MTConnect | OPC UA DRIVER FROM GE VERNOVA

GE VERNOVA

Continuously collect real-time data from machine tool equipment for analysis and optimization

Industry-leading driver to increase connectivity and interoperability

The new MTConnect-OPC UA Driver from GE Vernova is an industry first – a non-proprietary connectivity solution implementing MTConnect and OPC UA standards and continuously collecting real-time data without polling. This new driver enables HMI/SCADA, Historian, and edge applications to capture data from CNC machines, robots, 3D printers, and other manufacturing equipment, providing a foundation for analysis and optimization.

The MTConnect-OPC UA Driver increases connectivity and interoperability. Manufacturers can achieve faster configuration, secure-by-design communication, and more complete data for analytics.

As an innovator in automation and the Industrial Internet, GE Vernova teamed with the OPC Foundation, the MTConnect Institute, and GE Aviation to develop and test the MTConnect-OPC UA Driver, a connectivity solution for IoT-fueled efficiency and productivity.

OUTCOMES

- Increase connectivity and interoperability by leveraging the first driver that implements the full MTConnect spec (including methods like sample mode and events) and OPC UA, and provides continuous real-time data transmission
- Capture real-time data, without polling, from manufacturing equipment using non-proprietary, standards-based technology
- Speed configuration with a common set of semantic definitions in structured XML as well as autoconfiguration of equipment components
- Improve data security, scalability, and reliability through OPC UA
- Increase efficiency and productivity with a foundation for IoT analysis and production optimization
- Eliminate islands of machine tool information by connecting to equipment ranging from CNCs to robots to 3D printers and more

### 01 Faster configuration based on standards

Developed via a joint working group, the MTConnect-OPC UA companion specifications enable manufacturing equipment to provide data based on a common set of semantic definitions in structured XML rather than proprietary formats. With uniform data, manufacturers can eliminate time-consuming data translation. Users benefit from domain-specific vocabulary and data models, extensibility, and integration with other standards by design. Additionally, autoconfiguration of equipment components with the Driver Configuration Tool speeds setup.

02 Increased connectivity and reliability across many machines with one driver

By applying the MTConnect data model to OPC UA, manufacturers benefit from increased connectivity and interoperability. Any software with an OPC UA client interface can access this driver. Data sources include production equipment such as milling machines, lathes, and grinders; sensor packages; and other hardware, with connectivity to many machines using one driver. Because GE Digital's driver operates without polling, there is no loss of data – for higher reliability, continuous updates, and real-time information always available.

03 Improve data security while enabling analysis and optimization

OPC UA offers the security, scalability, and reliability required for industrial communications at all levels. With data available through enhanced connectivity and secure-by-design technologies,, manufactures can perform IoT-based analytics. Applications using MTConnect data provide more efficient operations, improved production optimization, and increased productivity.
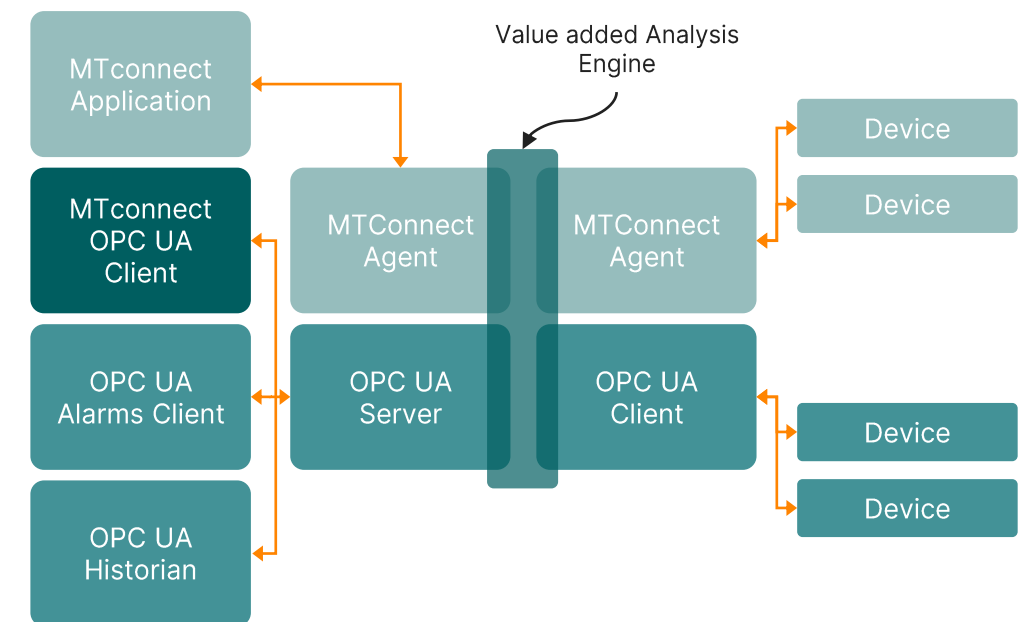
OPC FOUNDATION

MTConnect®

MTConnect | OPC UA DRIVER FROM GE VERNOVA

GE VERNOVA

Continuously collect real-time data from machine tool equipment for analysis and optimization

Features

- Connect to data sources including machine tool equipment such as milling machines, lathes, and grinding machines; 3D printers; robots; and more

- Continuous transmission of new data from MTConnect agents without solicitation/polling for zero loss of data

- Data exposed to OPC UA clients in real time

- Share data with any software with an OPC UA client interface

- Ability to view data and transmissions through a web browser for viewing events and troubleshooting production

- Uses standards such as HTTP(S) based on TCP/IP for transportation and XML for encoding data

- Standard definitions for machine components and data items

- Driver Configuration Tool allows for easy setup with automatic input of equipment components from MTConnect agents

- Security with authentication, trust list, and certificates

- Built-in trace functionality allows users to log the MTConnect XML data streams received via HTTP from the agents. Tracing can be set individually for each agent

- Built-in simulation functionality allows users to provide the driver with file data streams instead of receiving MTConnect data streams via HTTP protocol. Simulation can be set individually for each agent

- Monitoring and basic status information provided

Software Requirements

- Operating Systems: Windows Server 2019, Windows Server 2016, Windows Server 2012 R2 (64 bit), Windows 10, Windows 7 Professional SP1 (32/64 bit)

- Supports MTConnect standard 1.4.0

- Supports OPC UA specification 1.03 (not fully compliant). Any third-party software packages with an OPC UA client interface can access this MTConnect driver

Hardware and software requirements are representative and may vary by customer deployment. Please consult the product documentation for more details.

MTConnect Driver Software Structure

Capture data across your machines with the MTConnect-OPC UA Driver & deliver a better foundation for IoT-fueled efficiency & productivity.

LEARN MORE