

ENERGY MANAGEMENT
INDUSTRY & BUILDING AUTOMATION

vNode empowers econ4 Energy Management Software to a secure and scalable solution for multi-protocol energy data management

By replacing a legacy SOAP interface with vNode as a unified connectivity layer, econ4 evolves into a powerful platform that simplifies multi-protocol data integration, enhances system robustness, and strengthens industrial energy management.

INTEGRATOR: **econ**
Ein Unternehmen der 

DISTRIBUTOR: **NRK**
Software GmbH



Introduction

Migration from self-developed SOAP interface to vNode as the central connectivity platform for econ4 Energy Management Software developed by econ solutions.

Solution

Deployment of vNode to acquire, historize, and deliver data from multiple protocols (Modbus, OPC, BACnet, MQTT, REST API) directly into econ4.

Target Customers

Industrial and commercial companies in the DACH region using econ4 for ISO 50001-compliant energy management.





Objectives



Replace the discontinued self-developed SOAP interface with a reliable and future-proof solution to ensure continuous data integration into econ4.



Enable direct, flexible, and scalable acquisition of data from multiple sources (Modbus, OPC UA, BACnet, MQTT, REST API).



Reduce integration and maintenance efforts while improving speed and flexibility of deployment.

Main challenges



Need for a single platform capable of handling multiple protocols and data models without vendor lock-in.



Existing SOAP interface was deprecated, risking disruption in data acquisition and integration with econ4.



Deployment required compatibility with both on-premises (Linux Debian) and containerized (Docker) environments.

Products Used:



vNode IIoT
Edge Platform

[Learn more](#)



econ4 Energy
Management Software

[Learn more](#)

Results

- ✓ Seamless migration from the deprecated SOAP interface to vNode, ensuring uninterrupted data flow into econ4.
- ✓ Single connectivity platform for multiple protocols, simplifying data acquisition and reducing operational complexity.
- ✓ Scalable architecture with Store&Forward functionality for remote and central deployments.
- ✓ Improved flexibility by enabling both SQL-based storage and direct historian-to-REST integration.
- ✓ Faster deployment cycles thanks to demo modules, unlimited tags, and modular architecture.



Background

In the past, econ solutions relied on a separate interface software to import data into its econ4 Energy Management Platform. Through this setup, the company was able to collect data from diverse sources such as Modbus, OPC Classic, and OPC UA, which were stored and processed in an SQL database. The transfer of this information into econ4 was handled via a self-developed SOAP interface.

When the original development partner announced the discontinuation of this interface, econ solutions urgently needed a reliable and future-proof alternative. The first step was to identify a solution capable of both collecting

data from multiple sources and delivering it into SQL databases.

After researching the market, econ solutions discovered vNode Automation's IIoT connectivity platform. An attractive feature for econ's team was vNode's demo mode, which allows each module to run for two hours after installation, providing the flexibility to restart and test repeatedly. This enabled econ's technical team to thoroughly evaluate vNode's wide range of data acquisition modules before taking the final decision.

Solution

Following the successful integration between econ Software and vNode, it became clear that vNode offered far more than a replacement for the SOAP interface. vNode not only writes to SQL but also provides the ability to archive and preprocess data locally through its Historian module. By combining this with the REST API Server module, econ solutions was able to securely and efficiently deliver stored and processed data directly into econ4, creating a more robust, scalable, and future-ready architecture.

Using vNode, econ solutions replaced its SOAP-based interface with a unified connectivity platform. vNode acquires data from heterogeneous sources (Modbus, OPC Classic, OPC UA, MQTT, BACnet) and either historizes it locally or transfers it directly to econ4 via REST.

Practical Guide to Implementing an MQTT Broker in the Cloud

[Read more](#)

vNode Modules Used:

- REST API Client
- OPC UA Client
- Modbus Client
- MQTT Client
- BACnet Client
- Historian
- Derived Tags

