Roger Access Control System 5

Application note no. 008

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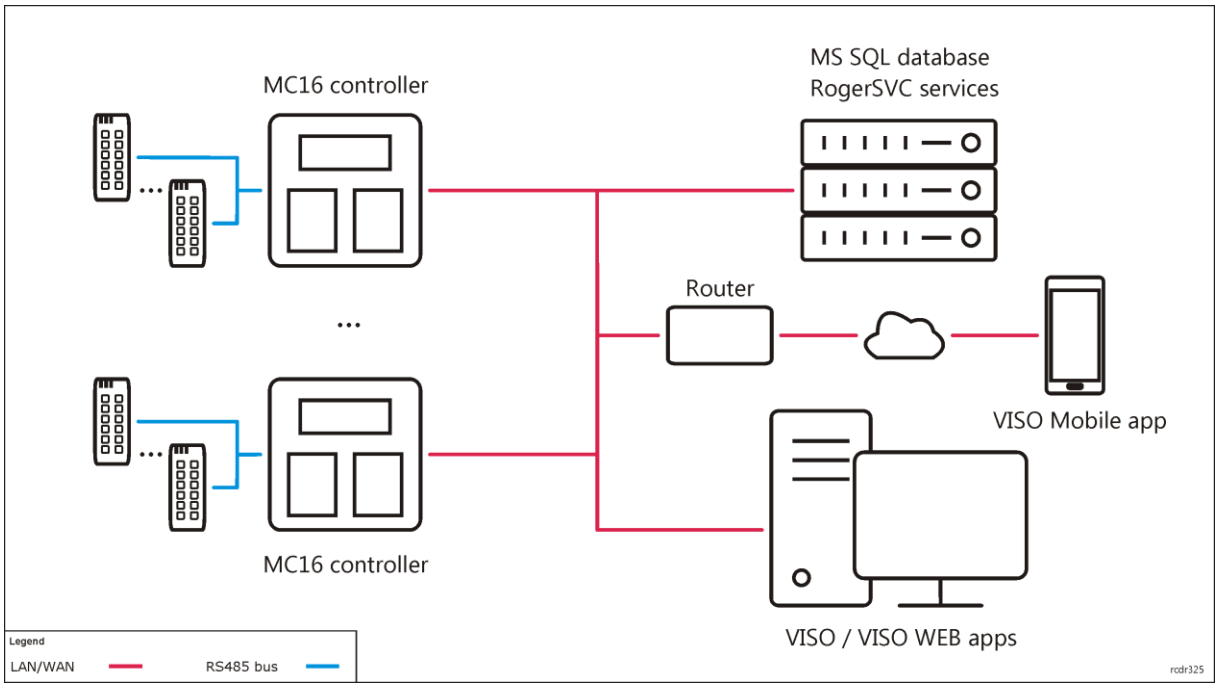
Network communication

Introduction

Computer network (Ethernet) is used in RACS 5 system for communication with MC16 controllers and for functioning of Roger SVC services and MS SQL database. Therefore for a proper operation of RACS 5 system it is essential to ensure reliable and undisturbed transmission in such a network.



Note: In principle, the MC16 controller can be used in both WAN and LAN, while the manufacturer's warranty is covered only by working in an isolated LAN reserved exclusively for the access control system in which the controller is to be used.

Note: Before the decision on using the MC16 device, it is recommended to carry out tests confirming the satisfactory quality of its operation in the target LAN / WAN network. It should be assumed that a positive test result is not a guarantee of the correct operation of the device or system because the conditions in the network can change significantly while networks may be subject to cyber attacks.

Typical network issues

Optimal and fully functional operation of RACS 5 system first of all requires uninterrupted communication between controllers and RogerSVC communication service. It can be achieved by cabling execution in accordance with standards and best practice. Following typical communication issues can be encountered during operation of RACS 5:

- Electromagnetic interferences coming from electric and power supply cables.
- Physical network connection is used for RACS 5, CCTV IP cameras and audio/video streaming at the same time.
- Execution of Fast/Gigabit Ethernet network with low quality cabling.
- Network cable loops and bends.
- Parallel connections of devices resulting in network loops and significant traffic capacity drop.
- Installation of not efficient and wrongly configured network devices.

Network issues solving

In order to avoid mentioned above problems it is recommended to:

- Provide physically separated computer network for communication of controllers and communication service.
- Verify if electric and power supply are not laid too close to network cables.
- Install fiber optic cables between LAN distribution points.
- Install good quality copper cabling.
- Install network devices from well known manufacturers.
- Connect RACS 5 system network with other networks via routers.
- Provide workstation dedicated to RACS 5 operator/administrator.

Following errors in configuration of network devices can be encountered:

- Incorrect configuration of VLAN membership.
- Improper application of QoS.
- Incorrect application of port aggregation.
- Improper application of RSTP protocol.
- Torrent and peer-to-peer hosts in the network.
- Incorrect application of Muliticast IP.

It must be also noted that quality of network communication can be affected by various external factors which must be accounted for, analyzed and distinguished on the stage of network designing.

Note: When RACS 5 system is configured then only single instance of RogerSVC communication service can be applied. Installation of the communication service on more than single workstation in the network is incorrect.

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