

DATA DIODES FOR HIGH-THREAT ENVIRONMENTS

High-threat environments depend on critical information moving quickly between protected systems, operators and decision-makers. However, where the source network cannot be exposed to return traffic, security must be enforced at the hardware level.

Everfox Data Diode creates a physically enforced one-way path for data. Allowing essential information to move at operational speed while preventing traffic from flowing back into protected environments.



WHEN ONE-WAY ASSURANCE IS MISSION-CRITICAL

Protect the Source Network

Move data out of protected, classified or high-value environments without creating a return path.

Prevent Reverse Flow

Physically enforce the direction of transfer to stop reach-back, unintended access and inbound network traffic.

Keep Critical Data Moving

Deliver data to the people and systems that need it, without slowing the mission.

Maintain Hardware-Enforced Separation

Reduce reliance on software controls when the consequence of compromise demands stronger assurance.

CHOOSE THE RIGHT LEVEL OF ONE-WAY PROTECTION

DATA DIODE

A data diode creates a physically enforced one-way connection between networks.

Data can move forward, but network traffic cannot travel back to the protected source.

Choose a Data Diode when you need to:

- Guarantee one-way data transfer
- Eliminate the network return path
- Protect classified, critical or high-value systems
- Move operational data without exposing the source network

BEST FOR: Telemetry, sensor feeds, operational data where hardware-enforced direction is the priority.

PROTOCOL FILTERING DIODE (PFD)

A PFD maintains hardware-enforced one-way transfer while adding controls over the protocols and data permitted to cross the boundary.

Choose a PFD when you need to:

- Maintain guaranteed one-way flow
- Allow only expected or approved traffic
- Apply protocol-level controls
- Validate data before it reaches the destination
- Reduce exposure to unexpected or malformed traffic

BEST FOR: High-threat environments where both the direction of transfer and what is allowed through must be controlled.

START WITH THE SECURITY OUTCOME YOUR ENVIRONMENT REQUIRES

Not every data transfer carries the same level of risk. The right architecture depends on **where information needs to move to, what needs to be allowed through, and how much control you require.**

QUICK COMPARISON	DATA DIODE	PROTOCOL FILTERING DIODE	CROSS DOMAIN SOLUTIONS
Data flow	One way	One way	Bi-directional
Primary control	Physical direction	Direction + allow lists	Mission + release policy
Assurance	Hardware-enforced	Hardware-enforced + filtering	Tested, proven & accredited
Content handling	Minimal	Protocol + data validation	Deep inspection + transformation
Best for	One-way transfer	One-way transfer of approved content	Controlled sharing across domains

BUILT FOR HIGH-CONSEQUENCE ENVIRONMENTS

Where security architecture demands stronger assurance around how information crosses a network boundary.

SENSOR & TELEMETRY ENVIRONMENTS

Transfer high-volume operational data to analysts, platforms and decision-makers at mission speed.

CLASSIFIED & PROTECTED NETWORKS

Move required information without exposing critical source systems to a return path.

OPERATIONAL & MISSION SYSTEMS

Keep trusted information moving while reducing pathways back into high-value systems.

HIGH-THREAT CONNECTIONS

Apply hardware-enforced controls where software-only enforcement does not provide the level of assurance the environment requires.

NEED MORE THAN ONE-WAY TRANSFER?

Some operations require **secure information to flow in both directions** between security domains, going beyond what one-way transfer can support.

Cross Domain Solutions such as Everfox Data Guard and High Speed Verifier (HSV) support controlled, bi-directional information sharing by applying deeper content inspection, transformation and mission-specific release policy.

BEST FOR: Operations that require secure, controlled information exchange in both directions across security domains.

MOVE DATA WITH THE LEVEL OF ASSURANCE YOUR MISSION DEMANDS

Whether you need to physically enforce one-way transfer, control what is allowed to move forwards, or securely share information across domains. Everfox helps protect critical systems without stopping the flow of operational data.

Talk to Everfox to identify the right level of protection for your mission.