Next-generation remote maintenance with smart data

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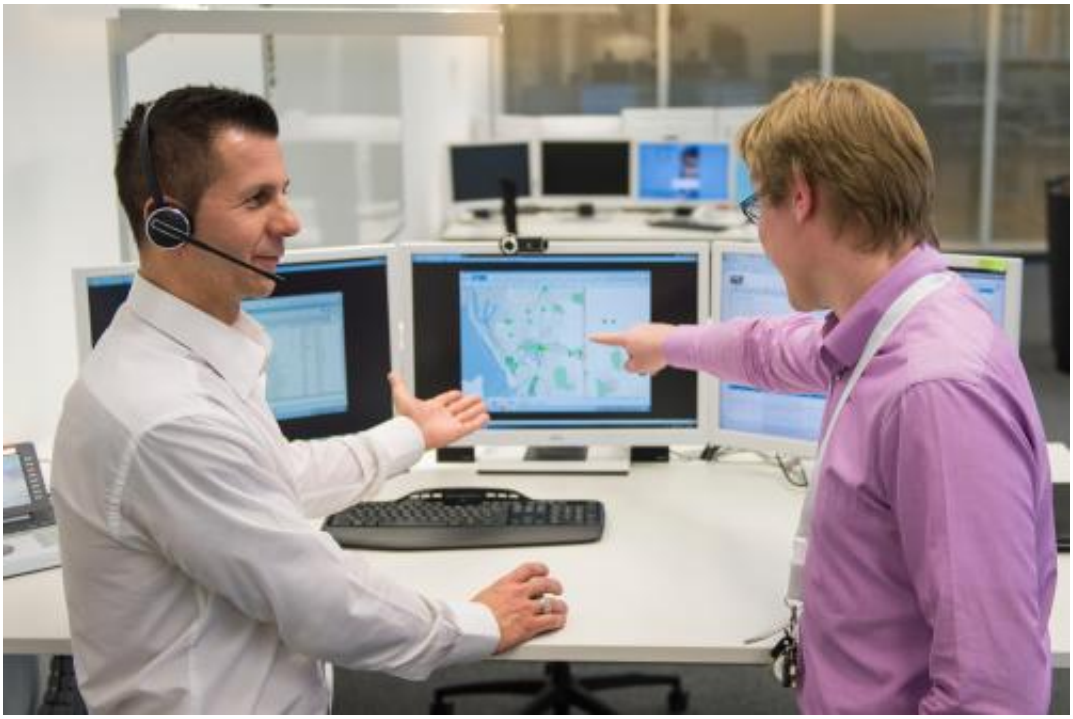

Siemens is upgrading its central remote-maintenance service to handle large amounts of data and new applications. Through its common Remote Service Platform (cRSP), Siemens serves around 250,000 customer facilities and systems worldwide, including large industrial motors, traffic computers in large cities, computer tomographs, and building management systems. According to experts, the number of connected systems will double by 2020, and the data volume is expected to increase exponentially. A large share of the data traffic is produced by medical devices. This sector alone has a data volume that is currently measured in terabytes per month and that is expected to increase tenfold by 2020. To deal with this mass of data, Siemens Healthcare is working together with experts from other business units and the global research

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The common Remote Service Platform is a uniform IT infrastructure that consists of a number of computer centers and standardized data links through which all Siemens units organize their maintenance services. Several computer centers supply devices with the latest software, detect and eliminate faults, and provide online support to technicians who are on site. They also conduct proactive maintenance, which means that sensor data is evaluated to detect impending faults early on, including the failure of certain components. This range of services can be greatly expanded with new technologies for the smart evaluation of huge amounts of data. The developers want to make sure that they can have a technician and the required new parts on site when any component fails. Examples include the tubes of computer tomographs and the computers in a medical device.

The expansion of transmission capacity enables new kinds of video-based collaboration. Today, experts support customers or the technicians on site via audio connections or by overriding the device. In the future, support will be provided through video. However, creating online video connections can be challenging in places such as hospitals. The normally don't have WLAN, many treatment areas are shielded against electromagnetic radiation, and data protection is strict. However, Siemens has developed secure connections that allow customers to also integrate external experts.

The new service platform will have a new network architecture. A first version is scheduled for 2016. It will allow huge amounts of data to be channeled more flexibly. Moreover, the technology takes some countries' regulations into account that do not allow certain data (mostly of a medical nature) to leave the country in question and require it to be kept on national servers. In addition, recorded data will be treated selectively in the future. Sensitive information will be transmitted through highly secure connections, while noncritical data will be sent through cloud-based services, for example.

Provided by Siemens