

Block Control in Power Stations

Centralized Alarm Management



Efficient Maintenance - A Permanent Challenge

“Open and competitive” - this is how the electricity market has been presenting itself since its liberalization at the end of the nineties. Today’s cost burdens force utility owners to increase operational efficiency while ensuring safe and sustained energy supply.

In addition to providing environmentally and socially accepted production methods, utility owners today focus on improving plant availability and supply security, while at the same time increasing plant efficiency.

A remarkable cost-reducing potential in the running of a power station unit lies in the expense factor called “maintenance”. A well thought-out maintenance strategy not only reduces direct running costs of the plant, but also has a positive impact on the total revenue in terms of preventing plant failure and production standstill.

Therefore, with a higher degree of automation in fault detection, indication and analysis you make your plant more profitable.

In today’s station unit control systems, the alarm handling generally leaves you with two problems unsolved:

- 1 Not all areas of the the plant’s automation, control and network infrastructure are covered by the automatic fault monitoring facility. The failure of critical network components, such as UPS devices, gateways, or switches, is usually neither recognized nor indicated.
- 2 An overwhelming number of messages - 20,000 or more - coming in to the screens in the control room, irrespective

of what caused the alarm and whose responsibility it is for repairing the faulty element. The alarm list displayed to the plant operator collects all types of information, for instance:

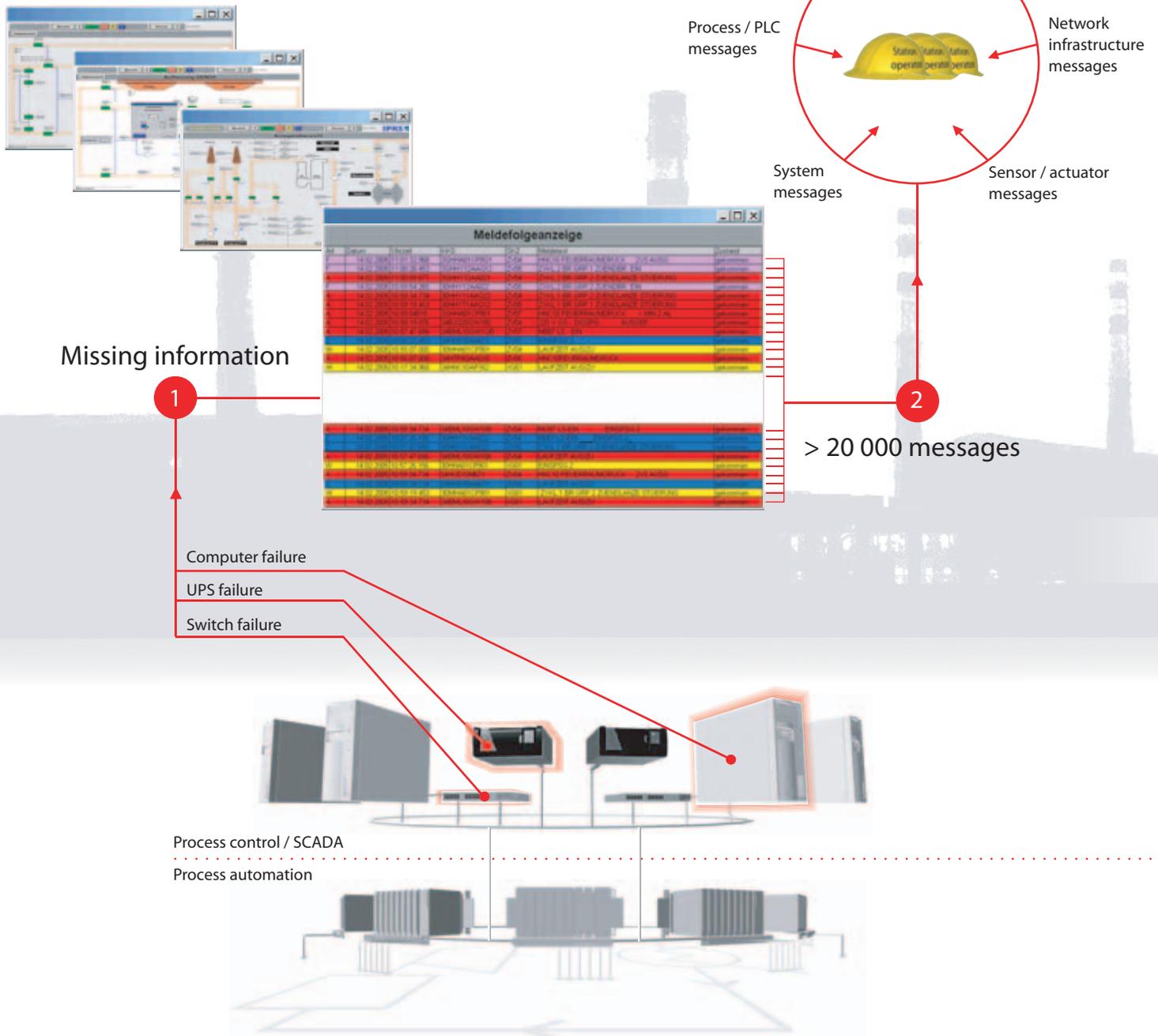
- Messages from the actual power generation process
- Messages from the automation units, PLCs and control loops
- System messages of computer and visualization systems and data networks

