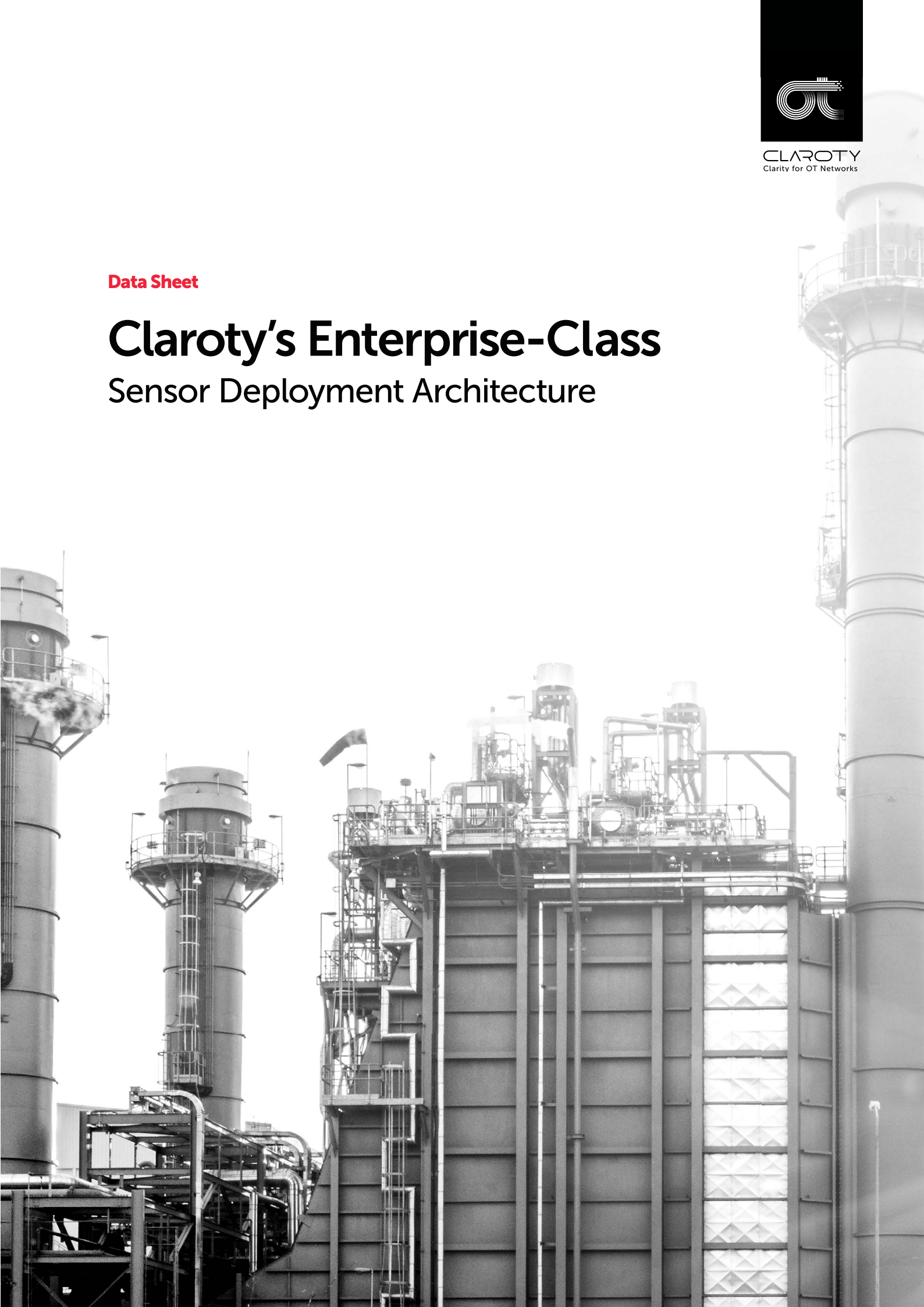




CLAROTY
Clarity for OT Networks

Data Sheet

Claroty's Enterprise-Class Sensor Deployment Architecture



Continuous Threat Detection - Sensor/Server Architecture

Clarity's Continuous Threat Detection provides a scalable architecture supporting environments characterized by a large geographic spread and a sizeable number of assets across multiple remote sites. The architecture also supports installation in extreme environmental across isolated sites.

Components and Architecture - to Meet Your Every Need

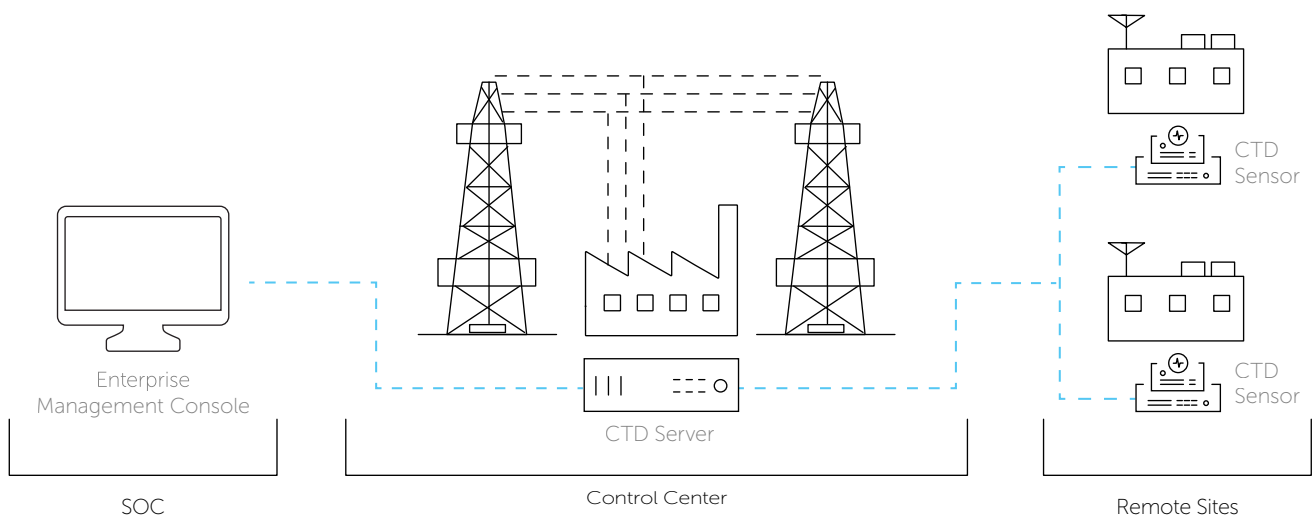
Enterprise Management Console - Provides a single pane of glass into OT and cybersecurity. The centralized management interface helps speed up troubleshooting and improve staff efficiency by displaying a unified, global view of assets, activities, alerts, and access requests across multiple sites – making it the ideal tool for complex SOC integrations and deployments.

