

Continuous Threat Detection (CTD) Supported Protocols Overview

CTD v5.1.1 | Edge v3.6

April 2025

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Introduction

Continuous Threat Detection (CTD) supports the industry's most comprehensive list of industrial protocols, including an unmatched range of proprietary and standard OT, IoT, IIoT, BMS, and IT protocols.

This support is backed by Claroty's interdisciplinary team of researchers that collaborate closely with leading industrial manufacturers, vendors, and stakeholders to ensure that we not only maintain the most extensive protocol coverage and leading research lab in industrial cybersecurity, but also that we continue to support the protocols, research, and products that our customers and community need most.

Passive Protocols

Standard

- ARP
- BACNET
- CAPWAP
- Citect HMI
- Cotp
- DHCP
- Digi real port
- DLMS COSEM
- DNP3
- E-Terra Workstation
- Ethernet POWERLINK
- ETHERNET/IP
- FactoryTalk RNA
- Foundation Fieldbus (FF)
- HART-IP
- Hot Standby Router Protocol (HSRP)
- HTTP
- HTTP-XML (specific schemes)
- IEC101
- IEC103
- IEC104
- IMAP
- ITEPM - Endpoint Mapper
- LLDP
- MDLC Proprietary
- MMS (IEC-61850/ICCP/TASE.2)
- Modbus
- Modbus Execload
- Modbus Xinje
- MQTT
- DeltaV
- Ovation
- Ovation ADMD
- Ovation Alarm
- NetBIOS Browser (UDP 138)
- NetBIOS Datagram Service
- NTP
- OPC-DA
- OPC-UA
- POP3
- Profinet DCP
- Profinet I/O
- Profinet Real-Time
- Prosoft Discovery
- PRP
- PTP
- Radius
- RTCP
- Sattbus
- SECSGEM
- SIP
- SNMP

- SSH
- Synchrophasor
- TFTP
- TTSAC (Sistema Avanzado de Control)
- VNC
- X-Pact Data

ABB

- Bailey
- DMS system
- HC800 (Infinet)
- MasterBus 300
- Melody
- Net Config
- RNRP
- Spirit
- Symphony Plus
- Totalflow

Alien RFID

- Alien RFID Reader Heartbeat

Alstom

- Alsipa (Multicast messages)

- E-Terra

Atlas

- Atlas ALnet

AVIVA (Schneider)

- ClearSCADA ViewX

B&R

- B&R INA2000

Beckhoff

- AMS (ADS)
- EtherCAT

Bristol

- BSAP

Buffalo

- NASNavigator

Caterpillar

- Caterpillar AHS

CC Link

- SLMP (CC Link IE Field Basic)

CC Link IE

- CC Link IE - Field

Checkpoint

- CPHA (Checkpoint High Availability)

Cisco

- Discovery Protocol (CDP)
- Skinny (SCCP)
- UDLD

CODESYS

- CodesysV2
- CodesysV3

Cognex

- Cognex Discovery

Control

- Control NS Link

Control Technologies Inc.

- Control Technologies Inc. (CTI)

Cygnnet

- Cygnnet SCADA

Dropbox

- Dropbox LAN-sync

Eltec

- Modbus Eltec

Emerson

- DeltaV
- Ovation
- Ovation ADMD
- Ovation Alarm
- Ovation DBXmit
- Ovation PTEdit
- OvationRPC
- ROC Plus
- Telnet - DeltaV

Enedis

- B32

Foxboro

- Foxboro LLC
- Foxboro RTV

Fuji Electric

- FI-net fuji

Fanuc

Fanuc Discovery

GE

- GE Bentley Nevada (BNC3500)
- GE PAC8000 (AXE)
- GE QuickPanel (TRAPI+HTTP)
- GE SDI (MarkVie)
- GE SDI Classic (MarkVie)
- GE SRTP
- GE-ALM
- GE-EGD
- GE-EGD-CMP
- GE-iFix
- Modbus GE Enervista

Hikvision

- Hikvision Discovery Protocols

Hirschmann

- HiDiscovery
- Telnet - Hirschmann

Honeywell

- Honeywell C200 - Ftebcip
- Honeywell EpicMo (C300 management)
- Honeywell Experion - CeeNTComm (C300,EHPM)
- Honeywell Firewall CF9

