AVAT VIRTUAL SERVICES

Reliable remote maintenance optimized for TEM-Evo

A cogeneration-plant manufacturer and service provider decided to introduce digital communications as the basis for future-proof remote maintenance. Replacement of analog modems with industrial VPN routers laid the foundations for reliable connections to remote user desktops. These end-points, in turn, were leveraged to remotely access TEM-Evo engine controllers.

USE CASE
**First-time installation
and modernization**

REGION
Worldwide (stationary)

PRODUCTS
**AVAT VPN ROUTER
AVAT CONNECT
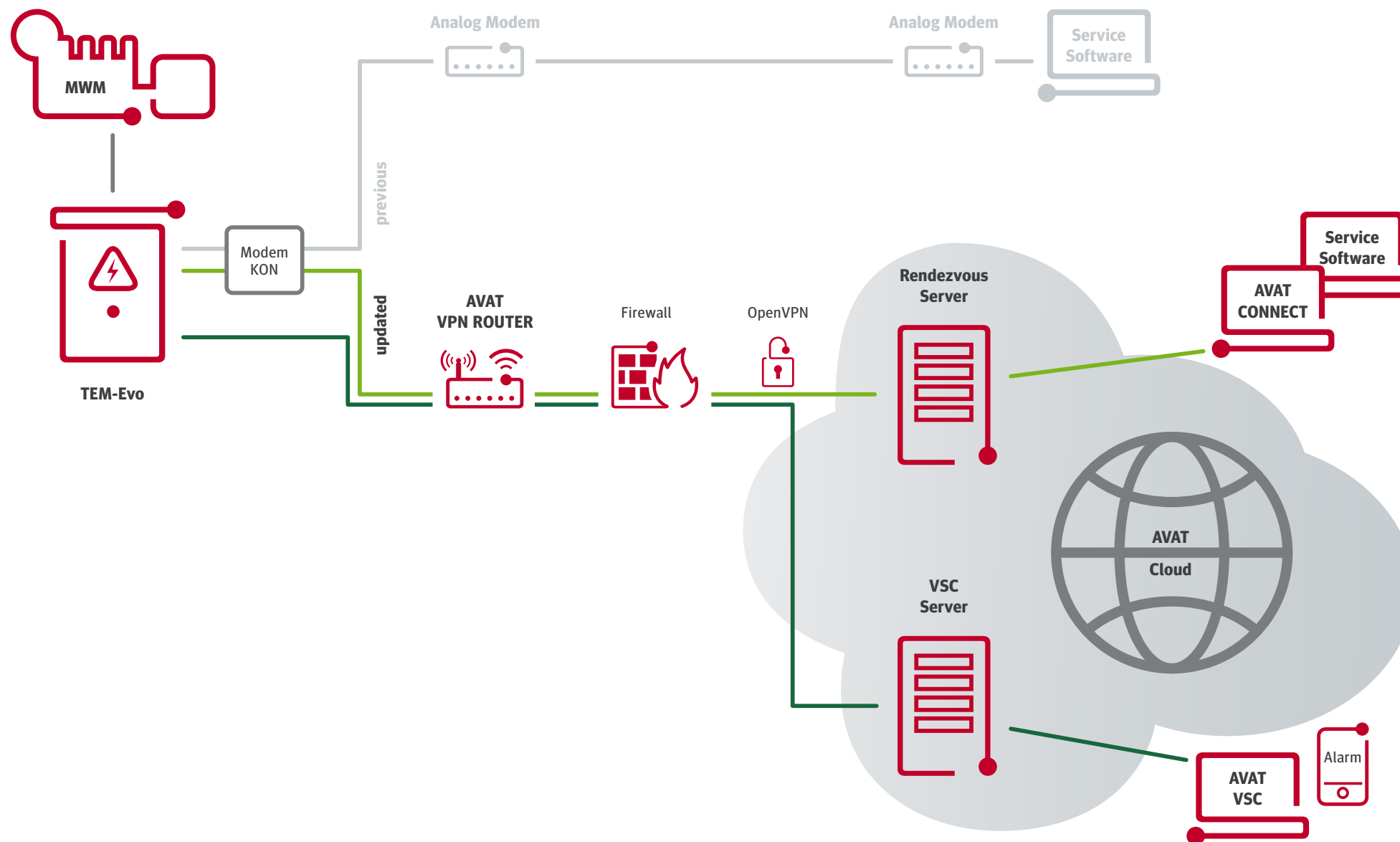AVAT VIRTUAL SERVICE CENTER**

THE CHALLENGE

To safeguard the viability of its service business for MWM gas engines, and to expand its offering, the customer needed reliable remote-service tools. Key project requirements were:

- Quick and easy introduction of digital communications
- At-a-glance overview of all engines maintained, and worldwide access
- Ability to take immediate action in response to faults
- Ability to guarantee high availability of cogeneration plants to operators
- Lower operating and maintenance costs
- A system based on the latest IP technology
- A fast-track project schedule
- Installation and implementation of connectivity within three months

OUR SOLUTION: EFFICIENT COORDINATION OF SERVICES

As the developer and manufacturer of the TEM-Evo engine controller, we have an unrivalled skillset, enabling us to deliver end-to-end solutions to all the service provider's needs.

