China Netcom

Telecommunications giant installs a fire protection system that can be remotely monitored and controlled, resulting in lower operating costs and protection of the telephone service of 10 million customers

CNC Maluwan Shenyang Exchange Center

Location: Shenyang City, LiaoNing Province, China

Website: www.10060.com

Industry
Telecommunications

Products used
VESDA LaserPLUS smoke detectors, PROACTIV fire alarm control panel, PRECISION analogue addressable detectors, PROACTIV System Manager software

The challenge

The provision of service by China Netcom's Maluwan Exchange Center was secured by a VESDA very early warning smoke detection system that could be monitored remotely. But the Fire Alarm Control Panel (FACP) that controlled the rest of the center's fire protection system could not be. Staff were required to be onsite 24/7 to respond to fire alarms and faults registered by the FACP. China Netcom wanted a fully integrated fire protection system that could be monitored from a central, remote location, reducing staff costs.

The desire for remote control is not surprising, given the huge number of facilities that China Netcom has. China Netcom (Group) Company Limited is one of the big-six telecommunication companies in China. It employs more than 3,500 staff at its Shenyang, LiaoNing Branch. They provide telecommunication services to more than 10 million customers in the North East of China.

Its Maluwan Exchange Center, one of six main exchanges in Shenyang City, is a critical part of service provision for China Netcom. A fire event in this 4-storey, 3500 square metre building could cause service interruption, equipment damage, data and revenue loss. China Netcom were keen to avoid such an event. To ensure the earliest possible warning of a fire, China Netcom installed three VESDA very early warning smoke detectors back in 2001. One detector protects the Main Frame Room on the first floor, the second protects the Switching and Computer Rooms on the fourth floor, whilst the last unit protects the Power Substation. Several conventional detectors and a locally-made Fire Alarm Control Panel (FACP) made up the rest of the fire protection system.

Whilst the VESDA system was capable of protecting the facility for years to come, it was necessary to upgrade the rest of their fire protection system.
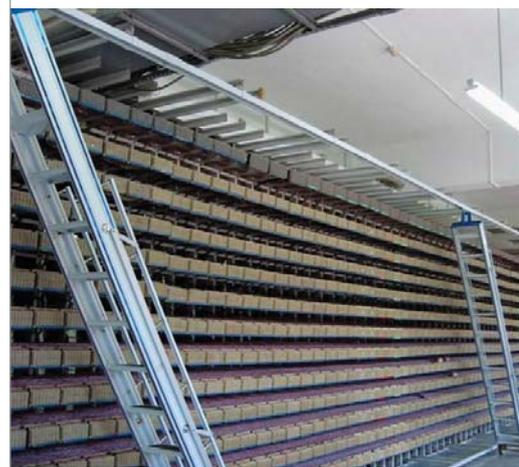
♦ xtralis®

The solution

After extensive evaluation, China Netcom decided to install Xtralis's PROACTIV† integrated fire control management system. This consisted of a PROACTIV Fire Alarm Control Panel (FACP), PRECISION† Analogue Addressable Detectors and Manual Call points and the PROACTIV System Manager (PSM) software. This system offered the remote monitoring solution they required and Xtralis's PRECISION range offered the peripheral devices needed to complete their fire protection system.

The upgrade included additional VESDA LaserPLUS units to protect the Switching Room and Control Room on the second and third floors. PRECISION multi-sensor detectors, PRECISION manual call points and PRECISION sounder control units were used to protect facilities such as the Power-generation room, function rooms, offices and a warehouse. All of the PRECISION devices and all VESDA detectors were connected to the PROACTIV FACP.

The PROACTIV System Manager (PSM) software was used to program and configure the fire protection system. PSM is also used online for monitoring, control and reporting, via a PSTN network link.

The new fire protection system is supported by a Response plan that takes advantage of the 4 adjustable alarm levels (Alert, Action, Fire 1 & Fire 2) that each VESDA detector offers. For example, if a VESDA detector in a particular room senses smoke at the 'Alert' alarm level, the alarm is sent to the Central Control Room via the PROACTIV panel. The Central Control Room then notifies a watch man to investigate the situation. He then calls the center, reports his findings and they instruct him further.

The result

Having all components of the fire protection system integrated with the PROACTIV FACP means that trained operators can manage and control the fire protection system from a centralized location. This has improved work productivity and reduced service costs.

The PROACTIV solution also provides an ideal platform for future integration with other Building Management Systems (BMS). For example, when a VESDA detector raises an alarm signal, the PROACTIV FACP can trigger the air conditioning system, pressurizing other rooms within the building to stop ingress of smoke, preventing damage to other equipment. When the VESDA detector detects that the smoke density has reached the next preset alarm level, it could activate a suppression system. The local fire brigade could also be automatically notified. Such automated control and early response drastically reduces the threat to China Netcom's service provision.

Remote control of the PROACTIV FACP has the added benefit of saving on onsite visits by Technicians. Instead of travelling to the site, Technicians can connect to the PROACTIV panel from their office. They can then perform routine tests or software upgrades remotely.

China Netcom plan to install more PROACTIV fire panels and will connect these panels to their Local Area and Wide Area Network. They could even consider wireless connections if necessary.
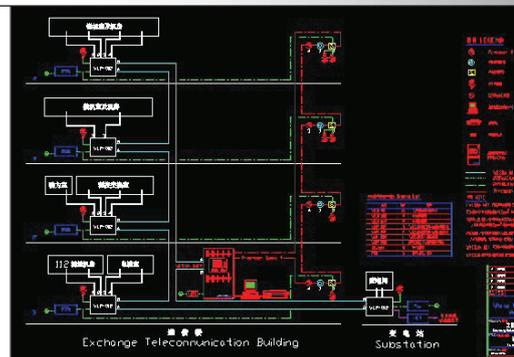
The entire building floorplan can be viewed in the PSM software, allowing the user to drill-down to control a single smoke detector.

"After installing PROACTIV, we no longer need to manage two separate systems. We have the early warning VESDA air sampling technology fully integrated with analogue addressable detectors. It's like having the best of both worlds. The PROACTIV system has significantly enhanced our operation and productivity, and also makes servicing support and maintenance so much easier. Finally, its networking capabilities provide an ideal platform for future expansion and remote monitoring"

Maintenance Center staff
CNC Exchange Center

xtralis