

**Maximizing security.
Creating transparency.
Increasing efficiency.**

VisuNet RM Shell 5
for Thin-Client Operator Stations

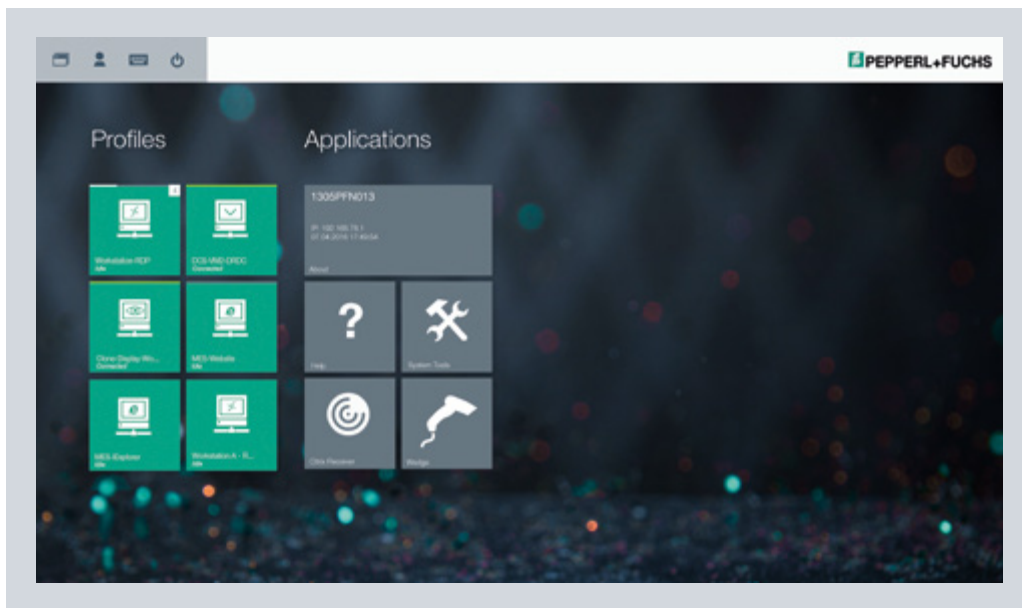


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 **PEPPERL+FUCHS**

VisuNet RM Shell 5— Smart HMI Solutions for Industry 4.0

The most efficient thin-client solution ever: VisuNet RM Shell and the innovative Control Center enable future-driven remote monitoring of VisuNet Remote Monitors (RMs)—including configuration, maintenance, and support from a single centralized workstation. Ethernet technology makes communication possible within the production process and enables direct access right down to the sensor—across all hierarchical levels. This allows the opportunities and benefits presented by Industry 4.0 to be fully harnessed, all the way up to Zone 1/21.



Home screen. All local remote protocols are listed on the home screen.

