



IP Control Centre Systems

SYSTEM INFO

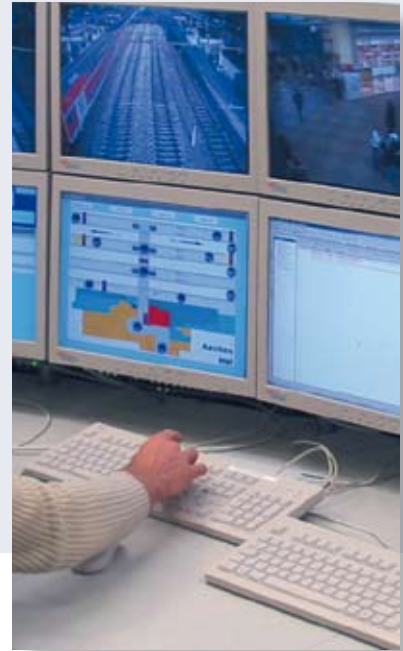


ms NEUMANN ELEKTRONIK GmbH

Efficient Solutions for Information and Safety

Introduction

The ever increasing demand for highly integrated information and communications technology can be ideally met by adopting a solution-oriented approach that takes advantage of modern multimedia technology. Today's and future IP networks, created to be a medium and transport layer for a variety of very different functions, provide an excellent basis for this integrated technology. All system functionality can be moved into software applications with the result that the previously traditional centralised control centre technology relying on hardware switching can be eliminated, and only networking hardware is centrally located as the vehicle for coordinated software intelligence. This functionality approach is reflected in interface-specific terminal devices and clients. These include the Management System application as the man/machine interface, fully automated and semi-automated control systems, and input/output systems for control, voice and video functions.



ms Neumann Elektronik IP Control Centre Systems

The IP Control Centre System from ms Neumann Elektronik represents the logical consequence of implementing our many years of experience in the field of voice communication systems to take advantage of modern VoIP technology. The system's most distinctive feature is complete integration of multi-functional communications services, and it has been designed for applications in railway systems, regional public transport systems and industry.



System Benefits at a Glance:

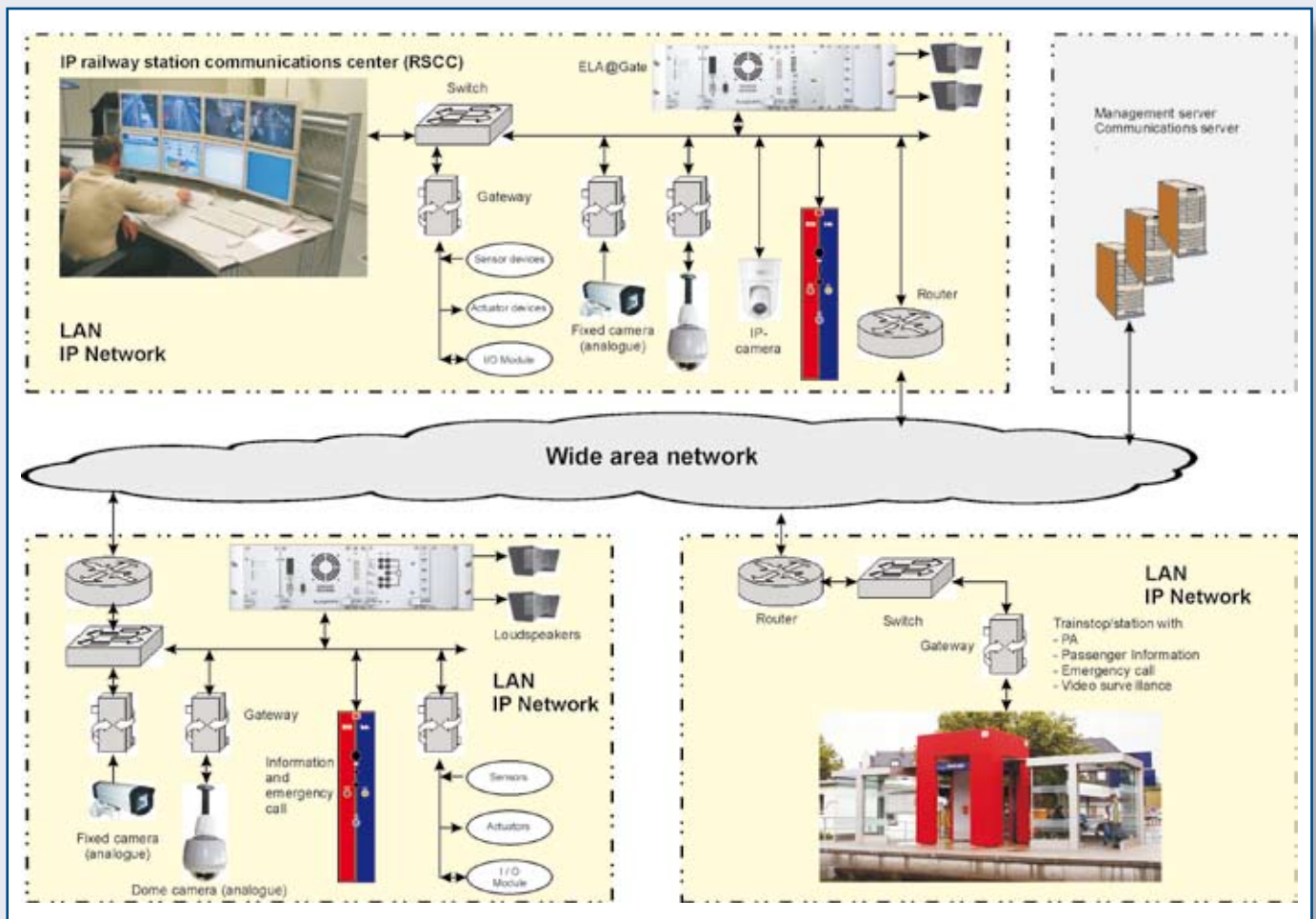
- **Improved Information Flow**
- **Remote Access Across Location Boundaries** to all applications
- **Standardised Management System** for all functions
- **Management of all Applications** using a standard PC
- **Reduction of Operating Costs**
- **Optimal Cost/Performance Ratio**
- **Migration of existing communications systems**
- **Existing Peripheral Devices** can be retained and integrated
- **Voice and Data Communications** handled over a single network
- **Open-Ended Scalability**
- **Secure Investment for the Future**
- **Exceptional Flexibility**
- **Complies with All Relevant Standards**

