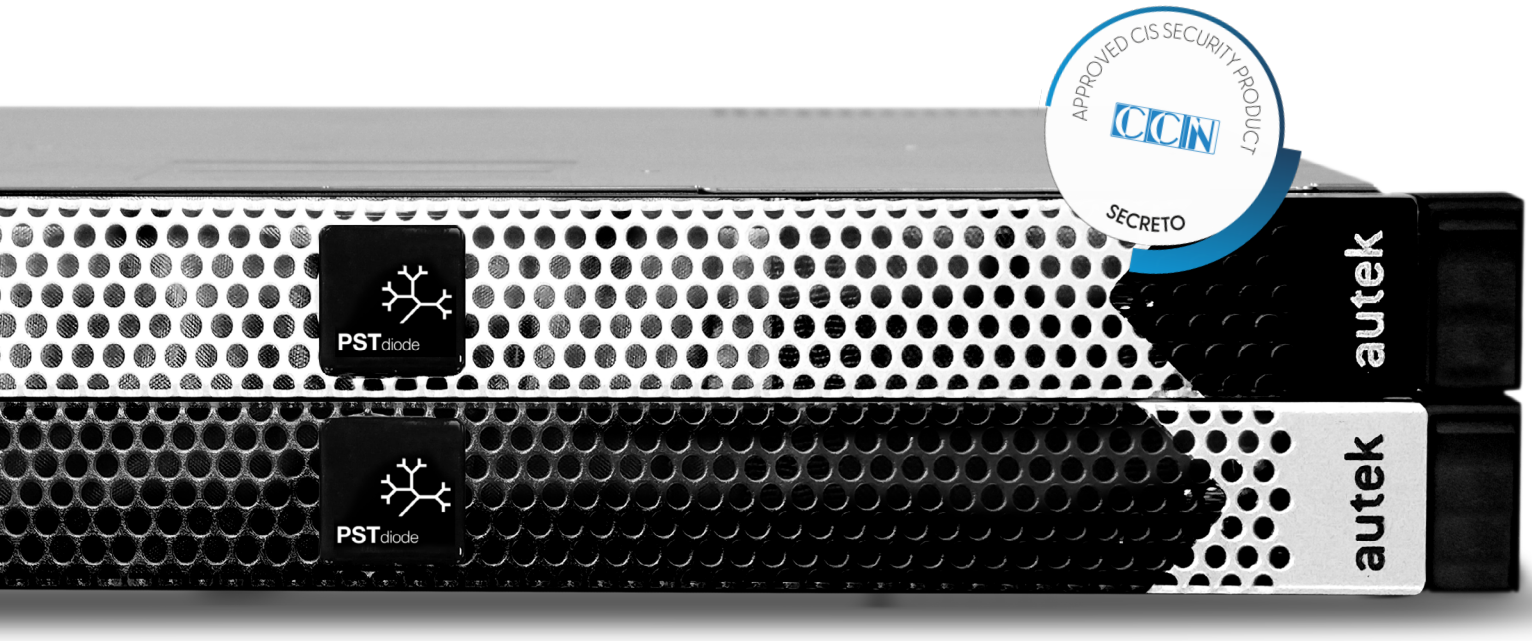
PSTdiode

autek
A GMV COMPANY

Overview - Technical Specifications

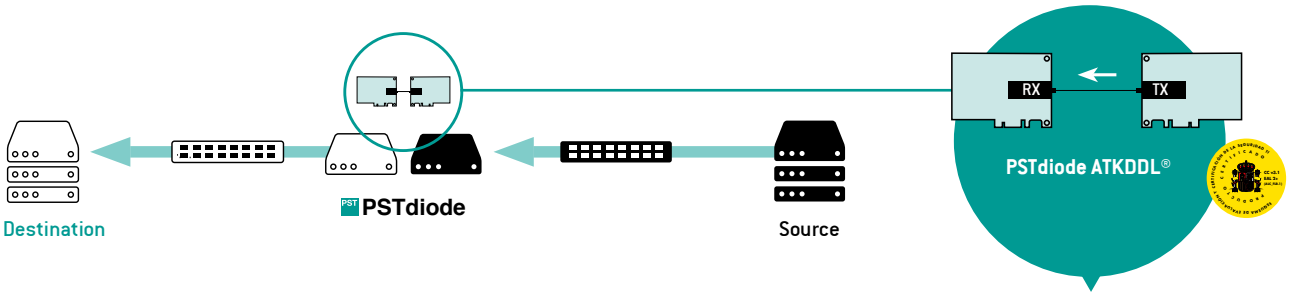
Hardware Data Diode



PSTdiode

autek
A GMV COMPANY

PRODUCT OVERVIEW



PSTdiode transfers information between two isolated security domains with a physical one-way guarantee.

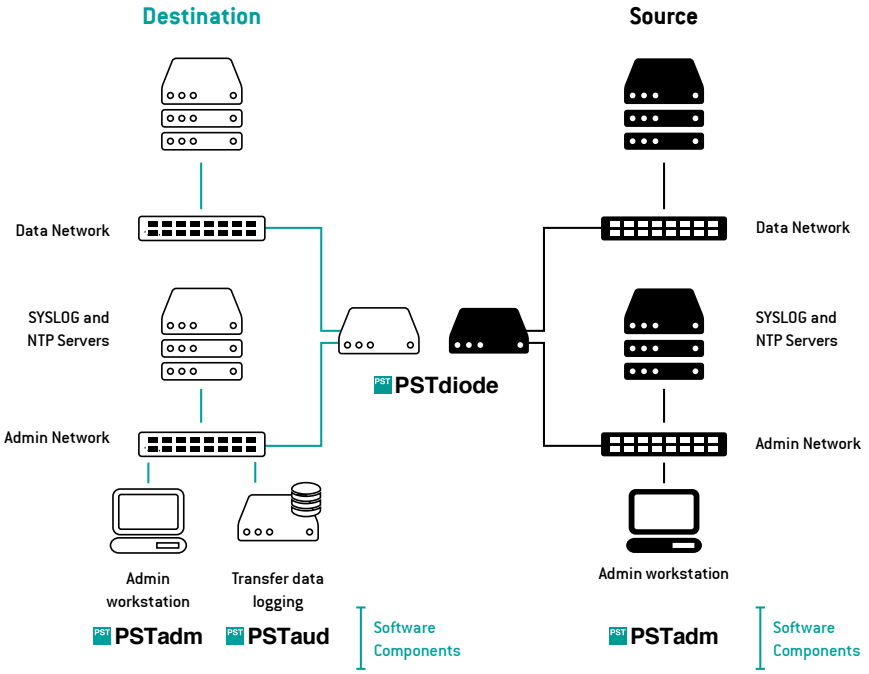
PSTdiode is composed of two 19" appliances with the corresponding part of the one-way communication hardware mounted in each appliance and all the necessary software installed (firmware). The firmware executes from a read-only partition and a tool to verify its integrity is included. The firmware is easily updated while maintaining the configuration.

The system is configured remotely once PKI and network parameters are set on both appliances through a local interface.

Based on the one-way communication device PSTdiode ATKDDL®, developed by Autek Ingeniería and Common Criteria EAL 4+ (AVA_VAN.5, ALC_FLR.3) Certified.

This device consists of a transmitting card (TX) and a receiving card (RX), connected by an optical fibre cable.

THE SYSTEM SEAMLESSLY INTEGRATES WITH EXISTING INFRASTRUCTURE, IT IS NOT NECESSARY TO INSTALL PROXIES OR ADDITIONAL DEDICATED SERVERS.



Two additional software components are included, one for the remote administration of the system (PSTadm) and another for transfer data logging (PSTaud). These are installed in general purpose computers. PSTadm supports four different administration roles, authenticated by means of certificates.