CTD appliance available configurations:

- **CTD Server** - Provides deep visibility and extreme detection capabilities across complex multi-vendor OT environments (in one box). The server offers customers the ability to ingest sensor data and perform control functions within the distributed network infrastructure.
- **CTD Sensor** - Provides a secure and easy deployment, as well as powerful services for rapid, reliable, and bandwidth-optimized communication with the CTD server. Additionally, and by leveraging distributed computing power, the CTD Sensor performs network sniffing, dissection and DPI reducing the load on the CTD server.
- **CTD Sensor Light** - Provides a secure and easy deployment, as well as powerful services for rapid, reliable communication with the CTD server. The CTD Sensor Light can operate over spec-optimized hardware allowing to perform network sniffing as to reduce the load on the CTD Server.

Clarity's sensor deployment is fully tuned to support limited computing power, smaller physical footprint, and specific scenarios requiring communication over low bandwidth networks e.g., electric transmission grids, or oil and gas pipelines where space, power consumption and bandwidth are all precious commodities. The figure below shows a typical Sensor-Server deployment in a widely distributed environment as implemented at different levels of the system.

Electric Transmission Solution Architecture Example



Hardware Requirements (and Typical Traffic Metrics)

The sensors can run on a variety of configurations allowing deployment on a single server and/or in server-plus-sensor configurations. A detailed summary of minimum requirements and average typical traffic metrics can be seen below.

	CTD Sensor Light	CTD Sensor	CTD Server	Enterprise Management Console
Use Cases	Low footprint environments	Bandwidth limited environments	All-in-one capability	Multi-Server environments
Average Reduction In Monitored Traffic (In %)*	20 to 50%	80 to 90 %	N/A	N/A
Traffic Between Ctd Server To Mgmt. Console	32 Kb/s (fixed)	32 Kb/s (fixed)	32 Kb/s (fixed)	N/A
Min. # of Cores	1	4	4-32	16-32
Min. Ram (in GB)	2GB	8GB	8GB-64GB	32GB-64GB

* These metrics are based on field experience with our existing customers.



Broad Support for Industrial Control System and ICS / IT Protocols*

The sensors can run on a variety of configurations allowing deployment on a single server and/or in server-plus-sensor configurations. A detailed summary of minimum requirements and average typical traffic metrics can be seen below.

IT Protocols

- CDP
- LLDP
- DCE/RPC
- DHCP V4/V6
- ARP
- VNC
- TFTP
- NTP
- RDP
- SSL
- NTLMSSP
- ATSVS
- SMB-PIPE
- TCP/IP
- SNMP
- SSH
- HTTP / HTTPS
- Telnet
- FTP
- SMB / CIFS
- DNS
- ICMP
- IGMP
- Browser
- FTP

Vendors

ABB

Honeywell



Schneider
Electric

OMRON

EMERSON

Rockwell
Automation



YOKOGAWA ◆

SIEMENS

Industrial Protocols*

Automation & Production

- OMRON Fins
- Siemens S7/S7-Plus
- EtherNet/IP
- CIP (including Rockwell extension)
- PCCC/CSPv4
- Compressor Controls Corporation (CCC)
- OPTO Control Technology Inc. (CTI)
- Lantronix
- GE-SRTP
- GE EGD
- GE PAC8000
- Mitsubishi Melsec/Melsoft
- Sattbus
- OPC DA/AE/UA
- Profinet-DCP
- Profibus
- Modbus
- Modbus Schneider
- Modbus Altivar
- Modbus Concept/Momentum
- Modbus RTU

Oil & Gas

- Emerson ROC
- ABB TotalFlow

Distributed Control Systems

- Honeywell Experion
- FTE (Honeywell)
- Emerson Ovation DCS protocols
- Emerson DeltaV DCS protocols
- Yokogawa VNet/IP
- GE Mark6e (SDI)

Building Management Systems

- Siemens P2
- Bacnet

Safety

- Triconex
- Yokogawa ProSafe

Electric & Distribution

- ABB 800xA DCS protocols
- MMS (including ABB extension)
- ICCP TASE.2
- IEC104/101
- DNP3
- GOOSE
- Schweitzer
- Brüel & Kjær Vibro (BKV)
- Bently Nevada

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* The list shows many of the most commonly used protocols, see here the full list of supported protocols: <https://www.claroty.com/protocol.pdf>. Claroty will add support for additional protocols in accordance with customer needs. Please contact us to learn more.