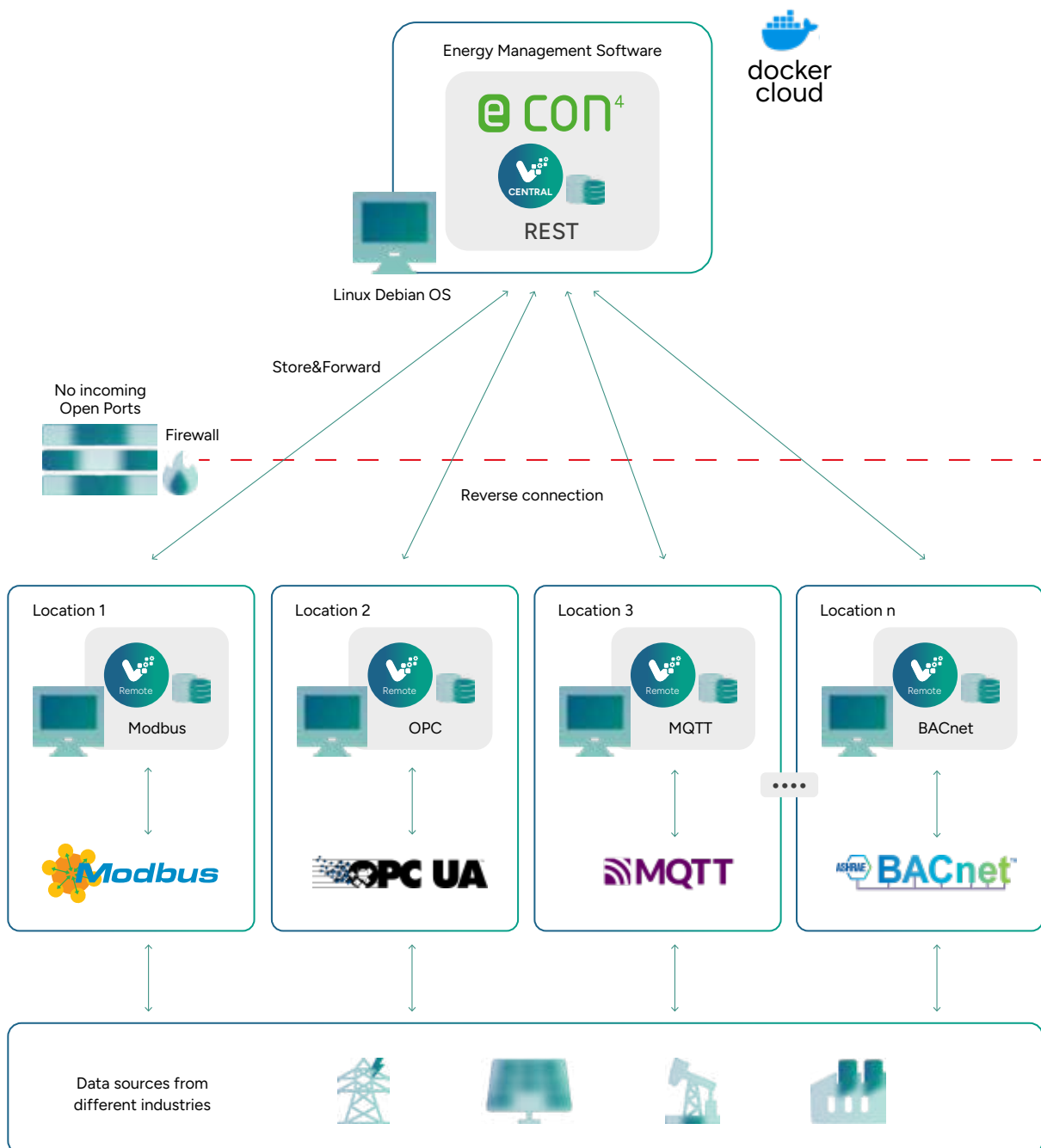
Featured vNode features

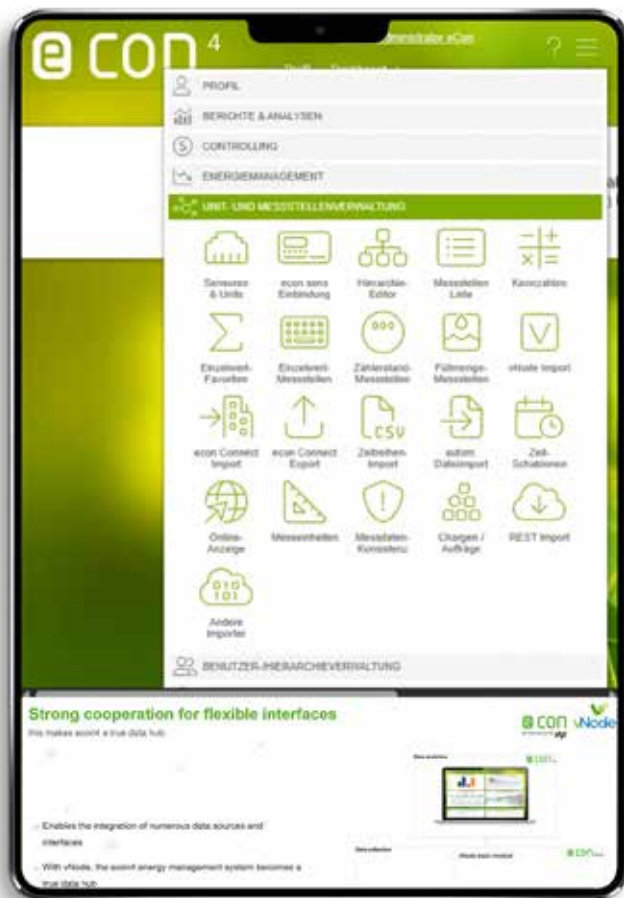
- Store&Forward
- Unlimited tags and multi-protocol support
- Backup and scalability management

Architecture

Data is collected from multiple protocols by vNode modules, historized locally if needed, and delivered via REST API to econ4. The Store & Forward architecture secures reliable transmission from remote sites to central systems.

vNode is running on the same Linux Debian System as the econ4 software. Sometimes it needs to run on Docker Container, especially when using cloud environments. vNode allows industrial data to be sent to the cloud using the main IoT protocols: MQTT, OPC UA, REST API, ODBC to cloud services: Azure IoT Hub, Google Cloud and AWS. This makes it a plug & play solution for connecting industrial devices with IT systems and cloud applications, with no programming required.





“

By using vNode, we were able to significantly reduce our implementation time.

”

-Uwe Knauf, Head of Product Management, econ solutions GmbH

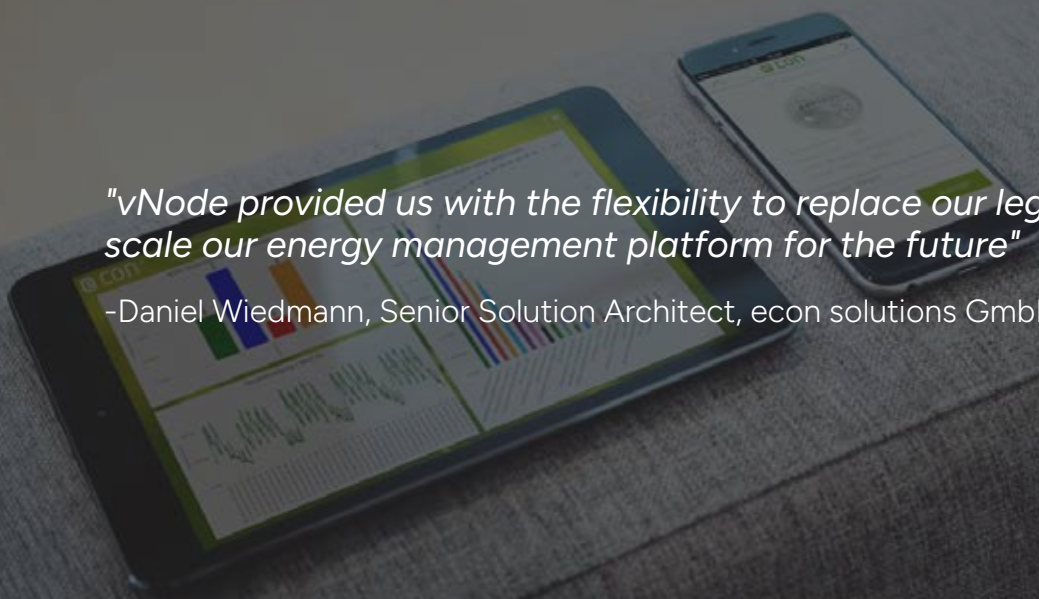
Learn more about vNode Store&Forward feature here

[Watch the video](#)

The architecture developed by econ solutions ensures that econ4 functions as a true data hub, compliant with ISO 50001 and capable of integrating the industry's most relevant data transfer models.