PSTaud is a service that receives information for all transfers performed and stores it in a database or to XML files for auditing purposes. Additionally the system sends operational and security information via SYSLOG events in both domains.

PSTdiode

autek
A GMV COMPANY

ACTIVE FILE TRANSFER

The 'Inbound file' service in PSTdiode is an active file transfer service that allows copying files between two isolated security domains.

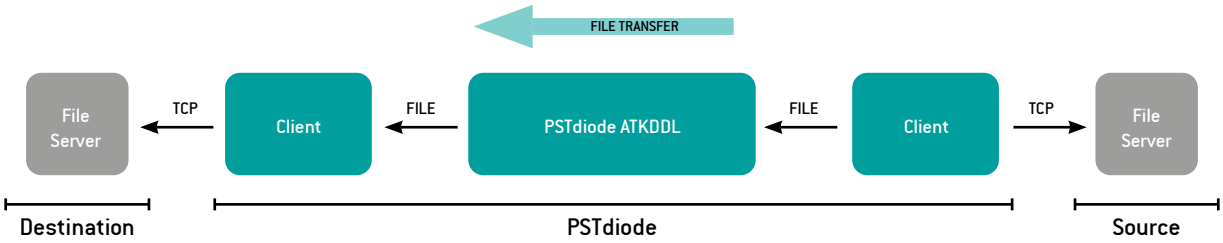
File transfers are defined through channels. A channel is the correspondence between the data source location (server, path) and the data destination location (server, path).

The system integrates with the existing infrastructure; each appliance accesses file servers through standard protocols.

The source appliance periodically accesses the file server as a client of the protocol (FTP, FTPS, SFTP or SMB) and then transfers the files to the destination appliance. The destination appliance uploads them to the configured destination folders, also as a client of the protocol.

The system allows different transfer options to be configured for each channel:

- Recursive mode: Subfolders in the source location are also checked.
- Intelligent repetition: The file is repeatedly sent (number of times and interval can be configured) but files that have been transferred correctly are only uploaded to the destination location once.
- Quarantine: Transferred files are moved to a temporary folder in the same source file server.
- Automatic delete: Allows the deletion of transferred files.
- File filter: File name, extension and size filtering.



Active File Transfer

CARACTERÍSTICAS

Channels	Data flows are arranged in communication channels. A channel establishes the path between a folder on a file server in the source domain and a folder on a file server in the destination domain. Channels allow visual and intuitive monitoring. The channels work in parallel and can be enabled and disabled independently.
Channel priority	Channel priority determines the resources dedicated to the channel (server access frequency, number of files transferred per cycle, temporary storage capacity) and can be set to three different levels: high, medium and low.
Supported protocols	FTP, FTPS, SFTP and SMB.
Maximum number of channels	50
Maximum file size	50 GB
Filtering capabilities	File name, extension and size filtering.

PSTdiode

autek
A GMV COMPANY

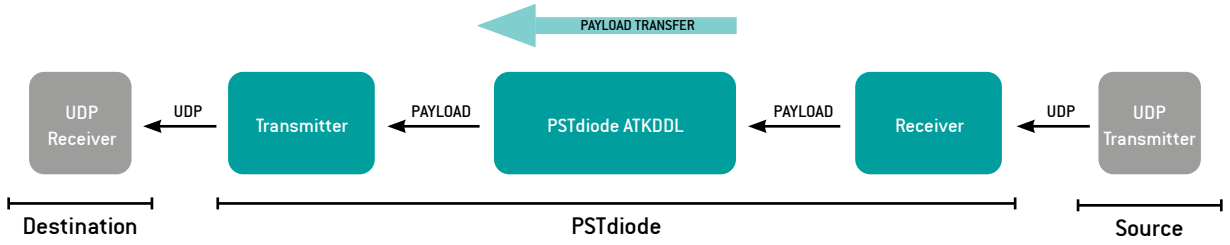
UDP PAYLOAD TRANSFER

The 'Inbound UDP' service allows UDP packet payload information to enter a destination network from a source network. It is suited for 'real time' applications due to low latency (streaming).