HP

- HP Switch

IEC

- Goose (IEC-61850)

jema

- FL-net - All

Keyence

- Keyence Host-Link Communication
- Keyence KV Studio
- Keyence Logger

Knapp

- Knapp

KNXnet

- IP

Kongsberg

- Kongsberg

Koyo

- Koyo (HEI/K-Sequence/ DirectNet)

Lantronix

- Lantronix Serial GW

Linux

- Linux High Availability

LS Electric

- XG5000 Discovery
- RAPIEnet

Matrikon

- Matrikon OPC Tunneller

Meggitt

- Vibro-Meter

Microsoft

- CIFS (SMB)
- DCE RPC
- DCE RPC - ABB DCS Service Manager
- Microsoft RDP
- NTLMSSP (Auth protocol)
- SAMR
- TDS
- Windows Update Delivery Optimization

Mikrotik

- MNBP

Mitsubishi

- Melsec
- Melsec

Motorola

- MDLC data
- MDLC management
- MDLC proprietary

Moxa

- Telnet - Moxa

Niagara

- Tridium

NMEA

- NMEA-0183

Nortel

- NDP

OCPP

- OCPP 1.6

Omniflow

- Omniflow Flow computer
- Telnet - Omniflow

Omron

- FINS

Opto

- OPTO
- OPTO MMP
- OPTO SoftPAC Agent

OSISoft

- PI1

- PI3

Pepperl+Fuchs

- P+F DCP

Pheonix Contact

- ProConoS (TCP 20547)

Plum

- Gaz Modem

Portwell

- Portwell

Red Lion

- Red lion Crimson
- Red Lion NView-2 Discovery

Rockwell

- CIP
- DPI (over PCCC)
- ENIP
- PCCC

Ruggedcomm

- RCDP

SAIAS

- SBUS

ScadaPack

- Modbus ScadaPack

Schneider

- Modbus Modsoft
- Modbus Schneider
- PowerLogic Discovery
- Schneider NetManage
- Schneider EGX UDP 59
- Schneider ION
- Triconex Tristation
- Triconex TSAA

Schweitzer

- FTP - SEL
- Telnet - SEL

SICK

- CoLa-A

Siemens

- Cargo Compact

- Cargo Compact Sensor
- Cargo Compact Control
- DigsI4 (Siprotec 4)
- DigsI5
- P2
- S7Comm
- S7Comm Plus
- Siemens FWL LOAD (firmware upload)
- Siemens IEM
- Sinaut FW8
- T3000 Protocols

SMA

- Sunny WEBBOX

Smiths

- Detection Broadcast

SMS Group

- X-Pact Diagnostics
- X-Pact Discovery

Spotify

- Spotify P2P

TC

- Net

TCNOpen

- TRDP Process Data

Televent

- OASyS

Terasaki

- Negotiation
- Realtime Data Sync

Themis

- Enhanced Modbus

Toshiba

- Net1G

Toyoda

- PCWin

Toyota

- FI-net Toyoda

Trend

- IQ3
- WAGO

TwinSoft

- Modbus Twinsoft

Valmet

- MaxDNA (maxNET)
- Valmet DNA Alarms
- Valmet DNA Damatic configuration, data

- Valmet DNA Data
- Valmet DNA Frontend

Willowglen

- DACP

Wonderware

- Wonderware SuiteLink

- IOTalk

Yokogawa

- ODEQ
- VNET (VHF)

Active Queries

Standard

- BACnet Discovery
- BACnet Query
- DB Enumeration Query (mssql, mysql, mongo)
- DNP3
- EN/IP Query
- EN/IP Scan
- Exi 3000 Query
- Exi 3000 Discovery
- FTP Query
- HTTP Query
- IoT Query
- mDNS Query
- mDNS Discovery
- Modbus Information Object
- MMS Query
- NetBIOS
- PCCC Query
- Ping Sweep
- Profinet-DCP Query
- Profinet-DCP Scan
- Reverse DNS
- SNMP Network Layout Query
- SNMP Query
- SNMP Scan
- SNMP Siprotec 5

- SSDP
- SSH Discovery
- SSH Query
- TCP Port Discovery
- TCP Port Scan
- Telnet
- WSD Discovery

ABB

- Bacnet

Anord Mardix

- HTTP

Atlas Copco

- Atlas Copco ToolsTalk Query
- Atlas Copco MWR HTTP Query
- Atlas Copco WebSocket Query