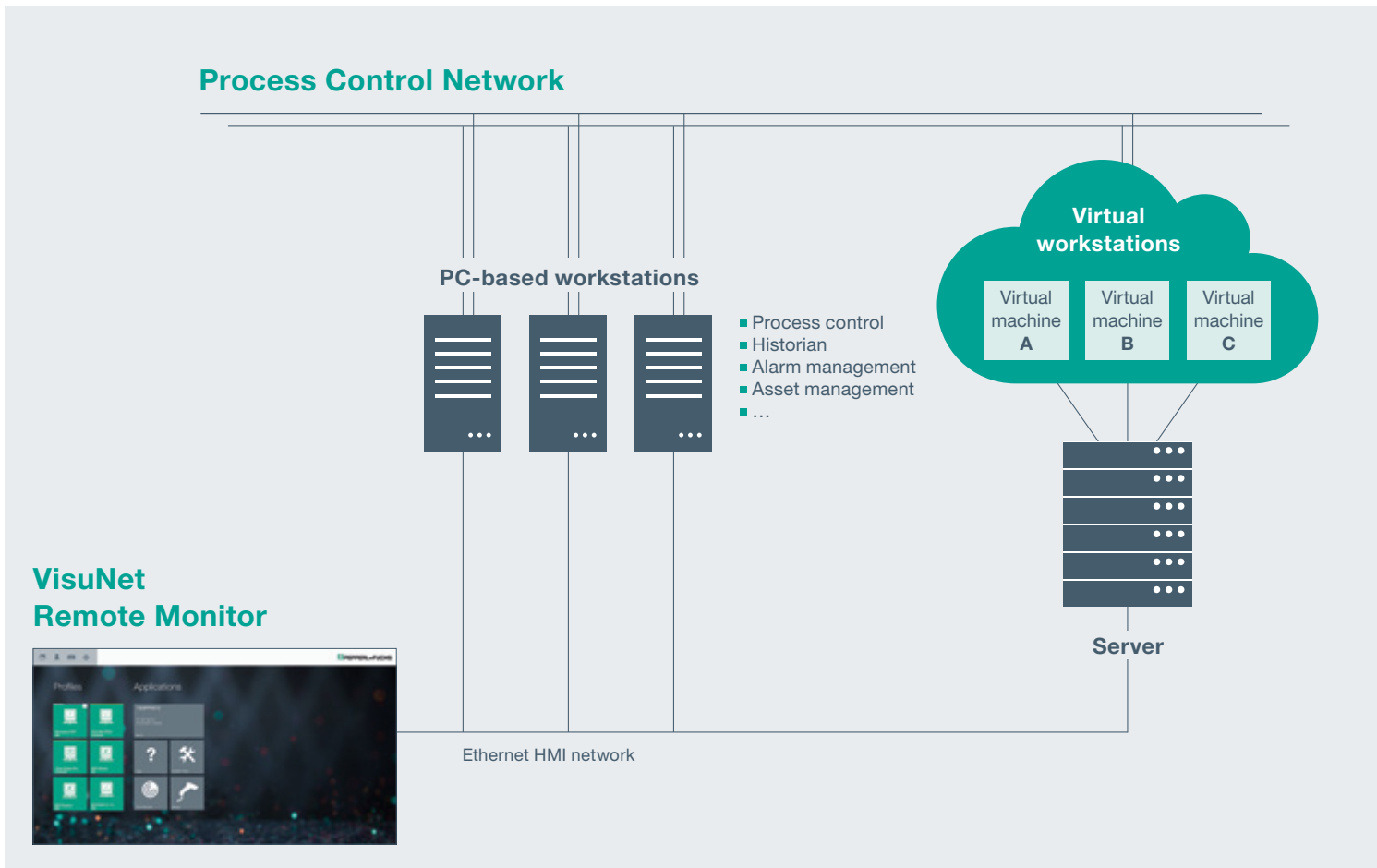
Smart Thin-Client Solutions to Meet Future Demands

With the introduction of the VisuNet RM Shell 5, we present the next generation of firmware for VisuNet RMs that meets the demands of tomorrow in every detail: industrial thin clients that are tailored for virtual and conventional process control systems.

Proven Features with the Latest Generation of Operating Systems

The new RM Shell 5 is based on the latest generation of the Microsoft® operating system Windows® 10 IoT Enterprise LTSC, and it supports the newest protocol generations, such as RDP 10, VNC, and NetC@P. With the long-term servicing branch, the new Windows® version offers long-term availability of security updates. A highlight of the latest versions of RM Shell is the innovative VisuNet Control Center software, which maximizes efficiency by making it possible to manage smart VisuNet RMs centrally. Configuration, maintenance, monitoring, support, and firmware updates are all carried out from a central workstation via convenient remote access. Hazardous areas and cleanrooms no longer need to be entered, saving time and reducing costs.

Virtualized Process Control Systems to Meet Future Demands



With the RM Shell 5, the latest remote protocols (e.g., Microsoft® RDP 8.0) are installed to allow easy connection to conventional (PC-based) workstations or modern, virtual workstations hosted on a server.

Fully Compatible with PC-Based and Virtualized Process Control Systems

VisuNet RMs use standard Ethernet networking to access process control host systems. With virtualization, only the hardware is subjected to the hazardous area; the application is hosted and data is secure in the safe area. The digital communication between the RM and the host system ensures consistent, perfect-picture quality, without the configuration headaches common to analog KVM systems.

Browser with Restricted Access to Web Applications

In addition to the remote protocols, RM Shell 5 also offers a restricted web browser, which allows users to define fixed addresses to web applications like web-based MES. Operators can only access the predefined websites. This helps increase system security and reduce the risk of a malware infiltration from unauthorized websites.