AVAT VPN ROUTERS were connected on-site to the TEM-Evo controllers, allowing secure data transmission via the Internet. After successful authentication, the routers connect to AVAT CONNECT and establish a secure VPN link. Internet access is either via the operator's broadband network or via a mobile connection. AVAT CONNECT acts as a rendezvous server. Registered users can access the engines they maintain worldwide via this server, and perform remote tasks via a suitable service software tool. The AVAT VIRTUAL SERVICE CENTER automatically sends status and fault notifications by e-mail to the service professional's mobile devices – in real time.

AVAT VPN ROUTER

Simple and stable connection via device drivers developed by AVAT for serial communications with TEM-Evo.

- Continuous remote access and visualization of engine controllers by means of TEM-Evo software package
- Secure connectivity via OpenVPN and integrated firewall
- Multiple TEM-Evo controllers, and other industrial control systems, can be connected to each router
- Rapid installation (mounted on top hat rail)

AVAT CONNECT

Central overview and task-based management of all users and devices, custom-configurable.

- Simple configuration of routers without the need for specialist IT skills
- Customizable multi-client support with definable, user-specific rights
- All communications between controllers and users take place via outbound connections (to the rendezvous server), guaranteeing secure data transmission from end to end

AVAT VIRTUAL SERVICE CENTER (VSC)

Detailed, real-time information on the entire engine pool, viewable in a Web browser.

- Automatic output and status notifications for all engines in a specific plant (connection status, operating status, output and engine speed)
- Central planning, control and monitoring of services
- Display of operating hours with recommended timing of maintenance work in accordance with predefined service intervals

Qualified alert management

Automatic warnings, and notification of faults, status changes or scheduled maintenance by e-mail.

- Customizable alert profiles for each e-mail recipient
- Freely configurable times for employee standby shifts

ENGINE OPERATION AND MAINTENANCE ACTIVITIES – PROACTIVE, COST-EFFECTIVE AND EASY TO SCHEDULE

Quick and easy replacement of the legacy modems with state-of-the-art AVAT VPN ROUTERS has made reliable connectivity possible between the cogeneration plant and service professionals' desktops. AVAT CONNECT gives the customer direct access, from any location, to all of the TEM-Evo controllers in its engine pool.

AVAT VIRTUAL SERVICE CENTER helps the customer to organize remote maintenance work more efficiently and provide services more closely aligned with real-world operational requirements. The tools automatically issue alerts on engine status, output and faults, enabling more rapid remote diagnostics. These additional capabilities allow the customer to more effectively plan engineer deployments and future-proof its service portfolio. Furthermore, less time on the road reduces service costs and safeguards the cost-effectiveness of the cogeneration plants.

AVAT VIRTUAL SERVICES were implemented and commissioned with the first routers within the defined time frame. The customer received a made-to-measure package in return for one-off investment in routers optimized for TEM-Evo, plus monthly fees for AVAT CONNECT and AVAT VIRTUAL SERVICE CENTER. This made it possible to implement AVAT VIRTUAL SERVICES within the customer's budget.

KEY SUCCESS FACTORS

- Free four-week trial
- Requirements analysis and consulting provided by experienced specialists
- Pre-configuration of AVAT VPN ROUTERS
- Efficient on-site installation and commissioning
- Implementation of AVAT CONNECT
- Reliable connectivity to the remote-service portal
- Successful testing of remote access via the TEM-Evo service software

HIGH PERFORMANCE PARTNER

We have been a trusted partner to the gas-engine industry for 25 years and also the manufacture of TEM-Evo engine controllers – deployed in thousands of cogeneration plants.

- Technology leader in control systems for large gas engines and cogeneration plants
- More than 8,500 engine controllers in operation worldwide
- Extensive experience gained from projects with a total exceeding 12,500 MW installed electric power
- Smart solutions featuring process and control automation for multiple commodities – for sustainable energy generation and distribution

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