Eaton Cyber Secured Remote Monitoring Cybersecurity – Q&A

An Eaton secure-by-design solution

Complies with rigorous cyber-security, process, requirements and testing standards

What is remote monitoring for UPS?

An uninterruptible power supply (UPS) is ready 24/7, 365 days a year to secure the supply of high-quality electrical power to your critical load.

Such a critical and complex system requires regular maintenance to avoid unexpected downtime. Helping to minimize the risk of outages, remote monitoring is like having a virtual Eaton specialist on site.

Eaton Cyber Secured Monitoring is a cloud-based service designed to predict the failure of power components. And with the addition of analytics, it shifts power monitoring from a reactive to a proactive model.

What are the benefits of remote monitoring in a UPS system?

The main benefits include:

- 24/7 expert remote monitoring of Eaton 1 phase and 3 phase UPS devices.
- Integration with Eaton field service technicians, technical support, and monitoring analysts.
- Real-time, on-the-go visibility with mobile and browser display of alarms and trends.
- 24/7 notification, call, and dispatch on critical alarms.
- Remote diagnostics for faster on-site repairs and validation of warranty claims.
- High temperature critical alarms.
- Lost communication alerts.
- Intuitive monthly and on-demand summary reports.

Remote monitoring also enables:

- **Time saving** – 24/7 specialist system monitoring with the capability to remotely diagnose any issue, and to assess whether the issue can be fixed remotely or requires on-site assistance.
- **End to end communication and data protection** Even a tentative cyber-attack can impact the voltages and current values of a UPS system. By identifying whether your system has been exposed to an attack, our team of experts can help prevent any damage.
- **Optimization of the installation budget** by showing all required interventions over a 12-month term.

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up to 40%

First-time-fix rate thanks to remote diagnostics

8 h

Potential reduction in downtime thanks to anomaly detection

up to 50%

less travel for maintenance and emergency calls (≈200 kg of CO2 reduction over the lifetime of a UPS)

How does Eaton Cyber Secured Monitoring guarantees the cybersecurity of your devices?

