ChiefNET

ChiefNET OT SHIELD

OT Cyber Security device with Hardware enforced(Optical) Data Diode Technology

Uni-Directional OT / ICS Gateway



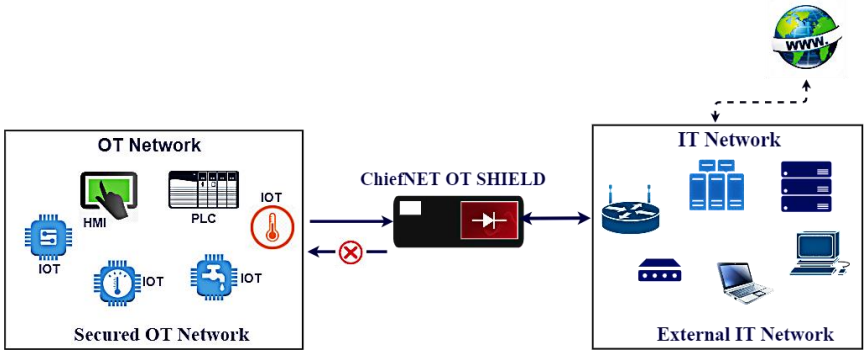
Key Features

- ***Physical and Electrical Separation:*** ChiefNET OT SHIELD maintain a physical and electrical separation between the source and destination networks, creating a non-routable, closed one-way data transfer path.
- ***Hardware enforced data diode*** functionality, builds physical air gap between networks and prevents data flowing in false direction
- ***Secured data transfer:*** Realtime OT/ICS data is transferred to remote data centre / Monitoring centre through an encrypted VPN tunnel
- **Enhanced Security**: By eliminating external points of entry, ChiefNET OT SHIELD prevent intruders and malware from infiltrating the secure network.
- ***Supports UDP*** traffic (UDP Broadcast, Multicast, Anycast etc).
- **Supports MQTT**, OPC UA, TFTP (With additional software). Optional built-in OPCUA, BACnet and Modbus Bridges.
- **Custom Channels**: Users can create custom channels to transfer any data over UDP to IT environment
- ***Hardened OS*** improves security and reduces attack surface.
- ***Orchestration and Management:*** Centralized cloud-based orchestration and management platform. Zero touch provisioning. Pre-provisioning. Whole network monitoring, alerts and dashboards.
- ***Scalable throughput:*** 100Mbps to 1Gbps

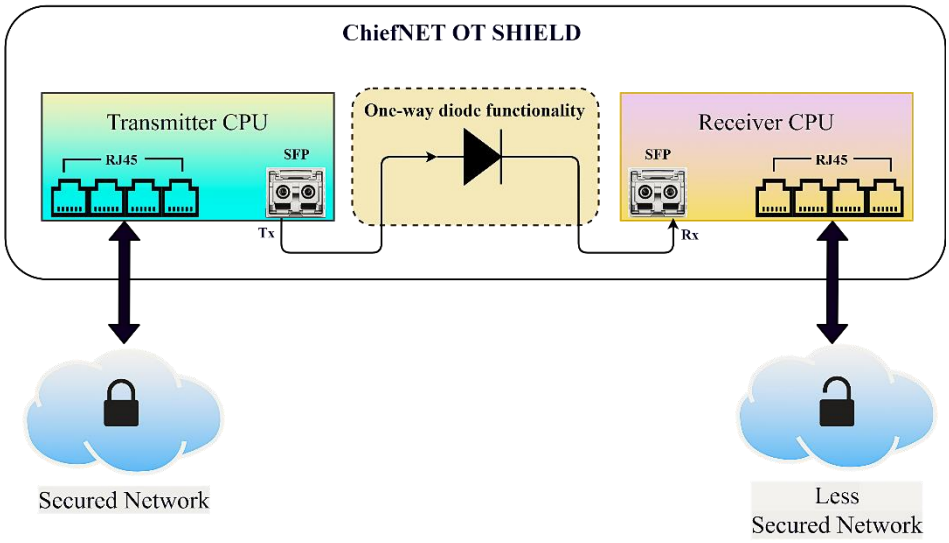
ChiefNET OT SHIELD is a cybersecurity device designed to ensure one-way transfer of data between two networks. This unidirectional data flow protects sensitive OT production systems and prevents data breaches.

ChiefNET OT SHIELD with integrated Data Diode technology, provides secured transfer of real time OT / ICS data to IT environments without compromising critical OT production systems. ChiefNET OT SHIELD consists of a transmitter on the secure side and a receiver on the less secure side, with no physical connection that allows data to flow back.

Unlike firewalls or software-based solutions, data diodes do not rely on software, IP stacks, or protocols that could be exploited. This eliminates vulnerabilities associated with software-based security measures.