Automation Direct

- C-more HMI Discovery
- C-more HMI Unicast

AutomatedLogic

- Bacnet

Banner Engineering

- Banner Engineering DXM Query

Brightwell

- DBTalk Query

B&R

- B&R HTTP
- B&R Profile
- B&R Query

Beckhoff

- Beckhoff Query

Carel

- Bacnet

CIP

- CIP Query

CODESYS

- CodesysV3 Discovery

Cisco

- Cisco Profile
- CTI Query

Cognex

- Cognex Query

CrowdStrike

- CrowdStrike Discovery
- CrowdStrike Query

GE

- GE-SRTP
- GE Station Manager Query

Ex-i

- Exi3000 Discovery
- Exi3000 Query

Hikvision

- Hikvision SADP Query

- Hikvision SADP Discovery

Fanuc

- Focas Query

Festo

- Festo Broadcast Discovery

Hirschmann

- Hirschmann Discovery Query
- Hirschmann Discovery Scan

Indraworks

- Indraworks Discovery
- Indraworks Query

Janitza

- SNMP
- HTTP
- Janitza Query

Koyo

Koyo Directlogic query

Lantronix

- Hirschmann Profile

- Unicast Query

- Broadcast Discovery

LS

- LS Discovery

LS Electric

- LS Electric XG5000 Query

Microsoft

- MS SQL
- Windows Profile
- WinRM Query
- WMI Query
- WSD Discovery
- WSD Query

Mitsubishi

- Beijer HMI Query
- Melsoft Discovery
- Melsoft Query
- Mitsubishi Profile
- Mitsubishi GOT Discovery
- Mitsubishi GOT Query

Moxa

- Broadcast Scan

- Unicast Scan

Niagara

- Tridium Fox Query

Omron

- FINS Discovery
- FINS Query
- PLC Query
- Omron Modbus Query

Opto22

- Opto22 Query

Ovarro

- TBox Query

Pepperl+-Fuchs

- DCP Query

RAFT

- Gateway Scan
- Gateway Query

Red Lion

- Sixtnet Query

Rockwell

- CIP Query
- PCCC
- Rockwell Profile

Schneider Electric

- Modicon Discovery
- SCADAPack ES DNP3 query
- Schneider ION
- Schneider SmartX
- Schneider TSX Query
- Schneider Unity Query

SensoPart

- SensoPart VISOR Discovery

Siemens

- CTI Query
- S7Comm Query
- S7CommPlus Query
- Siemens Profile
- Siprotec 5 Profile

Sinumeric

- Sinumeric Query

Sixnet

- Sixnet Discovery
- Sixnet Query

SMA

- Speedwire Discovery Query
- Speedwire Discovery

Toyoda

- PCWin Query

Tridium

- Fox Query

Ubiquiti

- Ubiquiti Query

Unitronics

- Unitronics Query

Vamp

- Modbus

VMware

- VMware ESX Discovery

WAGO

- WAGO Query

Westermo

- WeConfig

Zebra

- Zebra Printer Discovery

Project Files

Standard

- SCL

ABB

- 800xA
- AC800M
- Advant
- Composer
- RTU5XX SCADA Vantage
- Totalflow PCCU

Beckhoff

- TwinCAT3

B&R

- Automation Studio v3/v4

CODESYS

- CodesysV3

Emmerson

- DeltaV

FANUC

- ZIP Files

Fuji

- SX-Programmer (D300Win)

GE

- Bently Nevada
3500 System Configuration
- MarkVI ToolBoxST
- rx3i,9030 Proficy Machine
- rx3i,9030 PacsAnalyzer

Honeywell

- EHPM
- Experion Ctools / SIT

Kuka

- Robots

Kepware

- Kepware OPC

LS

- XG5000

Mitsubishi

- GX Works2

- GX Works3
- Melsec GX Developer
- DIASYS Netmation

Motorola

- ACE, MOSCAD ACE3600

Omron

- CX-One
- Sysmac Studio

Red Lion

- Red Lion HMIs Crimson
v3.0/3.1

Rockwell

- AAdvance Log Collection
- AssetCentre
- FactoryTalkView / RSView
- ICSTriplex Log Collection
- ISaGRAF (multiple)
- MicroLogix Factory View
- MicroLogix RS System
Ferret
- RSLogix 5000 / 500 / 5