The result is that the operator in the control room is swamped with information, although much of it does not concern him directly and may even interfere with his actual job of running the plant.

The dictates of the moment:
Sustained energy supply with greater profitability.

Increase automation in fault management to cut down your maintenance costs.

Put a stop to the “information chaos” and its negative effects on reliability, availability and cost!



Reliability & Precision - Our Solution for You

Our Centralized Alarm Management solution provides the answer for both problems.

Firstly, it extends automatic fault monitoring to all sections of the plant. It concentrates all incoming messages at a central point in the control room, and integrates them in the existing visualization system, be it WinCC, PCS7, Procontrol, Citect or whatever.

Secondly, it automatically sorts the information according to defined criteria and transmits the information on defective modules, failed network components, faulty sensors, etc., directly to those responsible for exactly this type of maintenance. This ensures immediate intervention and correction of the alarm situation.

1 The central source of information for the plant operator - the screen in the control room - now also displays faults which until now had been undetected, for instance:

- Fault information from all network components via event logs (RAID disks, fans, UPS units, network switches, gateways, fibre optics interfaces, ...)
- Single and group alarms from the automation systems and the sensor / actuator levels via intelligent terminals and PLCs
- Fault information from pipes and supply lines via web cameras (steam leakage, butterfly and slider valves, etc.)

2 Our Centralized Alarm Management recognises the cause of the alarm and automatically transmits the information to the right person, and at the right time. This takes the load of the plant operator in the control room who is now able to concentrate on his most important task: running the plant.