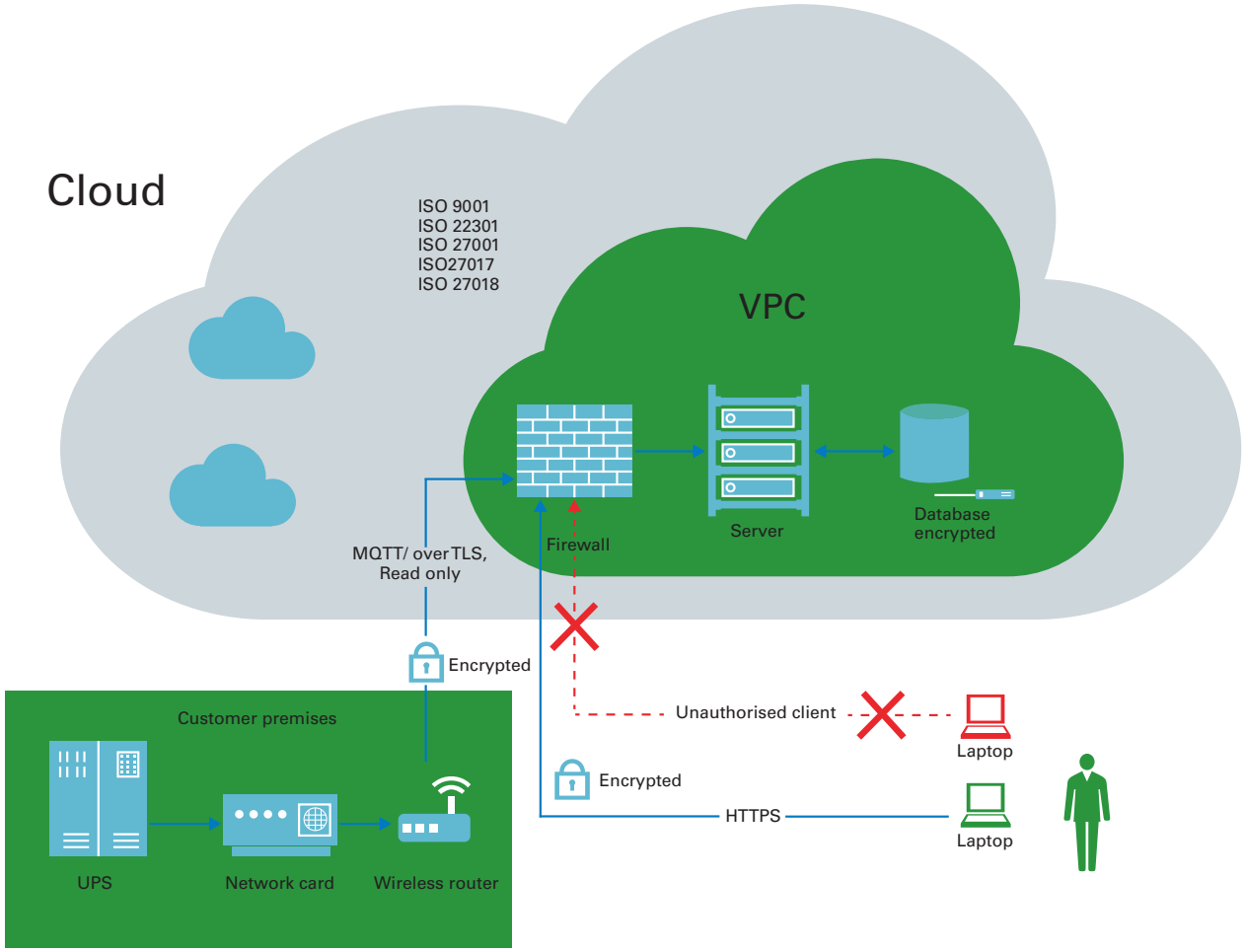
Eaton Cyber Secured Monitoring uses Industrial Gateway and Gigabit Network connectivity cards, **the first to receive UL 2900-1 and IEC 62443-4-2 certifications**, based on strong security criteria including **encryption algorithms**. The chosen IoT platform has been a market leader in Europe for over 20 years and is yearly audited for the IEC certification.

Security is further guaranteed by:

- Ensuring the device cannot be accessed externally.
- **Natively implemented MQTT** means broker-based attacks are not possible. Our partner is rated A+ for its encryption capability.
- **NO SQL database** means that changes can't be made using query language while database access is decoupled and wrapped through own APIs.
- **The web app firewall** represents additional protection for the cloud application.
- The company is often **independently audited** and regularly **runs penetration tests**.

What protocols does it use?

- **MQTT over Transport Layer Security (TLS)** is a cryptographic protocol that allows **secured and encrypted communication** between a UPS and cloud server at the transport layer. On top of the transport layer encryption provided, TLS also ensures data confidentiality. All **cloud code runs inside a secure Virtual Private Cloud,** which cannot be accessed by third parties.
- Communication with the internet, via the application's Cockpit and Dashboard, runs on **HTTPS.**



What is a secure-by-design approach?

Eaton's corporate strategy outlines a secure development lifecycle that includes guidelines and deliverables for **guaranteed safety and security during the development of Eaton products.**

For example, at a very early stage, a product's data flow is analyzed to identify any criticality. Any sensitive and personal data that can be identified through this process is checked to ensure compliance with the latest data protection regulations, such as GDPR. This process enables Eaton to identify security requirements for all products with in-built intelligence. Security requirements are identified based on a wide different range of industry standards. Collated into a single internal document , these requirements provide a uniform approach to product development that is compliant with multiple security standards and can therefore be sold in any part of the world.

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Did Eaton apply the secure-by-design approach to its Cyber Secured Monitoring?

The secure-by-design approach was used throughout the development of the entire solution. Run manually rather than by automated scanning, the security assessment found that it was not possible for any sensitive or personal data to be regularly transmitted.

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