Fleet Management
Staying up to date and in control of your RTU installed base

The grids are transitioning to geographically distributed intelligence. Maintenance of so many devices with limited human resources presents a huge challenge for network operators. ABB’s RTU500 series provides network operators with an easy-to-use and secure interface for staying up to date and in control of their intelligent device fleet.

Challenges

Cyber security
Cyber security findings may require fast reaction times in identifying and addressing exposed vulnerabilities. In such cases, geographically distributed devices present a huge challenge for cyber security.

Backup and restoration
Ongoing changes and upgrades of installed devices require detailed configuration and version tracking. Existing backup configurations may get lost or get mixed up, which may lead to significant operational interruptions in case of emergency.

Preventive maintenance
Variable multiple loads and renewable generation leads to a more dynamic power grid. Electrical devices may reach operational limits sooner, leading to unexpected, premature failure.

Solution

ABB’s RTU500 series offers remote access capabilities with integrated cyber security features, providing network operators with an easy-to-use and secure interface for staying up to date and in control of their intelligent device fleet. The versatile RTU500 series devices can be integrated into ABB’s SDM600 or a vendor-independent central management software platform, allowing users to identify vulnerable devices and deploy countermeasures via patch distribution from a central location. Centralized configuration and firmware version tracking allows change tracking for auditing purposes. Configuration backup and restoration in one or many RTU500 series devices enables fast network operation recovery times in case of emergency.

The vendor-independent SNMPv3 standard-based interface sends RTU health information to a dedicated network monitoring system or directly to a SCADA system, enabling preventive maintenance planning before the fault happens.
Enabling products

RTU500 series
- RTU500 series brings the information from the physical power grid to your SCADA system and can be used as a gateway between operation and information (IT/OT) technologies (SNMPv3).
- Remote access functionality enables management of many RTU500 devices from a central location.
- RTU500 script interface enables full flexibility and integration into third-party central management software platform.
- Role-based access control mechanisms according to IEC 62351 standard and self-signed or customer flexible certificate handling (X509) prevent unauthorized access.
- Integrated self-configuring firewall and communication encryption by means of VPN, HTTPS, Secure IEC 60870-5-104 and DNP3 Communication (IEC 62351) provides additional layer of cyber security protection.

SDM600 central management platform
- Tested solution for fast deployment and extended functionality
- Easy integration of ABB devices
- Third-party device integration through standard protocols and interfaces:
  - LDAP
  - Radius
  - SNMPv3
- Central account management according IEC 62351-8
- Certificate (X509) handling and generation
- Disturbance recorder data evaluation and management

Functions

- Configuration and firmware version tracking for auditing purposes
- Identification of cyber security vulnerability affected devices
- Cyber security patch deployment to many devices
- Adding new product functionality by means of device firmware upgrade from central location
- Device configuration and firmware backup creation
- Configuration and firmware restoration remotely from a central location
- Manual or automatic/scheduled operations
- Single or multiple device handling
- Preventive maintenance by collecting device health status

The Fleet Management solution is supported by the complete RTU500 series.

Benefits

- Confidentiality: Data exchange through encrypted communication channels
- Inter-compatibility: Works with complete RTU500 series family
- Complete solution available: Time-proven SDM600 software platform for fast and easy centralized fleet management rollout; other platforms supported via script interface
- IoT-enabled: Network status can be monitored via SNMPv3
- Integrated to SCADA: Network alarms can be transmitted as system events to existing SCADA system

Application example

ABB Power Grids Germany AG
P.O. Box 10 01 64
68128 Mannheim, Germany
+49 621 381-3000
+49 621 381-7622
rtu-sales-support@de.abb.com
abb.com/substation-automation

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