"vNode provided us with the flexibility to replace our legacy interface and scale our energy management platform for the future"

-Daniel Wiedmann, Senior Solution Architect, econ solutions GmbH



Integrator Partner



Ein Unternehmen der 

econ solutions GmbH, headquartered in Mannheim, Germany, is a leading provider of energy management solutions focused on helping companies optimize their energy consumption, reduce operating costs, and meet sustainability and ISO 50001:2018 requirements. With its flagship platform, econ4, econ solutions enables organizations across industries such as manufacturing, energy, water, mobility, and healthcare to monitor, analyze, and optimize their energy performance.

Thanks to its open and flexible integration capabilities, econ solutions empowers businesses to connect to any data source (electricity, gas, water, compressed air, temperature, or pressure) regardless of manufacturer. As a trusted partner in the DACH region and beyond, econ solutions combines technological innovation with deep expertise in industrial energy efficiency.

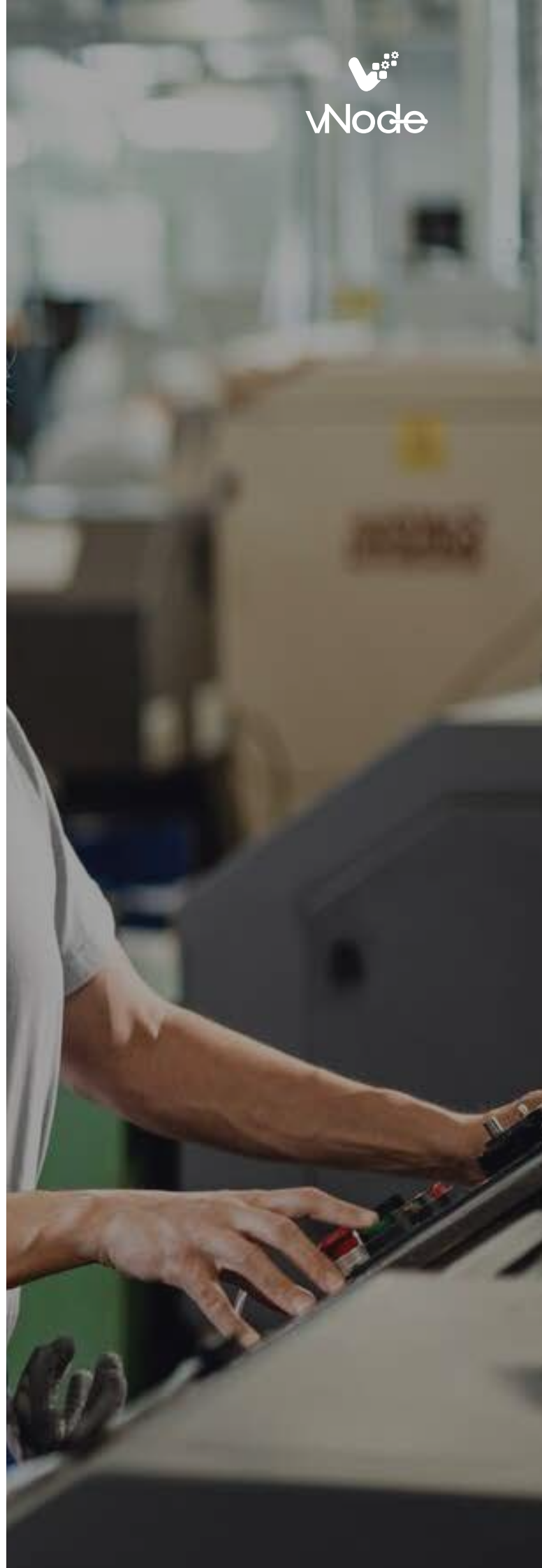
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Distributor Partner



MTK Software GmbH, headquartered in Pulheim, Germany, serves as the official distributor of vNode software across Germany, Austria, and Switzerland. With over a decade of experience in OPC Classic and OPC UA technologies, MTK Software stands out for bridging the gap between Operational Technology (OT) and Information Technology (IT), enabling seamless interoperability across industrial devices and platforms.

Their offerings include advanced tools for automation, IoT connectivity, edge computing, protocol conversion, and data integration, all delivered through scalable and secure solutions. By partnering with vNode, MTK Software empowers customers to simplify complex integration tasks, enhance operational efficiency, and drive digital transformation across industries.

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