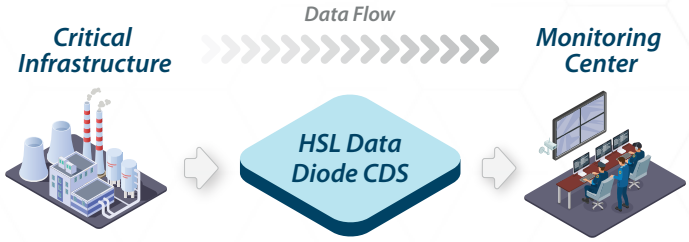
High security and easily installed hardware solutions for managed, application specific, data transfers.

HighSecLabs
Highest Security Solutions

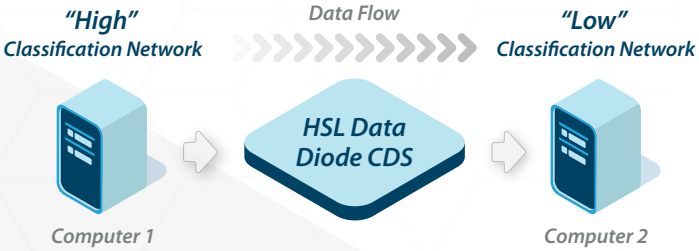
THE NEED

Air-gapped networks of different classification levels secure higher classification domains from data exfiltration or from being infected with malicious code. However, this siloed approach creates workflow and usability issues when data needs to be transferred between domains.

Answering this challenge, HSL has developed specific cross domain managed data transfer solutions that facilitate the exchange of data while protecting against both data exfiltration and malicious attacks.



Example 1:
The CDS allows the monitoring center to view OT data, while preventing any malicious code from infecting the critical equipment.



Example 2:
Data Exchange Between Different Classification Level Network Computers. The CDS imposes a unidirectional data flow preventing malicious code from infecting the "High" domain and enforces exfiltration rules so that only permitted data can pass between the domains.

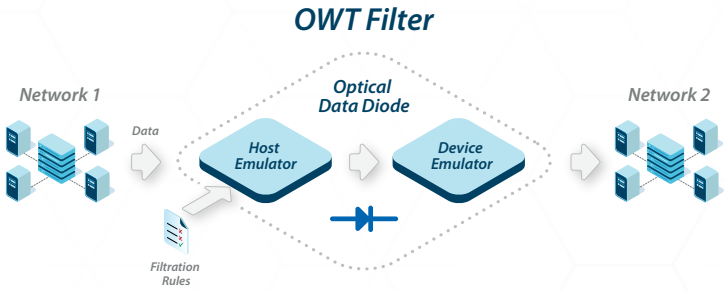
CROSS DOMAIN
SOLUTION (CDS) APPROACH

HSL has created application specific, hardware-based cross domain security solutions. Data can be transferred between different domains using these straightforward solutions that provide compelling benefits:

- Cost effective
- Quickly installed and implemented at the desktop level
- No infrastructure changes

HSL's Cross Domain product family is based on two fundamental security mechanisms:

- **One way transfer (OWT)**, implemented as a data diode device. OWT enforces unidirectional data transfer so that data from a higher classification is physically prevented in hardware from flowing back towards a lower classification device.
- **Data Filtration**, implemented using pre-defined data schema, ensures that only authorized data is transferred between domains.



The OWT Filter enforces filtration rules on the transferred data, while imposing a unidirectional data flow

HSL'S CROSS DOMAIN
FAMILY

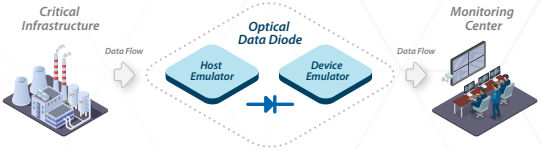
HSL has developed a family of cross domain solutions based on these hardware-based security methods. The solutions are targeted as "point" or "desktop" solutions that allow data to flow from one computer source to another, while protecting the transferred data through filtration rules and the transmitting source through a unidirectional data diode.

CDS filtering solutions described below allow message transfers of up to 10K characters with regular expression, rule-based filtering, along with ACK/NACK messages and logs.