- RSLinx
- Trusted TMR IEC 1131 Toolset

Schneider

- Concept
- EcoStruxure Building Ops
- M221 SoMachine
- Modicon/Quantum
- SCADAPack 32 Telespace Studio
- TSX Micro, Premium PL7
- TwidoSuite
- GP-3000 GP-Pro EX
- GP-4000 GP-Pro EX
- LT-3000 GP-Pro EX
- LT-4000 GP-Pro EX
- IPC (PC/AT)
- SP-5000 GP-Pro EX

- ST-3000 IPC (PC/AT) GP-Pro EX

SEL

- AcSELeRator
- AcSELeRator QuickSet
- AcSELeRator RTAC

SICK

- Sopas ET

Siemens

- LOGO!Soft Comfort
- PCS7
- Proneta
- S7 TiaPortal (v13/v14/v15/v16/v17/v18,v19)

- S7/T3000 Step7
- Simatic Softshop 505
- Siprotec DigiSi4 / DigiSi5
- TIA Portal Project Server
- TIA Portal V18 & 19

Toyoda

- PCWin

Triconex

- Tricon/Trident/TriGP
- TriStation 1131

Xinje

- Xinje PLCs XDPPPro

Yokogawa

- Centum VP/CS3000
- ProsafeRS

Edge – Supported Windows 7 Broadcast Queries (Ver. 3.6)

Standard

- BACNET
- EN/IP
- ICMP Broadcast
- MDNS
- SSDP
- Profinet DCP
- WSD

Bosh

- Indraworks Discovery

Codesys/ Standard

- Codesys Discovery

Exi

- Exi3000 Discovery

GE

- GE Station Manager Discovery

Hirschman

- HiDiscovery

- SNMP
- HTTP

Lantronix

- Lantronix Broadcast Discovery

LS

- XG5000 Discovery

Mitsubishi

- Melsoft Discovery
- Mitsubishi GOT Discovery

Moxa

- Moxa Broadcast Scan

Omron

- FINS Discovery

Red Lion

- Sixnet Discovery

Schneider

- Schneider Netmanage Discovery

SMA

- Speedwire Discovery

Ubiquiti

- Ubiquiti Broadcast Scan

Welding Technology Corporation (WTC)

- Raft Gateway Discovery

Westermo

- WeConfig Discovery

Zebra

- Printer Discovery

Edge – Supported Windows 7 Unicast Queries (Ver. 3.6)

ABB

- MMS
- Modbus

American Power

- FTP

Andover

- SNMP

Anord Mardix

- HTTP

Atlas Copco

- Atlas Open Protocol
- MWR
- HTTP

American Power

- FTP

Axis

- FTP

B&R

- HTTP
- SNMP
- NBNS

Beckhoff

- Beckhoff

Beijer (Mitsubishi)

- Beijer

Bosch

- Indraworks

Brightwell

- Brightwell DBTalk

Brother

- HTTP

Cognex

- Cognex

CTI

- CTI

Dallmeier

- HTTP

Danfoss

- Modbus

Digiboard

- HTTP

Emerson

- Telnet

Enterasys

- SNMP (v1)