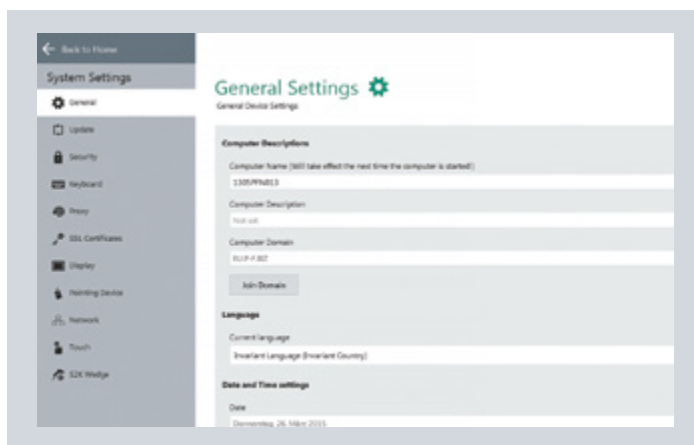
With HTML5 support, the current version of the restricted web browser is perfectly adapted to the latest generation of control systems, including DeltaV Live Operator Interface. The HTML5 browser supports rendering of highly dynamic websites and is permitted on every end device. Restricted access ensures maximum security and compatibility with new technology.

Secure, Reliable Connection with Cutting-Edge Features

VisuNet RM Shell 5 provides the highest security standards. A built-in firewall and USB lockdown reduce the risk of data, malware, and viruses from infiltrating the system. An intuitive user interface enables simple configuration and integration into the process control system.

Security Mechanisms for Maximum Reliability

Configuration is simplified with predefined, password-protected user roles (operator, engineer, and administrator). This streamlines system access and the settings required during the configuration process of a VisuNet RM.



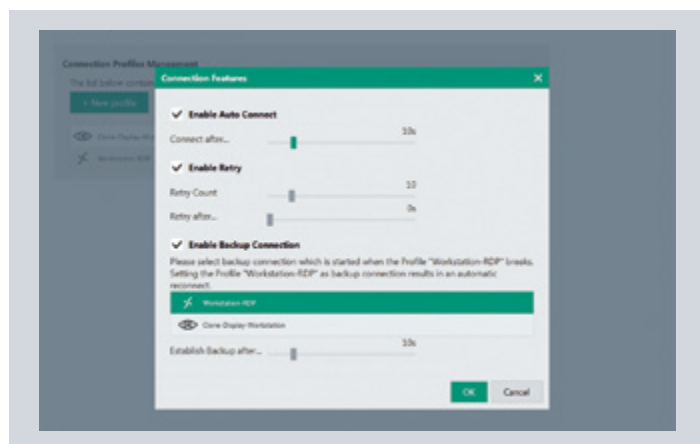
System settings. Consistent design of important VisuNet RM settings.

Data Security Meets Adaptability

The latest Shell version was optimized for virus scanners, with Windows® Defender already integrated. Administrators can install third-party antivirus agents (such as McAfee Endpoint Security) on every device. The Universal Write Filter also offers reliable virus and malware protection. A scheduler function even makes continuous use of the write filter possible by allowing periodic system reboots to be planned.

A dialog filter rounds out the innovative security features. It allows only administrator-defined app windows and blocks user access to the file system.

RM Shell 5 was optimized for MS Active Directory Integration. Overall, the firmware provides maximum security for data and the drive—while also enabling flexibility for individual requirements and streamlined, user-friendly operation.



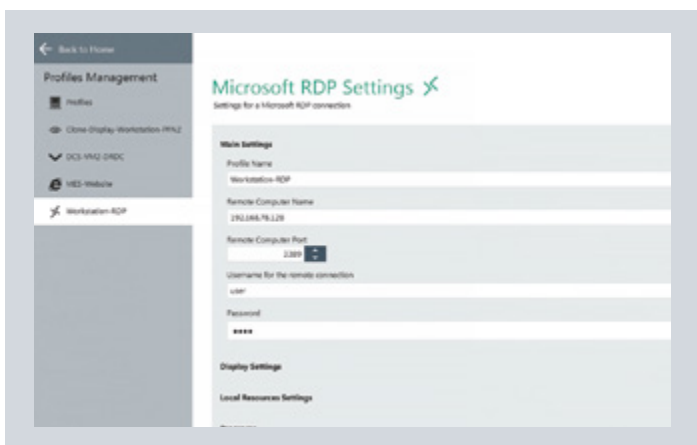
Backup connection and auto connect. Backup connections allow users to specify alternate host systems in the event of a host failure.

