DOMAT
MEMBER OF CEZ ESCO

NEWS LETTER

Spring 2024

Energy under control

Dear customers and business partners,

last year we broke the line of publishing our regular newsletters and for the first time you had the opportunity to read the autumn edition instead of the traditional winter edition. This year will be no different, which is why we are presenting you with the first spring newsletter, which you can read before the summer holidays.

You can browse below for updates on our product portfolio, as well as new inspiring articles from our skilled colleagues from technical support. At the outset, we would like to focus on one important news regarding the change in the management of our company. The current sales director Tomáš Chadim, who has extensive experience in the field and has been preparing for his new role for a long time, became the new CEO of Domat as of April 1. He handed over the management of the store to František Polívek, who has worked at Domat for more than ten years as a sales engineer. At the same time, František will become the fourth member of the board of directors.

The current CEO and founder of the company, Karel Vytřísal, remains chairman of the board of directors, will support the new management and participate in the company's strategic development.

We would like to express our sincere thanks to Karl Vytřísal for his long-term and successful leadership, which contributed not only to the great growth of our company, but also to the creation of many friendly relationships between employees and customers.

We believe that these changes will be a positive impetus for further growth and success for all of us, and we hope that we can continue to share everything together with you.

Domat Control System team

NEWS

New HT300 terminal with faster touch response

In the summer of 2024, we will introduce you to a new product from the HW part of our product portfolio - the HT300 terminal with a 7" touch screen for controlling and monitoring DDC controllers with the Domat runtime. It will display text and graphic definitions from the Domat IDE in the Domat Visual application.

Compared to its predecessor, it will be significantly more powerful with a faster response to touch, which will greatly improve the user experience.

In addition to the basic model HT300, it will also be available in larger variants: HT310 - 10" and HT315 - 15".

We believe that the new HT300 terminal will be a step forward in controlling and monitoring your controllers.

New version: Domat IDE 2.6.0.4 SR6

Domat IDE is a full-fledged replacement of previous versions of Merbon IDE. Retains all features from the latest version of Merbon IDE 2.5.0.7.

The Domat IDE 2.6.0.x version brings news in the form of a rebrand of the application, the addition of new platforms markMXL, mark520, w751-9301, w750-8212, addition of new touch screen operator unit HT3xx and the addition of communication protocols Hauser (.NET), Daikin iTC (.NET) and Text Parser (. NET). You can read about other news, fixes and compatibility in the Release Notes. The program supports OS with .NET Framework 4.7.2 or later – Windows 8 or later (Win8, Win8.1, Win10, Win11).

Download new version

ARTICLES

Domat Proxy Server

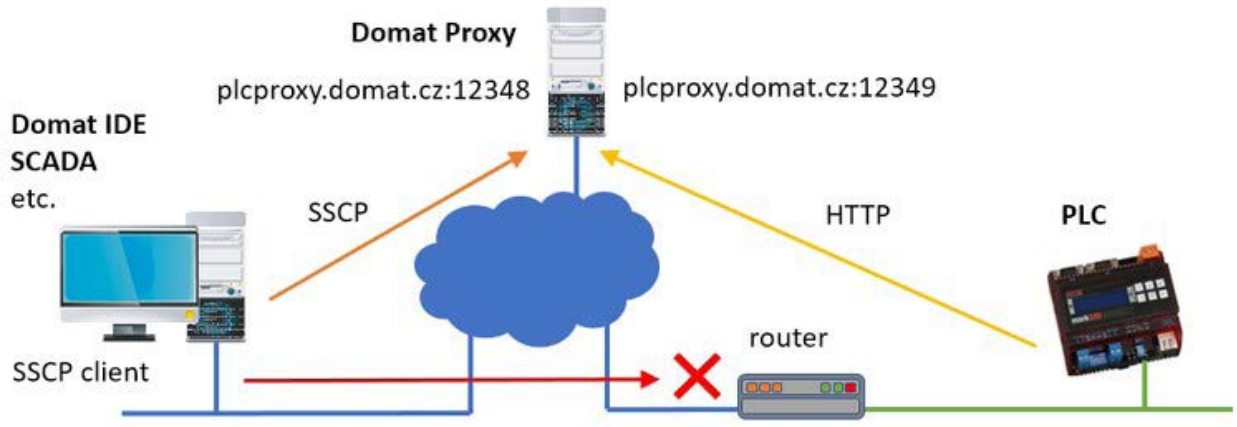
Why Domat Proxy?

Domat Proxy is a service that enables access to a PLC in a LAN network without the need to establish access to the network via a public IP address. If we want to connect to the PLC, which is in the role of (SSCP) server, from the outside - via the Internet and the public address of the router that connects the internal network to the Internet, a rule must be set in the router for forwarding data to the internal address in the network - the address PLC. Network administrators usually try to avoid these settings because an open port on a public IP address is a security risk: it can become a target for attack.

The ideal solution is to use a VPN: set up a separate technological network, deploy a VPN router on the PLC side and thus connect the PLC and the client through a secure environment. But this is not always possible or economical. Then the Domat Proxy service can come in handy, which mediates the connection between the PLC and SSCP client (e.g. Domat IDE or SCADA), without the need to set rules for incoming packets on the router.

How does it all work?

The prerequisite is that the PLC is installed in a network from which access to the Internet is possible. Furthermore, the network gateway (Default Gateway) and the DNS server address must be set in the PLC. The gateway is necessary for the PLC to send data to the Internet, the DNS server must be available for successful translation of the domain name (here plcproxy.domat.cz) to the IP address.



The technical support department (support@domat.cz) will generate a so-called Proxy ID free of charge upon request. This is the code with which the PLC reports to the proxy server and thus opens the communication channel. After uploading the configuration, the PLC connects itself with the assigned Proxy ID to the proxy server operated by Domat and is ready to receive data from the proxy server. We can see a successful connection in the System Status in the PLC (Connected).

Clients then do not access the PLC directly (where the router will not let them in), but to this proxy server with the same Proxy ID as set in the PLC. The client can be Domat IDE, SCADA, or any other client program (OPC server, Domat Visual, etc.). The connection can be set as secure (TLS), see the IDE help - in this case, it is necessary to use the https:// protocol in the proxy server address, or tcps:// and other TCP ports.

What are the expenses?

Proxy ID allocation and the service itself are free. Domat Proxy facilitates remote management and commissioning - all that is needed is for the PLC to have access to the Internet. Using Domat Proxy is more secure than redirecting traffic from a public IP address, port mapping, etc., because from the point of view of the customer's network, it is an outgoing http(s) connection, which is usually allowed without problems. Via Domat Proxy, values can be read and written, but also the program can be played, the PLC can be restarted and the PLC configuration can be downloaded or uploaded, so it is a full-fledged programming approach. However, this is a non-guaranteed service, so read the **licence agreement** carefully.

Anything else important?

Detailed settings on the side of the PLC and client programs can be found in the Domat IDE help. In the case of SCADA, the proxy connection and possibly its security is set in the definition data point of the connection in RcWare Vision. Attention, the secure connection directly in RcWare Vision is not functional, so it cannot be tested here; in SCADA, however, even the secure connection works correctly. Domat Visual does not yet support connection security.

Even though the PLC is not directly exposed to the Internet, it is advisable to observe basic security measures, in particular not to use the default password to access the PLC and to use only the necessary level for connection (for example, SCADA does not have to connect as admin, but as user, as it will not perform programming or configuration work). The overall security concept should be designed in cooperation with the facility operator. Domat Proxy can help with commissioning and servicing, especially in the early phase of the project and right after its completion, when we temporarily install an LTE modem at an event where permanent remote access is not expected. In this case, Domat Proxy significantly simplifies connectivity settings - it is not necessary to order a public IP address or set up an APN from the provider.

In case of questions, do not hesitate to contact **Domat technical support**.

TLS security

Secure communication in PLCs is rapidly gaining importance and in some projects the deployment of PLCs with TLS (Transport Layer Security) security is already a requirement.

In the following, we will learn the basics of encryption and authentication and show some scenarios from a design and application programming perspective. More information on the whole issue, detailed descriptions of connection establishment and the like can be found on the Internet, we will only discuss the basic principles and especially the implications for the project organization and the setup of PLCs and other programs. Sometimes we come across the abbreviation SSL (Secure Socket Layer), TLS is its more modern successor.

TLS Security - in general

TLS security - examples of communication

Launch of the new ONLINE OVERVIEW CATALOGUE

We were happy to announce that we have launched a new online overview catalogue for you in Autumn.

It will make it even more convenient for you to explore our wide range of products and system solutions for building control, energy management and measurement and control technology. This catalog corresponds to the design of our website and we strongly believe that it will help you choose the right products that you need.

Browse the catalog

Modbus device in Domat IDE

domat IDE

If we want to read and write to a device via Modbus in Domat IDE, it is necessary to have an image of its variables, a so-called prototype, declared in the communication channel.

Typically, we have a PLC with a serial channel - e.g. RS485 - and a device connected to it, communicating with the Modbus protocol. Devices are, for example, various I/O modules, UI/UC... room controllers, air conditioners, or solar power plant inverters. Domat IDE needs to know what address the device has and which registers specific data is read and written to. Domat IDE includes a pre-installed Domat device library, which can also be detected automatically. But a prototype needs to be created for third-party devices.

Read the article

Light and Building 2024 successfully closed a chapter full of innovation and inspiration

Another successful edition of the Light and Building trade fair came to a close in Frankfurt am Main after six days full of innovation. The event brought to the fore the latest trends in lighting, wiring and building automation.

With more than 2100 exhibitors from all over the world, we consider Light and Building 2024 to be a great success. Teams of engineers, designers, manufacturers and other experts shared their knowledge and presented the latest technological innovations that push the boundaries of lighting and construction.

„The atmosphere at the exhibitors' stands, in the halls and in the entire exhibition center was simply fantastic. We are extremely happy that so many exhibitors and visitors, as well as our long-standing partners, continued the success story of the world's leading trade fair for lighting and building technology in 2024," sums up Wolfgang Marzin, President and CEO of Messe Frankfurt.

The Light and Building 2024 trade fair focused not only on technological advances, but also on important topics such as sustainability and energy efficiency. Discussions and presentations related to these topics attracted great interest and provided a platform for the exchange of ideas and best practices among more than 151,000 attendees..

AMPER – SMART & CONNECTED WORLD ends a successful 30th year!

The AMPER fair, the largest international event in the field of electrical engineering, energy, automation, communication, lighting and security, in the Czech Republic and Slovakia, has concluded its 30th jubilee year. The fair hosted more than 410 exhibitors from 23 countries and attracted more than 23,000 trade visitors.

As usual, AMPER was full of news, project solutions and innovations. With 81 media and professional partners, 9 winners of the Golden AMPER competition, 11 conferences and seminars, 11 major sponsorships and one AMPER SUMMIT, it was a comprehensive event that showcased cutting-edge technologies and showcased the latest trends in the industry

Every year, we thank not only all of you who came to visit us, but also the organizers, who always try to make the entire event run smoothly.

We look forward to the next years!

REFERENCES

Take a look inside with us

The Imperial Spa, Karlovy Vary

The original building of the Imperial Spa was built in 1893, and at that time it was the most modern spa house in the world. After the ceremonial opening in 1895, it offered more than a hundred bathrooms, which served almost 2,000 guests daily.

The building was originally intended for operation only during the spa season. Reconstruction in the 1940s enabled year-round operation, but then the building gradually fell into disrepair and in the 1980s it was used only as a casino. Only after it was included in the list of national cultural monuments in 2010 did a major reconstruction begin, which took place between 2019 and 2023. The costs of the reconstruction rose from the originally planned 828 million CZK to more than 1.5 billion CZK, while some additional work will be to continue in 2024.

The supply of measurements and regulation was provided by the Rescom company with our control system. An interesting fact is that the project originally featured a different system, but its

manufacturer was unable to deliver components in the required quantity and on time during the chip crisis. Due to pre-stocking, Domat had no problem with this and therefore won the order in the end. The package covered by Rescom included the complete delivery and installation of hardware, switchgear, cabling, wiring, programming, commissioning and operator training. Considering the number of data points and the fact that it was a reconstruction, where the designer of the control system must respect the existing conditions, the modular wall system was chosen for the selected switchboards. This series is characterized by the ability to serve hundreds of physical data points while occupying only a few tens of centimeters of DIN rail.

A total of **13 wMXcom** regulators with additional expansion I/O cards are installed in the facility in 12 racks. These integrate over 800 physical data points. The **HT104 and HT200 panels** serve as the user interface.

The Domat control system mainly controls and regulates individual air-conditioning units, of which there are a total of 13. Peripherals include fans, hot water heating, heat pumps (heating/cooling), rotary recuperators, humidifiers, dampers, measurement of temperature, humidity, air quality, pressure differences, etc. Air handling units with local heat pumps enable individual cooling without the need to distribute cold water throughout the building.

Secondary, zonal regulation ensures the thermal comfort of individual spaces - whether using classic radiators, several types of floor convectors or underfloor heating.

The system also includes machine rooms for power supply and regulation of individual heating branches (floor heating, convectors, ventilation, radiators), including ventilation of individual spaces with exhaust fans. The control system also ensures the monitoring of dozens of fire dampers. All consumption measurements (hot water, cold water, heat, electrical energy) are integrated via the M-Bus bus.

The event was extremely demanding on the coordination of professions, starting from the design phase. In the building, which is a national cultural monument, new technologies - especially heat pumps - had to be installed in a way that did not disturb the original morphology of the building. Rescom's employees had to respect the restrictions that come with heritage protection, which mainly concerned the installation of cabling and peripherals. Thanks to the openness, a third-party visualization (TIRS.NET by Coral) could be used.

The Imperial Spa no longer function as a spa house, but serve as a social and cultural center. The construction of the concert hall and especially its acoustic solutions are unique in the world. We are glad that Domat was able to participate in this building, which from 2023 becomes another important reference for both Rescom and Domat and proves that even a historic building with a strict protection regime can be successfully equipped with a modern technology management system.

TRAININGS

After the renovation of our offices in Klecany, we will alternately hold the training dates again in Pardubice and near Prague:

11. 4. 2024 – Modbus Communication, Pardubice
18. 4. 2024 – Training of BMS designers, Klecany
25. 4. 2024 – Advanced Domat IDE, Pardubice
2. 5. 2024 – Merbon SCADA, Pardubice
9. 5. 2024 – Modbus Communication, Klecany
16. 5. 2024 – Domat IDE for beginners, Pardubice
23. 5. 2024 –Training of BMS designers, Pardubice
30. 5. 2024 – Merbon SCADA, Klecany
6. 6. 2024 – Advanced Domat IDE, Klecany
13. 6. 2024 – Training of BMS designers, Klecany
20. 6. 2024 – Domat IDE for beginners, Pardubice
27. 6. 2024 – Merbon SCADA, Pardubice

Programs of individual trainings can be found **HERE**.

Please register at **skoleni@domat.cz**.

Also follow our **news** and **calendar of events**, where we will inform you in time about any changes or newly announced dates. News regarding not only training can also be found on our social networks:

DOMAT SUPPORT ON WHATSAPP

Customer support is important to us and we try to constantly improve it and adapt it to your requirements. To make it even easier for you to communicate with our technical support, we have set up **WhatsApp: +420 732 806 418.**

YOUTUBE TUTORIALS AND FAQ

The technical support section on our website is regularly updated with new articles and instructions. The same goes for our **Youtube channel**, which we are also trying to expand with new tutorials. If you are solving a certain problem and you are looking for a specific solution, don‘t forget to study our FAQ and videos.

DOMAT
MEMBER OF CEZ ESCO

Czech Republic
Domat Control System s.r.o.
U Panasonicu 376
CZ – 530 06 Pardubice – Staré Čivice
T: +420 461 100 823
F: +420 226 013 092
Service hotline: +420 733 421 878
E: info@domat.cz
www.domat.cz

Training center Praha
Třebízského nám. 424
CZ – 250 67 Klecany
T: +420 222 365 395
F: +420 226 013 092
E: support@domat.cz

Domat Slovakia
Domat Control System s.r.o.
Údernícka 11
SK – 851 01 Bratislava
T: +421 911 165 038
F: +420 226 013 092
E: info@domat.sk
www.domat.sk

Armenia
INTEGRAL design & engineering
T: +374 10 520 188
E: info@integral.am
www.integral.am

Austria
Elektro-Zukunft H.Bayonas
T: +43 (0) 91126771
E: office@elektro-zukunft.at
www.elektro-zukunft.at

Benelux (distributor)
VEDOTEC BV
T: +31 088 833 68 00
E: info@vedotec.nl
www.vedotec.nl

Croatia
Aeroteh d.o.o.
T: +385 1 301 53 12
E: eduard.nothig@aeroteh.hr
www.aeroteh.hr

Germany
S+S Regeltechnik GmbH
T: +49 (0) 911-519 47-0
E: mail@spluss.de
www.spluss.eu

Greece
ARKTOS CONTROLS
Odysseos 16 Thessaloniki 54629
T: +30 231 055 7171
E: info@arktoscontrols.com
www.arktoscontrols.com

Hungary
LS Épületautomatika Kft.
T: +36 1 288 0500
E: vegh.peter@lsa.hu
www.lsa.hu

Jordan
OXYGEN GROUP
2154 Amman, 11953 Jordan
T: +962 799 860 869
E: info@oxgn-grp.com
www.oxgn-grp.com

Lithuania and Latvia
UAB BALTESA
T: +370 5 272 7902
E: info@baltesa.lt
www.baltesa.lt

Macedonia and Kosovo
SIMT d.o.o.
T: +389 2 306 9591
E: simt@simt.com.mk
www.simt.com.mk

Malaysia
TECH-STORE MALAYSIA Sdn. Bhd.
T: +603 8940 6688
E: info@tech-store.com.my
www.tech-store.com

Norway
KE Automasjon AS
T: +47 934 16 814
E: tj@ke.no
www.ke-automasjon.no

Poland
P&B Sp. z o.o.
T: +48 56 660 84 18
E: info@domat-cs.pl
www.domat-cs.pl

Portugal
WSBP – We Solve Building Problems
T: +351 239 700 317
E: info@wsbp.eu
www.wsbp.eu

Romania
SC LSA Romania Building Automation SRL
T: +36 1 288 0500
E: aracs.peter@lsa.hu
www.lsa.hu

Serbia
POWERHOME
T: +381 63 7405 671
E: office@powerhome.rs
www.powerhome.rs

Slovenia
MBC, d.o.o (system integrator)
T: +386 1 7865 106
E: info@mbc.si
www.mbc.si

KOVINTRADE CELJE (distributor)
T: + 386 1 560 76 78
E: regulacije@kovintrade.si
www.kovintrade.com

Spain
SEDICAL, S.A.
T: +34 944 710 460
E: sedical@sedical.com
www.sedical.com

Switzerland
GLT Engineering AG
T: +41 52 647 41 00
E: info@glt.ch
www.glt.ch

Sweden
Malthe Winje Automation AB
T: +46 (0)8-594 118 30
E: info@mwa.se
www.mwa.se

Thailand, Burma, Laos and Cambodia
IOT GENERATION Investment CO., LTD
T: +8428 6274 5097
E: info@iot-gen.com
www.iot-gen.com

The Netherlands
(system integrator)
Building technology bv
T: +31 571 262 728
E: info@buildingtechnology.nl
www.buildingtechnology.nl

Vietnam
IOT GENERATION Investment CO., LTD
T: +8428 6274 5097
E: info@iot-gen.com
www.iot-gen.com

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