

WATERFALL FOR MQTT

ENABLING THE INDUSTRIAL INTERNET OF THINGS

Message Queuing Telemetry Transport (MQTT) is used frequently as a standard messaging protocol in Industrial Internet of Things (IIoT) network environments across the automotive, oil and gas, and manufacturing industries. While MQTT is ideal for connecting to remote devices with a small code footprint and minimal network bandwidth, opening such connections through firewalls to the Internet introduces attack opportunities. Waterfall for MQTT provides secure unidirectional, real-time transfer of MQTT published messages from an industrial network to MQTT subscribers on an enterprise network or out to the cloud.

The Waterfall for MQTT connector securely replicates MQTT sources and devices to enterprise networks. Enterprise and cloud users access the replicas normally and bi-directionally without risk to the original OT network. The Waterfall for MQTT connector enables businesses to leverage operations data throughout their enterprises and cloud infrastructures without exposing OT networks to cyber risk.

Waterfall for MQTT is simple to install, with user-friendly, web-based configuration and monitoring tools. Comprehensive diagnostics include real-time alarms that alert the user of fault conditions via Syslog, Windows logs, email, SNMP traps, log files, and Waterfall's monitoring console.

BENEFITS OF USING WATERFALL FOR MQTT



Supports all MQTT scenarios



Simple deployment –the connector runs entirely in the Unidirectional Gateway with a simple web user interface



Physically not able to transmit any remote attacks or malware propagation from external networks into protected networks



Facilitates compliance with NERC CIP, NIST 800-82, ANSSI, IEC 62443 and more



Maximum utilization of all MQTT features



Power



Oil & Gas



Rail



Facilities



Water



Manufacturing



Government

WATERFALL FOR MQTT



The Waterfall for MQTT connector allows the full structural transmission of MQTT, while preserving Quality of Service (QoS), queuing, and full support for the retain mechanism with all its options for message persistence. Designed specifically for industrial security, Waterfall for MQTT makes it impossible for data or attacks to flow from the enterprise or the Internet back into operations networks. Critical OT assets are now absolutely protected against any threats of remote cyber attack, incoming viruses or human errors entering OT networks through the Unidirectional Gateway.

MQTT has multiple logical implementations, all of which are supported by Waterfall for MQTT connector. The connector can participate as either Broker or Client (Publisher or Subscriber). The Waterfall for MQTT connector creates a secure foundation for IIoT networks, which scale smoothly and operate reliably in support of mission-critical applications, including support for Sparkplug B. Users access and utilize the MQTT information originating on the industrial network normally, while supporting business objectives without cyber risk to operations.

FULLY- FEATURED & ROBUST SUPPORT:

- » Guarantees state-aware and interoperable networking without compromising flexibility and efficiency
- » Supports enforced state monitoring (LWT) with Sparkplug B
- » Supports data-agnostic and vendor agnostic messaging transport, allowing devices made by different vendors to share and use data, regardless of the data's origin and the payload content
- » 1-10 Gbps standard throughput
- » Fully transparent to MQTT users

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ABOUT WATERFALL

Waterfall Security Solutions' unbreachable OT cybersecurity technologies keep the world running. For more than 15 years, the most important industries and infrastructure have trusted Waterfall to guarantee safe, secure, and reliable operations. The company's growing list of global customers includes national infrastructures, power plants, nuclear generators, onshore and offshore oil and gas facilities, refineries, manufacturing plants, utility companies, and more. Waterfall's patented Unidirectional Gateways and other solutions combine the benefits of impenetrable hardware with unlimited software-based connectivity, enabling 100% safe visibility into industrial operations and automation systems.

Waterfall's products are covered by U.S. Patents 7,649,452, 8,223,205, and by other pending patent applications in the US and other countries. "Waterfall", the Waterfall Logo, "Stronger than Firewalls", "In Logs We Trust", "Unidirectional CloudConnect", and "CloudConnect, and "One Way to Connect" are trademarks of Waterfall Security Solutions Ltd. All other trademarks mentioned above are the property of their respective owners. Waterfall Security reserves the right to change the content at any time without notice. Waterfall Security makes no commitment to update content and assumes no responsibility for any mistakes in this document. Copyright © 2023, Waterfall Security Solutions Ltd. All Rights Reserved. www.waterfall-security.com