Additional Functions for Maximum Process Stability

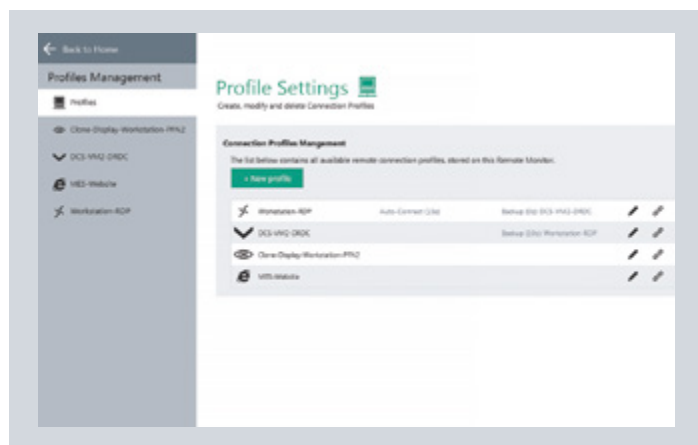
VisuNet RM Shell 5 also helps improve process stability. Additional functions ensure a stable connection to the process control system host and an error-free display of the process images. Furthermore, the auto connect function can be used to configure the RMs so that they automatically establish a connection to a defined host system after starting up without any further intervention on the part of the operator. This way, even connections that have been temporarily interrupted can be reestablished in a fully automatic process. Backup host connections can be configured in the RM Shell to automatically connect the RM to a backup host if the primary host fails or is not accessible.

Expanded Administrator Role Increases Flexibility

With Windows® system access, RM Shell 5 offers expanded administrator capabilities. This allows administrators to install third-party apps, such as virus scanners, Java Runtime, or drivers. Links and access to the installed apps can be managed. To adjust advanced settings, administrators can access the Windows® control panel and settings. This gives administrators flexibility to adapt the firmware based on the application needs.



Profile management. A unified remote protocol editor for all profile connections (e.g., RDP 10, VNC).



Consistent editors for all remote protocols, including access to advanced features like auto connect.

Complete Control with App Management

RM Shell 5 now allows third-party applications to be installed, with access defined for each individual user role.