CRITICAL INFRASTRUCTURE
OPERATIONAL TECHNOLOGY (OT) SOLUTIONS

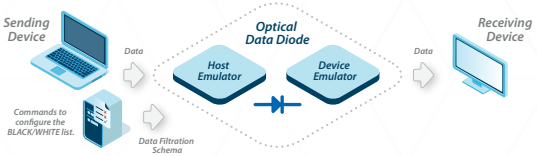
Industrial equipment often communicate using SCADA and RS232 communication. The products below are especially suited for this environment.

FT11N-4
SECURE UNIDIRECTIONAL RS232 ISOLATOR DIODE



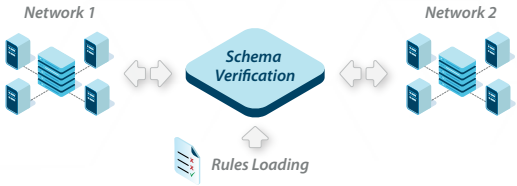
The FT11N-4 RS-232 Isolator Diode enforces a unidirectional flow of data. This is an excellent method of protecting critical equipment that is being monitored by another device.

FF11N-4
SECURE UNIDIRECTIONAL CONFIGURABLE RS232 FILTER



The FF11N-4 RS-232 Configurable Filter uses the same hardware as the FT11N-4, but has the ability to filter the data messages from the sending device through BLACK and WHITE lists that parse the data. The sending device is protected from malicious acts by the optical data diode. The transmitted data from the sending device is protected by the BLACK/WHITE filtration rules programmed into the FF11N-4.

FB11N-4 SECURE BI-DIRECTIONAL RS232 FILTER



The Secure Bi-Directional RS232 Filter allows bi-directional data traffic between two devices. The FB11N-4 applies WHITE/BLACK list filters to the data flowing in both directions.

FXJ11N-4 SECURE UNIDIRECTIONAL RS232 JSON FILTER

Similar to the FF11N-4 described above, the Secure Unidirectional RS232 JSON filter expands the filtration rules from only Regular Expressions (Regex) to include also JSON schema validations.

CP11N-4 SECURE CROSS-DOMAIN COPY AND PASTE

The secure copy and paste diode functions very similarly to the FF11N-4. The difference is that it is only activated exclusively through user-generated commands (ctrl+c > ctrl+v), and only allows regular expressions of up to 10,000 characters to go through.

DESKTOP NETWORKED
CROSS DOMAIN SOLUTIONS

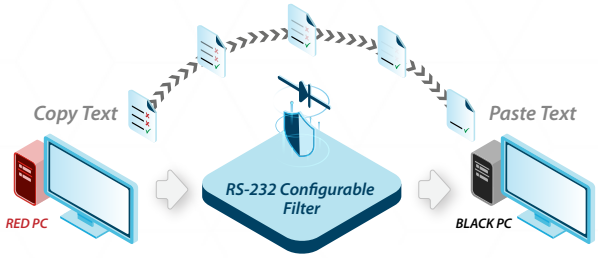
FT10N-N
RS232 TO HID (USB) UNIDIRECTIONAL FILTER

The FT10N-N RS232 to HID (USB) unidirectional filter is a convenient way to apply the RS232-based filtering and unidirectional data flow capabilities to devices and computers that have a USB port in lieu of an RS232 connection.

TEXTUAL COPY & PASTE APPLICATION
DATA TRANSFER

SECURE CROSS-DOMAIN DATA TRANSFER APPLICATION

The Copy-Paste application seamlessly transfers textual information between the networks, allowing data transfers of English text of up to 10K characters.



Standard copy-and-paste keyboard commands (CTRL C / CTRL V) or mouse-context menu commands can be used to transfer up to 10K of text at a time between the devices on different network domains. Filtration rules apply to the text to be copied and pasted.

PRODUCT
HIGHLIGHTS

- **HW based unidirectional data flow**, enforced through optical data diodes.
- **Isolated micro-controller**s on transmit and receive sides prevent data leakage
- **Schema filtration loading** to whitelist/blacklist the transferred data

ORDERING
INFORMATION

MODEL	TYPE
FT10N-N	RS232 to HID (USB) Unidirectional Filter
FT11N-4	Secure Unidirectional RS232 Isolator Diode
FF11N-4	RS232 to HID (USB) Unidirectional Filter
FB11N-4	Secure Bi-Directional RS232 Filter
FXJ11N-4	Secure Unidirectional RS232 JSON Filter
CP11N-4	Secure Cross-domain data transfer application

TRADE AGREEMENTS ACT TAA COMPLIANT

BAA COMPLIANT

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