

TeliaSonera International Carrier deployed 360°-physical monitoring system for their IT-Infrastructure

Connect people with each other, this is the mission of TeliaSonera. The telecommunications provider with roots in Sweden, operates in the areas of fixed network, mobile communications, broadband services and infrastructure. In order to optimize the own infrastructure TeliaSonera continues to focus on a holistic networked systems with a 360° approach. It consists of environmental monitoring, video surveillance and access control solutions from Kentix, Kaba and Axis. The system detects all critical threats in remote sites and give warnings of fire, leakage or unauthorized access.

Situation - heterogeneous systems

For the internal monitoring of the technical locations TeliaSonera used many, some complicated individual systems for access-control, intrusion-detection, fire-alarm and environmental monitoring.

Since the components were not IP-capable, no integrated facility network could be set up. The general operating-, rental- and connection-costs of communication were too high. For the system administrators also lack detailed information on system states and alarms were problematic. For this provoked to late reactions in malfunctions or failures, which ultimately reduced the quality of service. Also objected was that a remote management was not possible or depends on manufacturer services.

In order to fully monitor the existing containers and data-centers to reduce its costs and to improve the information, service and quality management in general, TeliaSonera began with the evaluation of available market solutions.

This was done under the task to be able to fulfill three main points with a new system:

- implementation of integrated IP-enabled building- and security technology
- fully transparent technical infrastructure
- establish vendor-neutral interfaces

Furthermore, the project leaders attached importance to the possibility for remote intervention and be able to perform remote services. External services should be reduced in order to optimize the management of information. The important thing here is that the information should be available worldwide.



About TeliaSonera International Carrier

The company is part of TeliaSonera group with around 28,000 employees and is a global provider of telecommunications services, headquartered in Stockholm, Sweden. TeliaSonera is a Tier 1 network provider offering network infrastructure and services to more than 1,000 customers in 80 different countries. 2013, the company was the second-largest carrier worldwide.

MultiSensor-System collects environmental parameters

Ultimately, the decision fell to an integrated security solution from the provider's own products together with solutions of Kentix, Kaba and Axis Communications. In this way, an architecture was composed of environmental monitoring components of Kentix, access-control systems from Kaba and network video solutions from Axis. Was gradually built up a 360° environment monitoring of the entire infrastructure of the repeater stations and data-centers of TeliaSonera. The installations cover seven areas: access control, intrusion alarm, fire detection, environmental monitoring, video surveillance, general system integration and the energy management with PUE (power usage effectiveness) measurement. The implemented multi-monitor solution from Kentix helps managers to have the environment of their investments at any time under control. The system includes functions for climate monitoring, anti-freeze, fire and leakage monitoring. The Kentix MultiSensor combines all the key physical sensors in one unit and has merely the size of a smoke detector.

It is simply mounted on the ceiling of the server room. This sensor and the installed sensors in the racks, the MultiSensor-RACK, integrate functionality for reporting of burglaries, climate monitoring, access control and video surveillance. These systems could all easily be integrated by TeliaSonera in the existing Network Management (Network Management Center). There are two types were installed: The MultiSensor-LAN, which is powered via Power-over-Ethernet (PoE) and has a built-in web-server, and the MultiSensor-RF with a wireless ZigBee network, both are connected to a central monitoring unit. This central core component is called AlarmManager-PRO. The AlarmManager will receive all information collected by sensors and cameras. The AlarmManager also sends alarms via SMS and SNMP to the network operation center (NOC) and recorded accurately all the measured data over months.



Controlled generator site

The walls have eyes

For the access control, the Kentix solution has been coupled to the access control-system from Kaba (B-NET). It is responsible for the door access control. With that coupling the Kentix bugler-alarm system will be automatically controlled and armed or disarmed without any additional operation.

In addition to the operation via numerical keypads there was card readers, fingerprint scanners and digital cylinder with integrated card reader are installed.

Outdoor and indoor IP cameras are recording the surveillance videos. This will specify who has entered the locations. In case of alarm, the video material is used for follow-up and reconstruction. About a facility network that provides web-portal functionality all the sites at the various locations are fully transparent and shows all technical states like alarms, control parameters, temperatures or live video within an easy to use web-interface.

The changeover to the new system has been gradual, the first implementation was carried out at new sites in Spain. As the first complete integration of the access control at approximately 100 sites was carried out with around 2,500 people to having site access. Thus, the change is not unnecessarily delayed, it was exchanged also in upcoming technical revisions or defect changes. Otherwise, the "old" technology was initially still in operation. Partially some sites are connected over mobile 3G networks too. In general, all locations (300-20.000 sqft) are connected via the facility network now. There was a consistent network expansion of additional services like HVAC, UPS, intercom, building automation. In addition, internal and external service providers (NMC, SPOC) were specially trained for dealing with the integrated solution.

Service management improvement

With the new 360° concept TeliaSonera succeeded to reduce operating costs significantly, which is mainly due to the low maintenance performance and reduction of needed site visits. Furthermore false alarms are reduced by about 20 percent, which means less manpower.

"With the new integrated system we have a solid basis for new organizational measures and better reporting created," commented Rene Sommer, Infrastructure Planner TeliaSonera International Carrier Germany GmbH. "The MultiSensor system of Kentix is perfectly complemented by the solutions of Kaba and Axis, so that we can actually monitor and control our data-centers all around the world. Thanks internet based technology it work well on mobile devices too. This means our administrators can handle everything remotely and decide of the kind of intervention or if a site visit is really needed."

Success and Conclusions

The newly created 360° approach to monitor technical infrastructure led three compatible solutions of Kentix, Kaba and Axis together. With this integrated solution, TeliaSonera International Carrier has a holistic monitoring of environmental parameters such as temperature, humidity, dew point, voltage, fire and burglary as well as continuous video surveillance and access management. Thanks to the IP capability of all components, the engineers can now access on the unitary facility portal to the different technical systems such as access, alarm, HVAC, energy and video and control them from a distance.

"With the new integrated system, we have created a solid foundation for new organizational measures and a better reporting"
says Rene Sommer, Infrastructure planner at TeliaSonera.

About Kentix

Kentix is manufacturer of professional security solutions for the monitoring of IT and technical infrastructure rooms as well as office space. Kentix develops and manufactures its products exclusively in Germany with the highest quality standards. Authorities and enterprises from all sectors of the economy secures with the Kentix "MultiSensor Technology" their IT systems against physical threats. The Kentix MultiSensor merges many different sensors in one functional unit and makes it very efficient compared to the market.

Innovative Security The use of wireless radio systems and modern web technology enables low-cost integration of systems. Kentix products avoid disruptions in the operating environment, secure systems against theft and sabotage, and report the impact of human error - and thus ensure optimal IT availability. Kentix increases IT availability significantly and is amortised within a short period of time.