

White Paper

OT Connectivity: Unlocking the Power of Convergence

Understanding operational technology (OT) convergence

[OT convergence \(connectivity\)](#) refers to the integration and interconnectivity of devices, systems, and processes in control systems in industrial and critical national infrastructure. The demand for increased productivity, efficiency and real time data analysis driven by a desire to gain the business benefits of smart manufacturing and industry 4.0 creates a need for connectivity between operational processes and business systems.

Benefits of OT convergence

Key benefits highlighted include:

- Comprehensive process control
- Remote real-time monitoring
- Enhanced automation
- Predictive maintenance
- Data-driven decisions

By connecting previously isolated systems and processes it enables comprehensive monitoring, control, and optimisation of Processes. OT connectivity allows remote real time monitoring and control of operational processes, leading to increased efficiency, reduced downtime, and optimised resource allocation.

It enables automation, streamlined workflows and rapid response to anomalies or disruptions the impact of which has been intensified by the rise of Industrial Internet of Things (IIoT) which has exponentially increased the complexity of OT connectivity.

Embedded sensors, actuators, and networking capability in physical assets to enables companies to collect near real time process data, monitor equipment performance, and optimise operations remotely. This integration with OT systems has paved the way for enhanced automation, predictive maintenance and data driven decision making.

The role of OT connectivity in predictive maintenance

OT connectivity is crucial for predictive maintenance as it is the transfer, collection, and analysis of real time data that in turn enables us to identify potential failures or maintenance and underpins all the business benefits which come from OT/IT convergence. Clearly a connectivity solution for OT needs to provide a secure boundary for the OT environment while brokering connections with external systems and must have strong controls to ensure availability.

Enhancing security and safety through OT connectivity

Connectivity can drive improvements in security by connecting and centralising security systems, and access control. OT connectivity strengthens overall safety and security in industrial environments by enabling early detection of potential threats from centralised or remote locations which in turn prompts early responses to incidents and improves risk management. It also allows for more data driven insights as OT connectivity facilitates the collection and analysis of a large amount of data which helps in identifying patterns and can easily aid in predictive analysis or future plugins to machine learning.

Legacy systems in an aging OT infrastructure were not built with connectivity in mind. It is a costly procedure to retrofit this capability into legacy systems, but Fujitsu has developed a solution whereby it is more economical and streamlined. OT connectivity allows organisations to match the rapidly changing market conditions as well as comply with regulatory requirements and most importantly it provides them with the ability to remain competitive in the digital age. By bridging these gaps and embracing the technologies to improve connectivity and catch up with the new technological advantages present, organisations will be able to transform their current operations and thrive in this increasingly connected world.

Fujitsu's virtual edge solution for OT connectivity

We provide a Virtual Edge solution that gives you a managed and connected telco grade host environment, specifically designed for this world which is secure and uses industry leading SD-WANs for connectivity. Virtual Edge deploys and runs autonomously and will enable you to run your workloads anywhere fully managed, with secure comms without worrying about the

details. This is supported by simple quick site installations that are centrally controlled with options for DIY installation allowing you to skill up in half a day. Our focus remains on flexibility and operational simplicity to meet the challenges of Edge deployments.

Connecting OT and IT: gathering data for operational optimisation

We are also working with organisations to connect their OT assets to their IT infrastructure in manufacturing facilities around the world, helping them to gather data that will enable them to better manage their OT estate and streamline their operations. This involves creating an active directory forest in the IT world to create the right secure access for their OT assets.

Enhancing digital transformation with OT connectivity

As the industry embraces digital transformation the importance of OT connectivity cannot be overstated, the integration of OT systems, IoT technologies and so forth offers an unprecedented number of opportunities for operational optimisation and innovation. OT connectivity brings us a new realm of data driven decisions and enables us to bring together multiple technologies and services to connect and protect an organisation's digital assets.

Checklist: Things to look for in an OT connectivity solution

When looking for a connectivity solution, consider including the following requirements when contacting suppliers or issuing invitations to tender:

- Solution must support connectivity for existing infrastructure
- Connectivity should allow connection to all sites in estate and should be scalable
- Should support multiple means of backhaul of information to central location for redundancy
- Must support secure ingress and egress of information including monitoring and control information
- Should support real time data integration and analytics

About Fujitsu

Our Purpose is to make the world more sustainable by building trust in society through innovation.

To fulfill the Fujitsu Group Purpose, we will enhance our ability to stay in tune with global society, while continuing to make agile changes, and creating value. We offer a broad range of products, services and solutions, and have approximately 130,000 employees supporting customers from over 50 countries and regions.

To find out more about Unlocking the Power of Convergence in Operational Technology, please email askfujitsu@fujitsu.com and/or +44 (0) 1235 79 7711 and quote 4219

Contact

Fujitsu
The Lantern
75 Hampstead Road
London
NW1 2PL

© Fujitsu 2023. All rights reserved. Fujitsu and Fujitsu logo are trademarks of Fujitsu Limited registered in many jurisdictions worldwide. Other product, service and company names mentioned herein may be trademarks of Fujitsu or other companies. This document is current as of the initial date of publication and subject to be changed by Fujitsu without notice. This material is provided for information purposes only and Fujitsu assumes no liability related to its use.