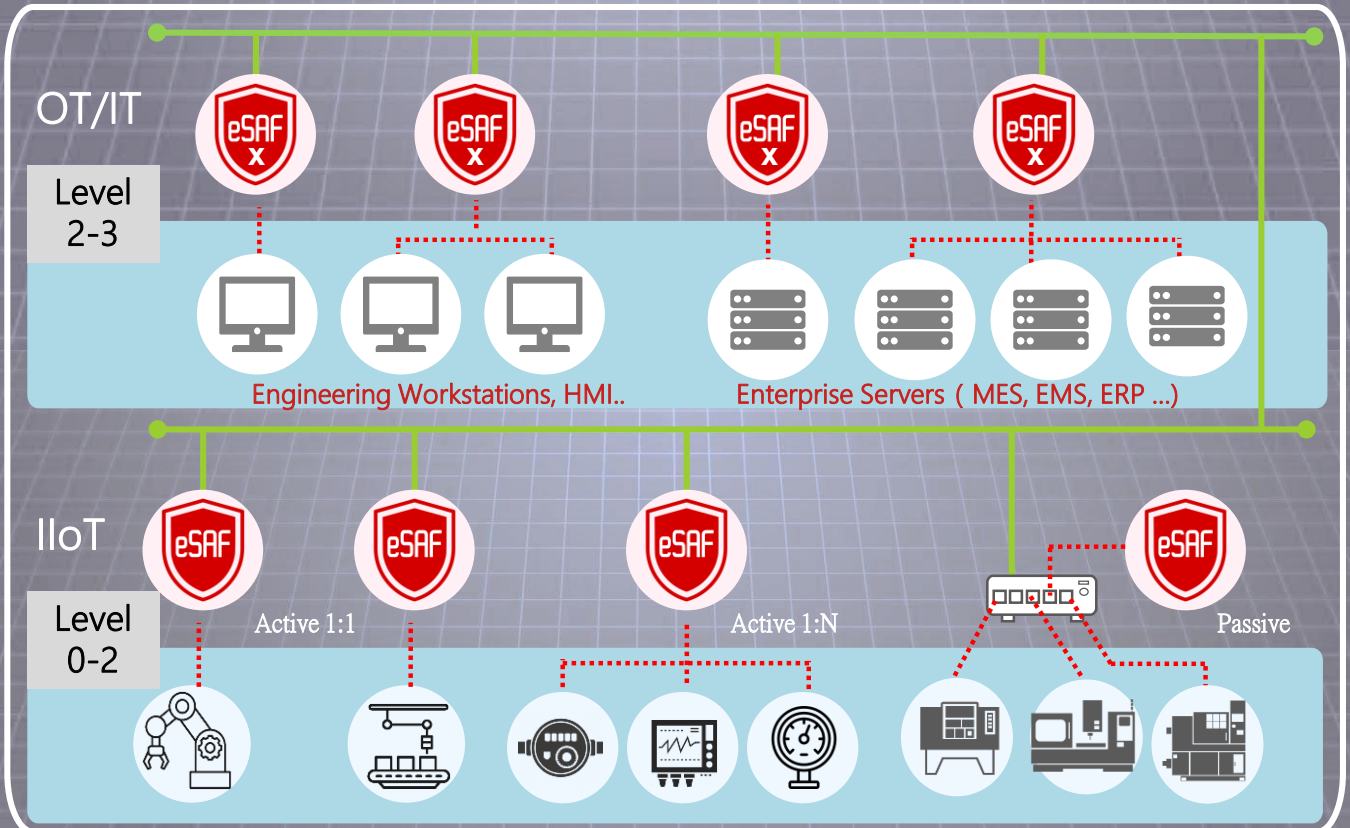


# eSAF OT Security Platform

## Protect OT/ICS Security and Bridge to IT for Enterprise Digital Transformation

TMR's OT Security Platform employs a multi-layer architecture for OT protection coverage from level 3 SCADA/HMI to level 0 and 1 system control devices and sensors. The Platform also enables integration with IT security SIEM in SOC for enterprise Digital Transformation needs.



