

RTU Newsletter

Issue 3/2011

Product News

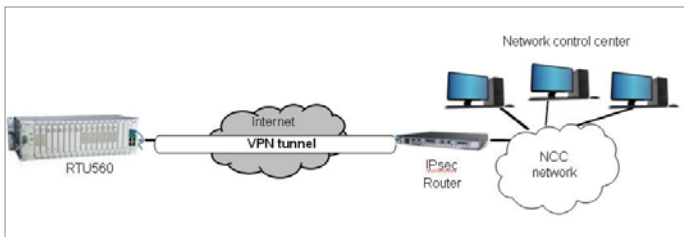
Protocol enhancement

Within the Release 10.3 the implementation of several protocols was enhanced. For example the IEC870-5-101/104, DNP 3.0, Modbus and Indactive 33 have been further improved. The enhancements of the Indactive 33 protocol, such as additional measured value formats are available now. The main benefit are the increased migration possibilities of the Indactive 33 systems to the RTU560. Detailed information can be found in the release notes of RTU560 and CMU firmware.

Cyber security - VPN

Since public networks (e.g. Internet) are more and more used for communication with the RTU, higher security standards are required. For this reason the virtual private network (VPN) tunnel with confidentiality, integrity and authenticity is a popular and cost efficient medium to use. In a first step the RTU560 establishes an encrypted channel to an IPsec Router. Fixed and public IP addresses are supported (e.g. ADSL with fixed IP) and the authentication is handled by pre-shared keys. In case of interest, please contact your local ABB responsible.

Dynamic and private IP addresses will be supported in further development steps.



Secure communication via VPN

Service/training

Release notes

In order to inform our customers appropriately about release changes for RTU560 and CMU firmware, we offer now release notes. At the moment these notes are available in German and English. Please contact your local ABB responsible if you are interested in the documents.

Events/exhibitions

Network Management Forum 2011

End of September 2011 the German Business Unit Network Management presented ABB's solutions during the Network Management Forum. Here, customers and experts were able to present their experiences in the application of ABB solutions.



Future applications were discussed at the Think Tank

Around 280 visitors from all over the world caught up on new products and solutions while listening to presentations in three forums. Main topics this year were remote control, power protection and automation and the Ventyx product portfolio.

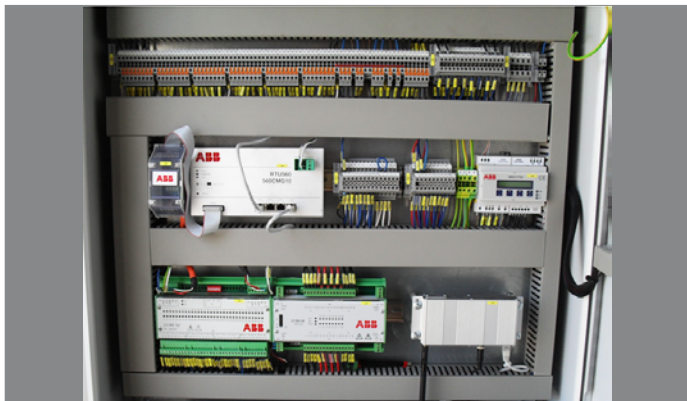
The event offered customers the possibility to talk about their experience with ABB products in their applications. The presentations in the historic convention centre in Heidelberg were supplemented by an exhibition of the complete range of systems and products from the Business Unit. Additionally, partner companies exhibit their communication products.

The event responsible Karl-Heinz Scholz looks back to a very positive event. "Again, we could present many innovations and had an active exchange with our customers." Moreover he mentioned how important this exchange is since it offers customers the possibility to get actively involved in the development of ABB's products.

Project News

ABB's RTU in the smart grid of infrax

The company Infrac is responsible for the infrastructure of several networks in Belgium and supplies over 120 communities and 710.000 end customers with electricity. The company with approximately 1500 employees, worked together with ABB Belgium for a Customer Minutes Lost optimization to reduce the outage time.



The RTU560 DIN Rail solution for Infrac

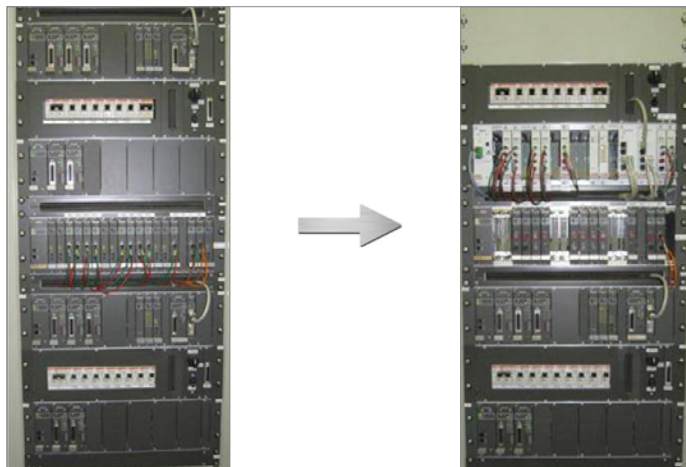
Infrac decided to automate 108 existing MV/LV substations in the Western region of Belgium. Due to increasing Distributed Energy Resources (DER), Active power (P), and Reactive power (Q) measurements of the loads as inputs for the SCADA-DMS systems were needed to replace the static load profiles. These 108 regional substations were manually operated. The aim of the project was to upgrade the manual switches to be motor operated and remote controlled. The former layout of the stations was a mix of different solutions and versions with different single lines of which a few were already equipped with circuit breakers and protection relays. Some had auxiliary voltage supply only.

Infrac determined the following requirements for the secondary systems: First, the RTU solution should be the same for all station layout types. Second, a need for 16 outputs to operate 8 Load Break Switches and approx. 50 digital inputs was expressed. Furthermore, the position of maximum 8 Load Break Switches and 8 Earth Switches as well as up to 4 Short-Circuit Indicators was obligatory. In addition 5 alarm signals from the energy supply were requested, as well as local and remote switches and temperature and Buchholz alarms. Finally, the transformer load measurement was: Active power (P) and Reactive power(Q) for SCADA-DMS. ABB offered the DIN Rail RTU560 based on 560CMG10 with IEC 60870-5-104 protocol and up to 250 data points. The solution was extended with one power supply 560PSU4x, 110/24VDC or 48/24VDC, one input module 23BE50, 64 inputs, one output module 23BA40, 16 outputs, one measuring module 560CVT02, P, Q, U, I and one communication module, DSL (RMS521) or alternatively a GPRS router.

Netz Veltheim GmbH

The Netz Veltheim GmbH, situated in North Rhine-Westphalia, Germany is the operating company of a 220kV super grid including transformer stations. The electricity network ranges over a large part of Germany with the size of around 4.500km² and supplies around 1.6 Mio. inhabitants. The old RTU200 equipment, operating since 1995, has been replaced by the new RTU560 solution as well as the old S.P.I.D.E.R. control system has been replaced by Network Manager.

It was an advantage for Netz Veltheim GmbH that during the entire migration phase the parallel operation of the S.P.I.D.E.R. control systems and Network Manager was guaranteed. Additionally the transfer of the current S.P.I.D.E.R. system database into the Network Manager database eased the switch. The installation of the new RTU560 in the existing RTU200 cabinets as well as the fact that most of the other existing modules could be used kept the investment costs for the Netz Veltheim GmbH on a low level. During the change process the system was fully functional which reduced the field work to 2-5 days.



Migration to RTU560 rack solution

An advantage for the company was that the data points from the old RTU200 were copied in the replacing RTU560 and were fully configurable during the whole process. This led to the fact that the connection between the single RTUs and the control system was only 2-3 hours down. Furthermore the company did not have to implement any additional equipment since the power supply was guaranteed during the entire installation process. These details supported also the low investment cost approach. To support the latest security requirements the RTU solution from ABB enabled the user to switch off the unused ports to prevent unauthorized access to the system.

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