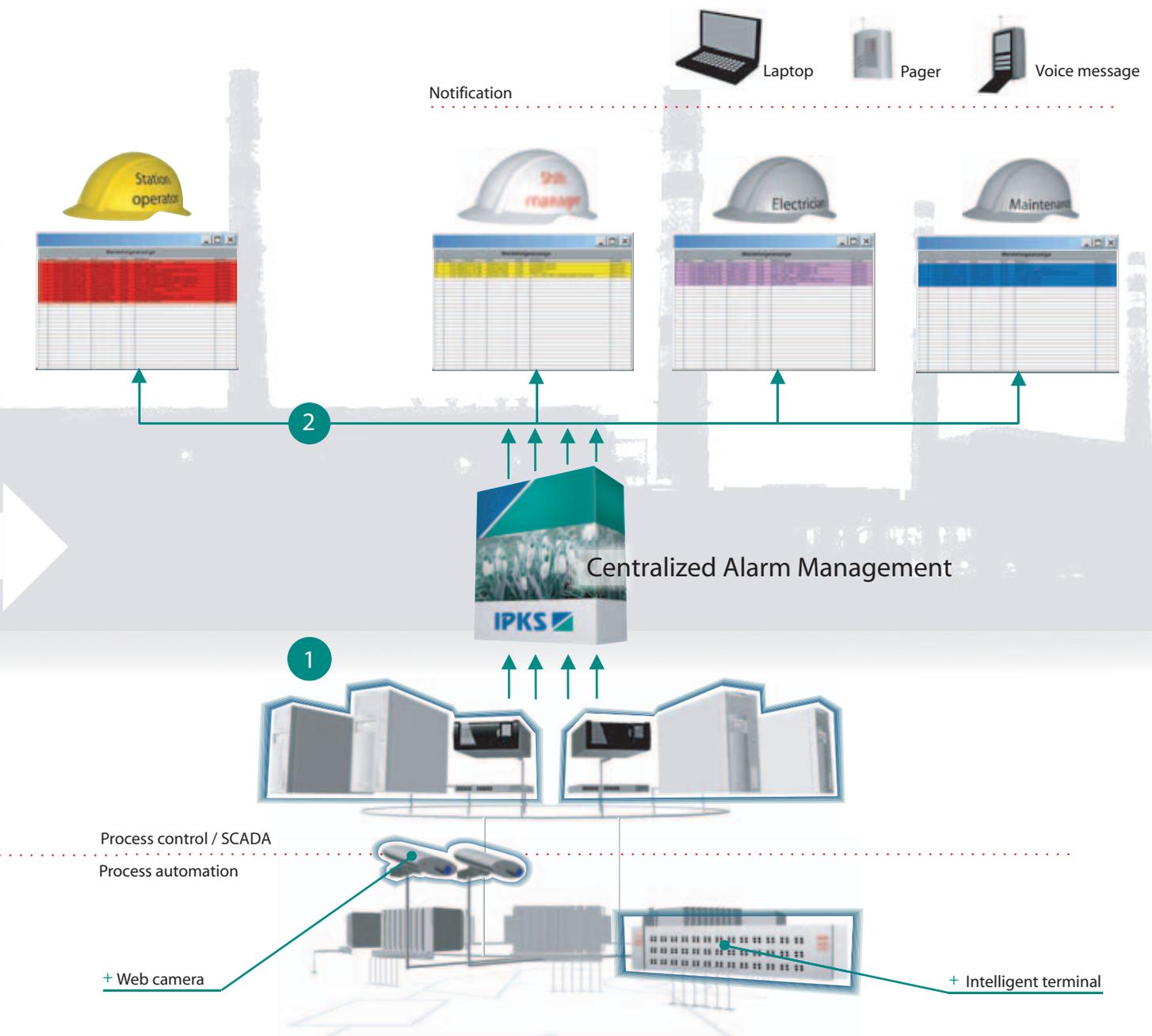
Based on defined criteria and work shift schedules, the system determines the addressee of the message (for instance, shift manager, electrician, etc.) and calls this person via pager, telephone, SMS or computer screen.

All messages and their processing are chronologically recorded and stored. The result is a complete database that allows you to systematically analyze the progress made in fault correction and maintenance.

IPKS Centralized Alarm Management -
A single solution for two important tasks!

Fault detection throughout the entire power unit and central alarm display in the control room

Automatic information processing -
sorting and routing,
reporting and archiving ...





IPKS combines two decades of experience in plant engineering and automation with extensive knowledge in the design and programming of dedicated software. This is our solid foundation on which we develop mission oriented software solutions that enhance both efficiency and availability in our customers' automation and IT installations.

National and international reference projects are the best proof of our expertise in the following fields:

- Warehouse logistics
- Despatch automation
- Web-based information logistics
- Tracking & tracing
- Server & storage
- System migration
- Process control systems design
- Monitoring in automated buildings and factory installations