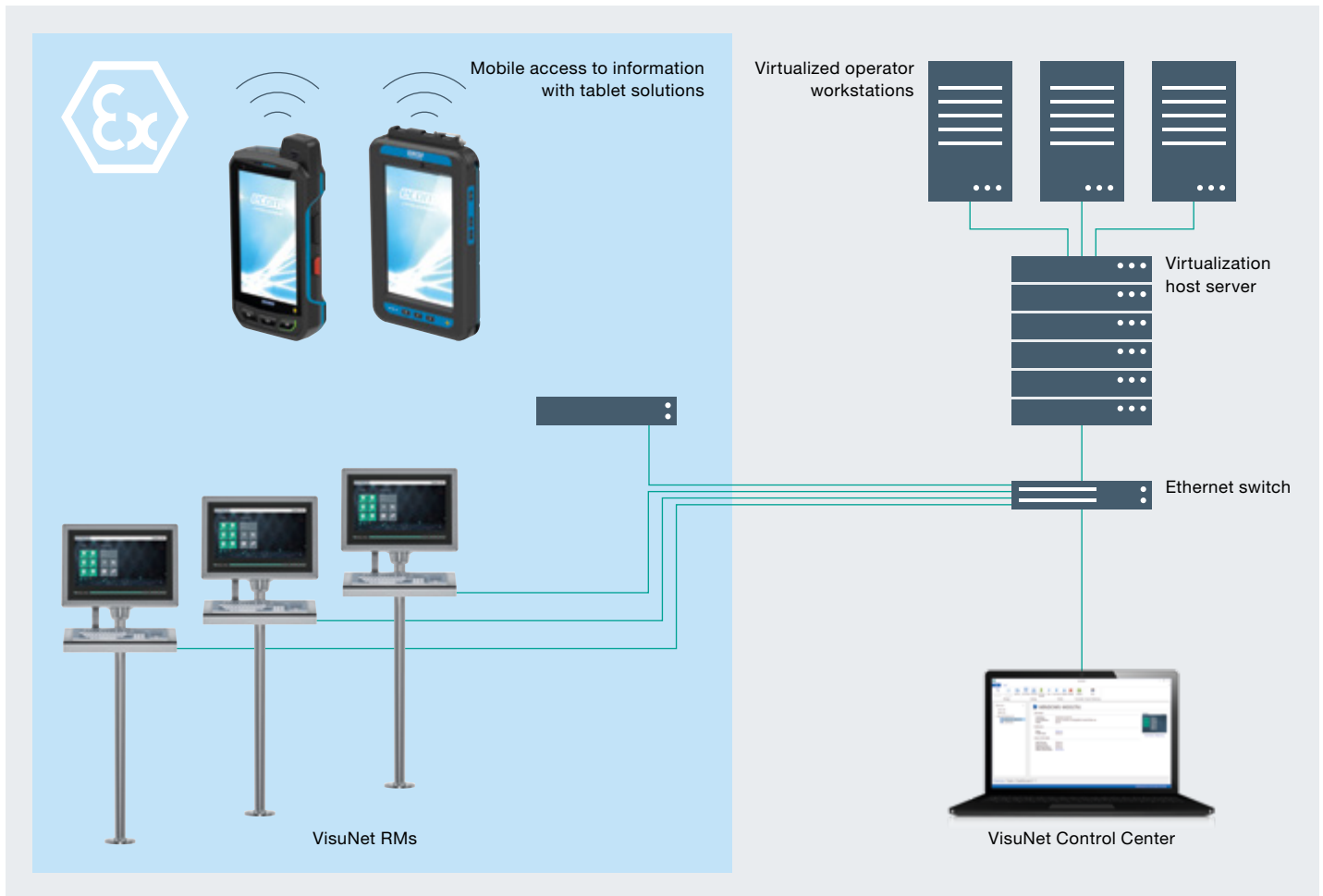
Easy Adjustment of Third-Party Apps

Third-party apps can be set to auto-start when an end device boots, and start parameters can be defined. The dialog filter then controls which windows are allowed to open. This keeps data secure and ensures ease of use.

Highlights

- VisuNet RM Shell 5—next-generation firmware for VisuNet RMs
- Developed within the Microsoft® Windows® 10 IoT Enterprise framework to support IT compliance
- Replaces Explorer and restricts operators from system access
- Simplified, touch-screen-optimized user interface to support easy system setup (plug and play)

Industry 4.0-Generation Firmware: Efficient Remote Management



Fast commissioning, efficient maintenance, optimal support: with VisuNet Control Center, smart VisuNet RMs are conveniently managed from a centralized workstation via remote access.

Innovative Profile Management with Remote Configuration

The remote configuration function offered by VisuNet Control Center ensures maximum efficiency. The administrator can connect to a VisuNet RM to create a new profile without leaving the central workstation. This eliminates the need to enter hazardous areas and cleanrooms. The profile can then be conveniently transferred to any number of monitors: an extremely simple and economical way to manage profiles.

ecom by Pepperl+Fuchs— Synergies for IoT Applications

With ecom, Pepperl+Fuchs now offers solutions for mobile computing and communication in hazardous areas. This innovative technology allows fast and simple integration of customer applications via mobile devices—an ideal complement to the existing portfolio for process industry. For example, as extension of an HMI network, this opens up new possibilities for Industry 4.0. Additionally, it increases safety and makes applications and processes more efficient than ever.

www.pepperl-fuchs.com/ecom

Session Shadowing: Maximum Transparency, Optimal Support

VisuNet Control Center provides extensive possibilities for support and monitoring using session shadowing. The dashboard function displays all monitors in an overview, ensuring any errors are immediately recognized. If problems occur, the process engineer can immediately connect to faulty VisuNet RMs and support the user from their central workstation. If no employees are on-site, the process engineer can take control through password-protected remote access. VisuNet Control Center provides fast and cost-effective repairs and delivers maximum process transparency.

Central Management and Control Using Remote Command

Using Remote Command, VisuNet RMs can be managed in the field from a centralized workstation. This approach offers a significant advantage with fault prevention and maintenance, as all VisuNet RMs can be shut down and restarted remotely. If a server needs to be rebooted in a controlled manner for maintenance, the smart monitors can be connected to an alternative server via remote access. In this way, VisuNet RM Shell 5 and the new Control Center ensure maximum process reliability and efficiency during maintenance.

Efficient Remote Management— For Individual Devices and Groups

Smart VisuNet RMs can now be managed remotely from the convenience of a centralized workstation via the Control Center. Configuration, networking, and firmware updates can all be performed via remote access in a quick and efficient process, as opposed to separately for each individual device. Entire monitor groups can be managed on demand in a single work step, saving time and reducing costs.



Smart HMI System: Harnessing the Benefits of Industry 4.0

VisuNet RMs paired with the innovative remote monitoring systems offered by the Control Center illustrate the incredible range of opportunities that are now possible with Industry 4.0. Smart HMI systems enable communication within the process for the very first time and have direct horizontal and vertical access to the information from the production system—all the way down to the sensors in explosion-hazardous areas and across all hierarchy levels. It is the perfect solution for harnessing the powerful benefits of Industry 4.0 for the process industry, all the way up to Zone 1/21.

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Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity