ProxerSafe and KeySafe systems

System Requirements
at centralized KeySafe System with multiple cabinets

Please review the alternative system designs: <u>System Design - KeySafe and ProxerSafe systems</u>

Procontrol provides

1. Built-in computer with OS and SQL Database Manager

In each KeySafe cabinet there is a separate, 8" touchscreen-operated computer with Windows 8.1/10 OS, Ethernet TCP/IP RJ45 network interface, and with SQL Server Express 2008 R2 (or newer version) (Wi-Fi or mobile connection is an option). Procontrol provides the **built-in industrial computer**, the **Windows OS** and the **SQL Database Manager**.

2. UPS

In the cabinet there are built-in uninterruptible power supply and power distributor system, thus the **UPS** is granted by Procontrol too.

Client provides

1. Preparation for installation

Wall socket (230V) and Ethernet termination point (Wi-Fi or mobile solutions are optional) are needed for the installation of the cabinet. Laying the conduit pipes, cabling, preparing for installation is to be fulfilled by Client.

2. Client computer and OS

<u>Client</u>

The **ProxerNet software** (a multiuser Windows client program) **KeySafe module** ensures the comfortable management of the system. In ProxerNet KeySafe module the master data (users, keys, rights) can be reviewed, edited, key events followed-up and printed. This program is suggested to be installed on the administrator's PC. The software connects to the MS SQL database. This program cannot be used on the built-in touchscreen of the cabinet.

ProxerNet software KeySafe module – minimum hardware requirements

To run ProxerNet software, the Client's computer must fulfil at least the following parameters:

- Intel Core i3 processor, 2,2 GHz

- Memory minimum requirement: 2 GB RAM

- Hard disk with at least 10 GB free space

- For printing: ink jet-, matrix or laser jet printer compatible with Windows

Platform requirements

- Any of Windows 2008, 2008 R2, 2012, 2012 R2, 2016, Vista, 7, 8, 8.1, 10 operating systems (for both 32-bit and 64-bit editions)

Software requirements

- Microsoft .Net Framework 4.0

- Microsoft SQL Server Database Manager with Management Studio

    o Express version is suitable, Procontrol can take over installation and configuration

    o Suggested version: MSSQL Server 2008R2

Data connection with the data recorder hardware

- TCP/IP network connection with the central SQL Server database

At certain options the hardware and software requirements may alter. These conditions above are the minimum requirements – using faster computer, larger memory capacity, the program runs faster.

Further requirements

The following points are necessary for suitable operation of the system besides the computer and the ProxerNet software:

- Correct installation of data capture hardware

- Right instructions and training for employees

- Personnel handling the ProxerNet software

3. **Central SQL Server database manager**

- The system keeps master data and transaction data in **Microsoft SQL server database manager**. At centralized system with multiple cabinets a central SQL Server copy is needed, provided by the Client.

    o The data storage requirement is only from 100 MB to GB.

    o Only SQL Server Login authentication can be used at KeySafe cabinets, as they are not capable for Windows Active Directory Domain authentication (they cannot sing into domain).

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- The client computers (ProxerNet program) can use Windows Domain authentication.

- Full rights are necessary for the cabinets and for the client programs to the database (db_owner)

- Separate database server copy (instance) or separate server is recommended to avoid data safety, maintenance and load issues.

- In **one-cabinet system** the free **Microsoft SQL Express** or **WebEdition** is sufficient (the cabinet includes it as built-in feature)

- At **multi-cabinet system** a **central SQL Server database** copy is needed, provided by the Client. The requirements alter according to the operation mode of the multi-cabinet system.

  - There is a **stable**, continuous **TCP/IP network** connection among the KeySafe cabinets, e.g. they are in the same LAN: one, jointly used server is suggested (Operation controlled and managed by a central server). This ensures a simpler and cheaper solution.

    - The central database can be a free **SQL Server Express**

    - At network outage the normal operation ceases, the cabinets can be opened with emergency opening.

  - There is **no stable**, continuous **connection** between the KeySafe cabinets (e.g. **Internet**): a more complex solution is needed (Stand-alone operation with local and central synchronized databases)

    - A pay-version central SQL Server licence is needed (**Standard or Enterprise, 2008 R2 or newer version**); the Client must provide it, but Procontrol may deliver it too.

    - At network outage, the cabinet keeps on working according to the latest received settings and rights.

    - The synchrony, the replication system between the cabinets and the server uses the SQL Server's own inner replication (merge replication, two-way, push mode, synchronization per one minute)

4. Central KeySafe HWServer server computer

Central **HWServer** server computer is needed at multi-cabinet KeySafe **system in "Operation controlled and managed by a central server" operation mode**. It is a computer with Windows 7 (or newer) OS, continuous operation and UPS; a virtual machine is suitable as well. The computer is provided by Client.

Continuous TCP/IP connection with the cabinets is needed, as the HWServer Windows background service, running on the server computer, controls the operation of the cabinet (locks, key positions).

At the same time the MS SQL database service can run on this computer too.

5. Computer for a quick and remote maintenance of the system – installation, updates, support and troubleshooting

In all cases, a physical or virtual machine with Win7 or newer OS is highly recommended to grant **remote access** (VPN, Remote Desktop, Teamviewer, VNC). Computer and OS are provided by Client.

This computer can be a client PC with ProxerNet KeySafe program running on it, or even the server PC.

If no remote access can be granted, all tasks must be done on the spot, costs and fees of field-work will be charged by Procontrol.

The centralized, multi-cabinet system installation cannot be outsourced or done by Client, only Procontrol can take it. Merging the databases of more cabinets means significant database modification. This task can be fulfilled on the spot or via remote access. Remote access is highly preferred for support purposes as well. If no remote access can be granted, all integration and database merging tasks must be done on the spot; costs and fees of field-work will be charged by Procontrol.

6. Network TCP / IP ports, firewall

The ProxerNet client program (KeySafe Manager module) connects to the SQL Server database exclusively (to the central database at multi-cabinet systems). It works on 1433 TCP port typically, but can be configured otherwise. The port 1433 is allowed in the firewall so connection to cabinet's database gets possible.

The cabinets themselves

- connect to the HWServer service in online system via the 1101, 1002, 1004 ports, and accept the connection from the server via the 1003 port;

- receive the replication connection of the central SQL Server in replication system via port 1433;

- use UltraVNC via port 5900 for remote access and maintenance.

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