Transfers are arranged in channels. A channel is the correspondence between a listening port on the source appliance and a UDP packet destination (server, port) on the destination network.

The source appliance receives UDP packets in the configured listening port and transfers the payload to the destination appliance. The destination appliance makes a new packet and sends it to the destination location.

The system allows the administrator to configure size and source filtering by channel. Unicast and multicast reception and transmission are also supported.



UDP Payload Transfer

FEATURES

Channels	Data flows are arranged in communication channels. A channel is the correspondence between a listening port on the source appliance and a UDP packet destination (server, port) on the destination network. Channels allow visual and intuitive monitoring. Channels work in parallel and can be enabled and disabled independently.
Supported protocol	UDP
Transmission method	Unicast and multicast reception and transmission supported in both domains.
Maximum number of channels	10
Typical mean delay	150 milliseconds
Filtering capabilities	Size and source filtering.

PSTdiode

autek
A GMV COMPANY

FEATURE OVERVIEW

Topology	Two appliances, one appliance on each security domain, communicating exclusively by an optical fibre cable.
Administration Topology	Separate administration network (optional) for each appliance.
Deployment	Ready to use appliances. The system is configured remotely once PKI and network parameters are set on both appliances through a local interface.
Administration	The system is monitored remotely, with PSTadm, from the destination network. Administration of the source appliance is only needed for configuration changes and troubleshooting.
Administration Roles	Four remote administration roles are supported and enforced through PKI: • Root Administrator • Security Administrator • Services Administrator • Monitoring Administrator
Status and error notifications	The system sends operation and security SYSLOG events independently.
Transferred data logging	With PSTaud, all transfers can be logged to a database or saved as XML files. The service PSTaud is installed on a general purpose computer on the destination domain.
Automatic time synchronisation	The system allows configuring time synchronisation via NTP servers on both domains.
Transfer rate	The transfer rate provided by the PSTdiode ATKDDL device is 1Gbps.

SECURITY

Topology	Dedicated and independent management network interface that allows separation of all management traffic from data traffic on each appliance.
Status and error notifications	Security events can be sent to a separate SYSLOG server.
Administrative communications	The system can only be administered by authorized administrators, enforced through PKI. All communications between the software components and the appliances are protected by TLS with remote peer authentication. All system access and operations performed by administrators are reported.
Appliance software integrity	All software (OS included) executes from a read- only partition; its integrity can be verified anytime.

PSTdiode

autek
A GMV COMPANY

APPLIANCES TECHNICAL DATA

Connectors	
Video interface	15-pin VGA
Keyboard interface	USB type A
Data network interface	RJ45 (Ethernet 10/100/1000 Mbps)
Administrative network interface	RJ45 (Ethernet 10/100/1000 Mbps)

AC Power Supply	
Connector	IEC-60320-C14
Wattage	700 W
Heat dissipation	2625 BTU/hr
Voltage	200-240 V AC, 50/60 Hz

Physical	
Dimensions	4,28 cm (1U) x 48,2 cm (19") x 46,1 cm
Weight	9.45 kg

Temperature	
Operating	From 0ºC to 45ºC
Storage	De -40°C a 65°C

IDENTIFICATION

References (Part Number)	
PSTdiode U3	Cowmplete system. Source Appliance and Destination Appliance are included.
PSTd-U3	Destination Appliance (white bezel).
PSTs-U3	Source Appliance (black bezel).

CERTIFICATIONS AND APPROVALS

Common Criteria EAL 4+ (AVA_VAN.5, ALC_FLR.3) Certified

Approved CIS security product for handling classified information

Included in NIAPC

info@autek.es I www.autek.es