System Design

The typical hard-wired star topology of previous central system networks is no longer required. The software dynamically determines the most efficient routing for communications connections as a function of available data network resources. The voice data communication system consists of the following functional units:

- **Communications server**
- **Clients (Management System, VoIP components)**
- **Network components such as hubs, switches, routers, gateways**

Example of a railway Station Communications Centre (RSCC)



Communications Server

The communications server (com server) is a software application running on a standard industrial PC that serves as the central instance of the IP system for system-wide tasks such as control, monitoring and configuration. It is thus the connecting link between peripheral components and management of the entire system. The com server receives event messages and based on the particular event, it makes appropriate connections between sources and destinations according to predefined rules. It also monitors its clients and peripheral equipment, which enables it to provide information at all times on the status of the IP System from ms Neumann Elektronik.

The communications server incorporates a software interface – the Com Server API – that enables connections between two independent standard H.323 terminal devices to be controlled from a third instance. The third instance in this case is the Management System application that communicates via standard TCP/IP connections with the H.323 Proxy (proxy server), which is the actual communications exchange instance. The proxy functions as a server and the MMS as a client.

Features

- LINUX operating system
- Software modules for functions such as network VoIP connections based on the H.323 protocol (Emergency Call and PA Systems)

Functions

- Management and control of voice connections (fully automated and semi-automated announcements)
- Communicates with Management System
- Configuration management
- Fault management



Clients (Management System, VoIP Components)

- Management System (application level for the operator)
- IP telephone (telephone as an IP call station)
- Softphone (PC functions as an IP telephone) - software –
- Gatekeeper (server for H.323) - software –
- Exchange gateway (bridge between IP and ISDN network – S2M, S0, ...)
- Terminal device gateways (analogue phones, door/gate intercoms, DECT phones, ...)
- ELA@GATE (PA system, gateway)
- NISoIP/FEoIP (emergency call and information terminal devices over IP)
- PTT (Push-to-Talk) terminal devices (in preparation)

Network Components such as Hubs, Switches, Routers, Gateways

These devices are chosen according to the performance required for the existing network or the new network being installed. The devices used are standard, commercially available switches, routers, gateways, etc.

System Features

- Network-based information and communication system
- Supports SNMP (can be integrated into a centralised network management system)
- Convenient parameterisation via WEB server (browser access)
- Standard protocol: H.323
- Neumann protocols: Push-To-Talk (PTT) in preparation
- IP control center system API (functionality via software API)
- Integrates existing analogue and digital systems and terminal devices
- Redundant COM server configuration
- Application-defined component monitoring
- Bandwidth and priority management
- Manager for telephony functionality (intercom) and PA functionality
- Alarm and Warning System Manager in preparation
- Emergency Call and Information System Manager
- Manager for manual and automated announcements