EXI

- Exi 3000

Fanuc

- CIP
- FOCAS

Fisher-Rosemount

- Telnet

Fuji-Xerox

- HTTP

GE

- GESRTP

Grandstram

- HTTP

Hikvision

- HTTP

Hirschmann

- Telnet

HMS

- EN/IP

HP

- HTTP
- NBNS

Hikvision

- SADP

Impinj

- SNMP

Janitza

- SNMP
- HTTP

Johnson Controls

- BACNET

Keyence

- CIP

Lantronix

- Lantronix

Lantronix

- Telnet

Microsoft

- NBNS

Mitsubishi

- Melsoft
- Mitsubishi GOT

Mobotix

- HTTP

Moxa

- Moxa Unicast Scan
- Telnet

Omron

- EN/IP
- FINS

Opto-22

- OPTO

Philips

- HTTP

Phoenix

- HTTP

Polycom

- HTTP

Prosoft

- CIP

Red Lion

- CIP
- HTTP
- Sixnet Query

Ricoh

- SNMP

Rockwell

- CIP

**RouterBOARD
(MikroTik)**

- HTTP

RS

- CIP

Schneider

- UMAS (Schneider Modbus)
- HTTPS
- Modbus

**Schweitzer
Engineering
Laboratories:**

- Telnet
- DNP3
- MMS Query

SEW Eurodrive

- CIP

SICK

- EN/IP

Siemens

- MMS
- S7 - SNMP
- Sinumerik
- Siprotec5 (HTTP)
- SNMP

Sierra Monitor

- EN/IP

Sigmatek

- BACnet

**SMA Solar
Technology**

- Speedwire

Square D

- Modbus

Synology

- HTTP

TAC-AB

- SNMP

Teltonika

- SNMP

Terasaki

- Modbus

Texas Instruments

- Brightwell DBTalk Query

TP-Link

- HTTP

Tridium

- Tridium Fox

Ubiquiti

- Ubiquiti

**Universal Global
Scientific Industrial**

- Moxa Unicast Scan

- Telnet

WAGO

- EN/IP
- WAGO

Westermo

- SNMP
- Telnet

**Welding
Technology
Corporation (WTC)**

- Raft Gateway Discovery

Yaskawa Electric

- FTP

Zebra

- SNMP

Edge – Supported Project Files (Ver. 3.6)

The following table shows the supported file formats Edge can automatically detect on the host.

Project File Type	File Extension
SEL	*rdb files
Siemens DIGSI V4	*.zip files
Omron Sysmac Studio	*.smc2 files
Toyoda PCwin	*.zip files
Rockwell Harmony	*.rsh files
Rockwell Studio 5000	*.acd files
Schneider Electric EcoStruxure	*.zip, *.xbk
Siemens Step7 v5	*.zip
Siemens TIA Portal v13-19	*.zip, *.zap13-19
Siemens TIA Portal	*.zip
Schneider UnityPro	*.stu
Yokogawa CentumVP	*.zip

Manual Detection of ICS Project Files in Specified Directories

The following shows a list of vendors and protocols that can be parsed by Edge, if the user gives their directory path:

Standard

- SCL

ABB

- 800xA
- AC800M
- Advant
- Composer
- RTU5XX SCADA Vantage

- Totalflow PCCU

Beckhoff

- TwinCAT3

B&R

- Automation Studio v3/v4

CODESYS

- CodesysV3

Emmerson

- DeltaV

Fuji

- SX-Programmer (D300Win)

GE

- Bently Nevada 3500 System Configuration
- MarkVI ToolBoxST
- rx3i,9030 Proficy Machine
- rx3i,9030 PacsAnalyzer

Honeywell

- EHPM
- Experion Ctools / SIT

Kepware

- Kepware OPC

Kuka

- Robots

LS

- XG5000

Mitsubishi

- GX Works2
- GX Works3
- Melsec GX Developer
- DIASYS Netmation

Motorola

- ACE, MOSCAD ACE3600

Omron

- CX-One
- Sysmac Studio

Red Lion

- Red Lion HMIs Crimson v3.0/3.1

Rockwell

- AAdvance Log Collection
- AssetCentre
- FactoryTalkView / RSView
- ICSTriplex Log Collection
- ISaGRAF (multiple)
- MicroLogix Factory View
- MicroLogix RS System Ferret
- RSLogix 5000 / 500 / 5
- RSLinx
- Trusted TMR IEC 1131 Toolset

Schneider

- Concept
- EcoStruxure Building Ops
- M221 SoMachine
- Modicon/Quantum
- SCADAPack 32 Telespace Studio

- TSX Micro, Premium PL7
- TwidoSuite
- GP-3000 GP-Pro EX
- GP-4000 GP-Pro EX
- LT-3000 GP-Pro EX
- LT-4000 GP-Pro EX
- IPC (PC/AT)
- SP-5000 GP-Pro EX
- ST-3000 IPC (PC/AT) GP-Pro EX

SEL

- AcSELerator
- AcSELerator QuickSet
- AcSELerator RTAC

SICK

- Sopas ET

Siemens

- LOGO!Soft Comfort
- PCS7
- Proneta
- S7 TiaPortal (v13/v14/v15/v16/v17/v18,v19)
- S7/T3000 Step7
- Simatic Softshop 505
- Siprotec DigsI4 / DigsI5

- TIA Portal Project Server

- TriStation 1131

- ProsafeRS

Toyoda

- PCWin

Xinje

- Xinje PLCs XDPPro

Triconex

- Tricon/Trident/TriGP

Yokogawa

- Centum VP/CS3000