macmon
nac ∎ smartly simple

macmon Network Access Control:
Safeguarding IT and medical networks

IT networks that integrate medical devices become medical networks. Thus, in almost all the hospitals, the IT networks are also medical networks at the same time. The fact that the modern devices require a network connection and the requirement of the doctors to be able to access the digital results such as MRT systems (anytime and anywhere), is generally compelling the IT departments to integrate the networks that were previously separate.

DIN IEC 80001 considers just those IT networks that integrate medical devices. The integration increases the complexity as well as the dangers and risks. Using the definition of general requirements, especially with regards to risk management of the relevant networks, important properties like explicit availability and security of confidential data, should be achieved. A number of special features in the healthcare networks therefore require strategic security measures, to which macmon is already contributing at the lowest levels 2 and 3 using its diverse security mechanisms.
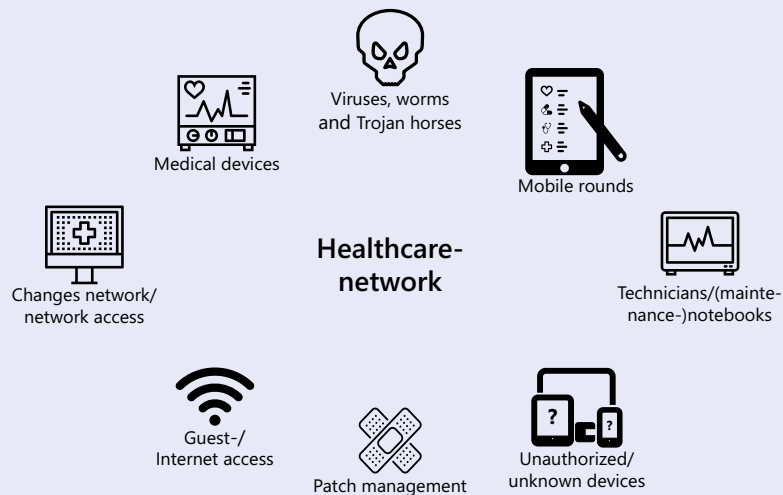
Implementing separate VLANs was a possible solution for many hospitals to meet these requirements. However, this was often dismissed because it was impossible to manually patch the ports as there were too many device movements and mobile workstations. macmon helps here by providing an enormous simplification.

The VLAN manager of macmon effectively supports the imple-mentation of dynamic VLANs therefore the VLANs are assigned to the device groups within the macmon GUI.

*BSI: Bundesamt für Sicherheit in der Informationstechnik = Federal Office for Information Security

macmon benefits for protecting networks in the healthcare sector

✓ Connecting all the medical equipment without any risk for the existing network or the medical devices

✓ Enable flexible access (in terms of time and space) to patient data for doctors and simultaneous protection from unauthorized access

✓ Providing dedicated and temporary Internet access for guests and patients, without having to setup separate WLAN infrastructures for doctors and patients.

✓ Ensuring the integrity of the network by only granting network access for the defined (internal and approved) devices.

✓ Supporting the ISO 27001 certification, the implementation of the BSI* standard for information security management, the IT baseline security catalogues and hospital certification processes (e.g. KTQ certi-fication or DIN IEC 80001).

✓ Monitoring and control of all the devices present in the network (live asset management) and documentation of all accesses to the hospital's network.

✓ Defining specific data routes and transfer interfaces for better and more specific protection of sensitive data like patient information.

Medical devices

Viruses, worms and Trojan horses

Mobile rounds

Changes network/ network access

Healthcare- network

Technicians/(mainte-nance-)notebooks

Guest-/ Internet access

Patch management

Unauthorized/ unknown devices

The VLAN switching is then automatically taken over by macmon regardless of the manufacturer of the switch in-frastructure. Thus, the medical staff can flexibly deal with the network accesses at any time even without consulting the IT department.

Ensuring that only authorised devices operate in the networks is already the basic task and function of the macmon's access control solution.

Every device that is connected to the LAN represents a security risk. This applies both to older medical equipment that are not provided with the latest security updates, and thus can be a source of malware infection, as well as to the constantly growing number of patient systems that are not subject to any control whatsoever.

Thus, the solution for the numerous security requirements is a network "sorting". macmon uniquely identifies each device either using various system properties or using certificate-based technologies like 802.1X, then sorts them using predefined rules into their corresponding groups and associated VLANs and isolates external devices in order to safe-guard the network from unauthorized intruders. Using this method, you can achieve a very high level of security with macmon for your hospital network.

macmon: Proven NAC solution in the healthcare sector

Contact

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