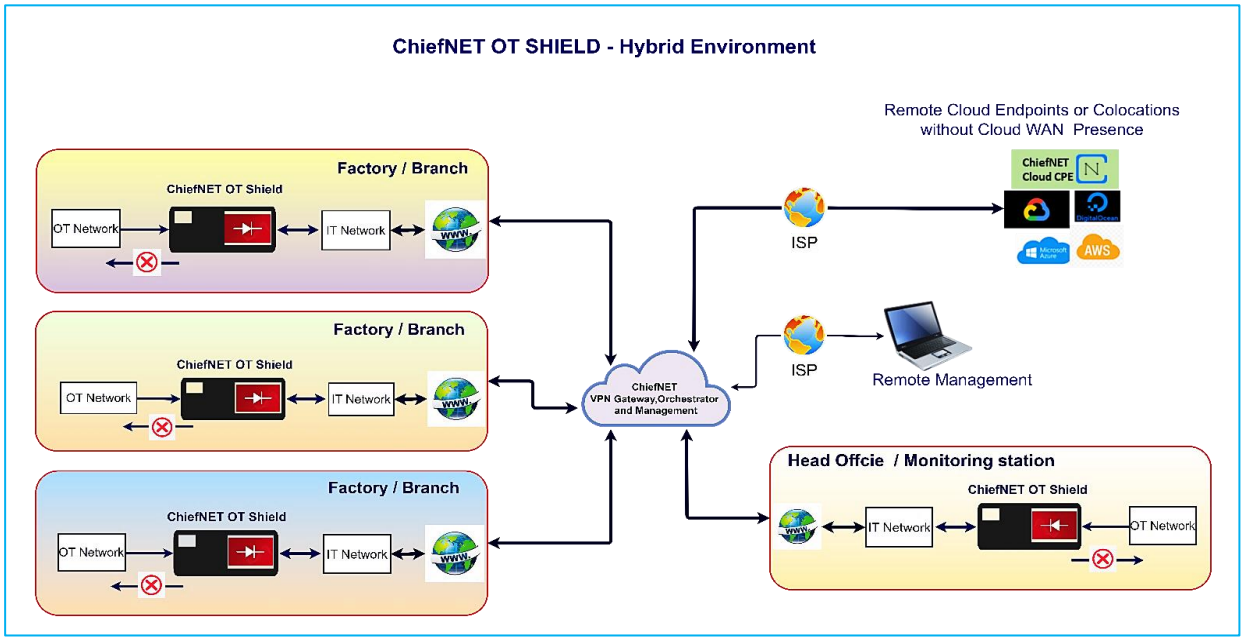
Hardware Architecture



- ChiefNET OT SHIELD has two CPUs (Transmit & Receive) isolated by internal hardware-based data diode interface which allows only one-way communication between them.
- Allows only UDP traffic.
- An optional MQTT broker and MQTT to UDP gateway on the Transmit CPU to enable IoT sensors to publish data and transmit securely to the receiver CPU.
- Transmit CPU can be managed on-premises only. Receive CPU can be managed remotely.
- Receive CPU is connected to the internet for centralized management.
- Supports redundant ISP connections (Broadband / 4G /5G) for uninterrupted communication).
- Supports WAN failover and load balancing

Hybrid deployment architecture connecting multiple sites and cloud endpoints

- Cloud WAN enables multiple sites connected by secured encrypted tunnels through cloud VPN gateway.
- Cloud based centralized management and orchestration platform enables remote devices can be monitored and managed remotely from anywhere.



Applications

- Industrial Control Systems (ICS): In industrial settings, data diodes are used to send operational data from control systems to monitoring systems without risking the integrity of the control systems.
- Military and Defense: Data diodes ensure that sensitive information can be sent out for analysis or reporting without exposing the secure network to potential cyber threats.
- Financial Services: They protect financial data by allowing transaction data to be sent to external systems for processing while keeping the internal network secure.
- Healthcare: Used to transfer patient data to external databases or cloud services while ensuring the internal hospital network remains secure.

Hardware Specifications

Throughput (Diode Interface)	1Gbps
Physical Air Gap	Optical (Hardware enforced)
Environmental	
Operating Temperature	0°C ~ 50°C
Storage Temperature	-20°C ~ 70°C
Humidity	5 ~ 90% RH
Enclosure	Aluminium
Power Supply	12V DC /10A (External AC-DC Power adapter) / 230V AC on 19" Rack Mount Models
Power consumption	120W max
Ports	
Tx CPU	4 x 2.5Gbps Copper / 1 x RS232 / 2 x USB3.0 / 2 x USB2.0 / 1 x HDMI / DP
Rx CPU	4 x 2.5Gbps Copper (2 x WAN & 2 x LAN) / 1 x RS232 / 2 x USB3.0 / 2 x USB2.0 / 1 x HDMI / DP
Dimensions	330mm x 126mm x 65mm (Desktop model) / 1U 19" Rack Mount
Weight	1.3Kg ~ 3kg (Depends on the model)

Ordering Information:

Part Number	Model	Description
CNOTS-DD-TX	OTS-FB-TX	ChiefNET OT Shield with data diode functionality from Tx to Rx
CNOTS-DD-RX	OTS-FB-RX	ChiefNET OT Shield with data diode functionality from Rx to Tx
CNOTS-DD-TX-1U	OTS-FB-TX-1U	ChiefNET OT Shield with data diode functionality from Tx to Rx – 19" Rack mount
CNOTS-DD-RX-1U	OTS-FB-RX-1U	ChiefNET OT Shield with data diode functionality from Rx to Tx – 19" Rack mount

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