

More efficiency in the company through central monitoring and management of Information Technology and operational technology

The times when IT was separate from the operative business activities are long gone. Clients, employees and the management do not ask for statistical availability times and performance parameters but they expect from IT that applications, networks and data are available at all times. In today's businesses, IT has to contribute to the company's success and it also has to prove this success. The IT Manager increasingly finds himself in the role of "Business Enabler" and has to ensure flawless operation of critical business processes, 24/7. The IT Department can only fulfill this requirement if there is 100% transparency regarding the current and future status of the Information Technology used in the company. This calls for a monitoring and management solution across all platforms because the previously frequently practised parallel operation of several solutions tied to manufacturers, or restricted to individual locations is neither practical nor efficient.

The concrete reasons for employing company-wide technology monitoring reach from legal regulations via internal specifications to tough economic needs: Inactive conveyor belts, halting goods deliveries or errors in the ordering system appear as tangible losses in the books every minute. According to experts' estimations, a system failure costs a five to six digit figure per hour – for banking systems, these costs can quickly rocket to several million Euros. And these numbers only show the directly attributable costs: Medium and long-term consequential costs, such as loss of clients or trust or an impact on the share price, can only be quantified with difficulty, but they also have a significant impact on the company's success. Additionally, through the constantly developing convergence of Information Technology and operative technology, an expansion of monitoring beyond the limits of classic IT makes sense in order to avoid system discontinuities. It is an approach which is being pursued for example by azeti Networks AG with the SONARPLEX solution. All technologies used in the company – from Information Technology via building technology to environmental parameters and production equipment - are consolidated here in one monitoring environment across all platforms. The biggest challenge with this approach is designing the visualisation of the different technologies which are being monitored in a clearly laid-out way. Alongside classic network plans, floor plans of the building or system diagrams for example have to be integrated too, in order to fulfill the different requirements and objectives of the users.

Local monitoring and central management

When setting up the monitoring environment, differentiation must be made between local and central systems. The aim of the central systems is focussing management and administration of the system, including problem management, in one area. This approach has the disadvantage that there constantly has to be a reliable data connection to the systems and locations which are being monitored. In the event of connection failure, local problems remain undiscovered and no service personnel will be notified. Conversely, local monitoring systems at each site, offer the advantage for the monitoring system to continue working even in the event of a breakdown of dedicated lines or the internet / VPN connection. An ideal monitoring system should be able to combine the advantages of the two options shown. Efficiently operating local monitoring entities do their duty autonomously 'on site'. At the same time, they ensure central access to the recent data and a centralized configuration and administration of the system.

When connecting various locations to a central monitoring system, inevitably, data are transported via external connections (e.g. from a local agent or a local monitoring entity to the central system). Data should only be transferred encrypted. Providers like azeti rely on a certification of their agents by external bodies, such as the TÜV (German Technical Inspection Association). With the 'remote check' function, agents also enable analysing problems from the user's perspective, and thus an end-to-end monitoring even with remote locations. This way, problems that are not apparent from the administrator's perspective can be identified. This may be the case when the slow database access is not caused by the database server performance in the computer centre, but by the

connection bandwidth available at the individual locations. Another feature that demands the agent's service is the 'dual event-handling'. When a problem occurs, there is a possibility to initiate a local reaction (e.g. reboot) by means of the agent's customized script and, simultaneously, to launch a central problem escalation. This way, especially in remote locations without comprehensive local IT support, many problems can be solved automatically and without engaging the central support..

In addition, the monitoring system itself has to meet high demands for security. Here, through a combination of hardware and software, appliance solutions offer the advantage where typical security threats and weak points of server systems can be avoided, provided that operating systems are deployed, protected and adjusted individually. Another advantage of the appliance method is that the monitoring is completely separated from the systems to be monitored, so that a possible server failure cannot incapacitate the monitoring system at the same time.

Since operation and maintenance of the system entail costs, the solution's ease of use is a further key aspect; a fact that is often ignored in open source solutions or complex systems, for example. Particularly in medium-size enterprises, this often results in only partially implementation or failure of monitoring projects. By contrast, careful planning and implementation of appropriate solutions can reduce the workload of the IT staff significantly and better system availability can be achieved. In the end, this makes monitoring one of the most important IT tools for efficiency improvement in any enterprise.