# Software and Hardware Product Specification

## eSAF Frontier X100

### System Features

- Plug and Play Network Bridge Device
- Small Unit that will Fit Anywhere
- Friendly Device Web User Interface
- NTP based or Manual Time Setting

### Network

- Bridge IP: DHCP Client/Static IP  
Fixed Management IP  
Simple Network Management  
Protocol(SNMP) v1/v2 Polling
- Support Link Layer Discovery  
Protocol(LLDP)
- Support VPN Pass-through
- Administrator Authentication through  
RADIUS
- Support MAC Authentication  
Bypass(MAB) / 802.1x
- IPv6 Ready

### Security Features

#### Firewall

- High Performance Linux Kernel based Firewall  
Engine without “iptables”
- SPI (Stateful Packet Inspection) Firewall
- Access Control List
- Scalability to Large Rule Sets

#### Intrusion Prevention and Virtual Patch

- High Performance Streaming Intrusion  
Prevention Engine
- Packet-based and Low Latency
- Protocol Anomaly
- Traffic Anomaly Detection and Blocking
- Port Scan Detection and Blocking
- Virtual Patching for Well-known  
Vulnerabilities and Exploits
- Actions: Drop Packet/Drop Session/Log



- Qualcomm IPQ4018, 4 ARMv7 cores, 716 MHz
- RAM: 256MB
- Flash: 512MB
- Gigabit Ethernet WAN x 1 Port
- Gigabit Ethernet LAN x 1 Port
- Universal Switching Power Adapter 100-240V AC IN, 12V DC
- 116 W \* 25 H \* 91 D (mm)
- 13.5g

#### Ransomware and Virus Detection

- High Performance Streaming Anti-Virus  
Engine
- Packet-based and Low Latency
- Scanning HTTP/FTP/SMTP/POP/IMAP/CIFS  
Protocols
- Generic TCP Stream Scanning for other TCP  
Flows
- ZIP/GZIP/TGZ Decompression Support
- Destroy Ransomware and Virus

# Software and Hardware Product Specification

## eSAF Frontier V100

### System Features

- Visibility
- Micro-segregation
- Network & Host Monitoring
- Mutual Authentication
- ICS Protocol DPI; Behavior Baseline
- Support MODBUS, OPCUA, FOCUS, SECS/GEM, DNP3 and etc.
- Anti-Forgery/Cloning
- Real Time Detection & Protection
- Traffic Anomaly Detection and Blocking
- Statistical Security Analysis for Industrial Protocols



### Hardware Specification

- Onboard Intel Atom processor E3826 dual core, 1.46GHz; Rugged Fanless System
- RAM: Onboard DDR3L 2GB
- Flash: 16GB eMMC
- Operating System: Linux Ubuntu
- 1 x HDMI display
- 2 x Intel ® I210-AT GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 2.0
- 3 x mini-PCIe sockets for optional Wi-Fi/3.5G/LTE modules
- 1 x RS232, 1 x RS232 (only Tx/Rx/GND), 1 x RS422/485 with auto flow control
- Support -5~55°C operating temperature
- Support 24V DC input

## eSAF Platform Manager

### System Features

- Security Dashboard
- Data Correlation
- Behavior Analysis
- Threat Hunting
- Cyber Threat Intelligence\*
- Customer, 3rd Party SOC/SIEM Integration; TMR Stand Alone



### Hardware Specification

- Intel Core i7 LGA; Rugged Fanless System with Expansion
- RAM: DDR4 32GB
- SSD: SATA3 1TB SSD
- Operating System: Linux Ubuntu
- 1 x DVI-D, 1 x DP, and 1 x HDMI with independent display support
- Three Intel ® GbE LAN ports; support WoL, teaming and PXE
- 1 x External M.2 2242 Key M socket and 1 x SIM card socket
- 4 x USB 3.0 and 2 x USB 2.0
- 2 x RS232/422/485 and 2 x RS232
- 2 x Internal mini-PCIe sockets support optional Wi-Fi/3.5G/mSATA/Fieldbus
- Support +9V to 30VDC input; ATX power mode
- 2 x PCI or PCIe x4 expansions

### Note:

\* CTI are from over 30 sources including alienvault, CIRCL OSINT Feed, Botvrij.eu Data, ZeuS IP blocklist, emergingthreats.net, malwaredomainlist, Tor exit nodes, Tor ALL nodes, cybercrime-tracker.ne, IPSUM and etc.

\* Server hardware is not limited to this model. Large number of nodes and loading will require servers of higher performance.