Network Planning & Control Systems
for Telekom Austria AG

TELEKOM AUSTRIA GROUP

Use

Telekom Austria AG (TA) has set up a new broadcasting network in Austria to be used exclusively by ORF for signal transmission.

A DVM- and ATM-based network has been set up for signal distribution and contribution, linking the central ORF office, the broadcasting center in Vienna, the regional studios throughout the country and the primary broadcasting facilities.

An ATM network is installed by TA for transmission of the MPEG-2 signals between the various locations.

In addition, a DVM-network has been set up for contribution which can transparently transfer eight 270MBit/s signals.

- **ATM-Network:**
  - 50 Cisco nodes (8540)
  - NMS: CiscoWorks2000

- **DVM-Network**
  - 40 ADC nodes (DV6000)

New components are installed by ORF in the studios and in the main broadcasting facilities for:
 - 25 routers (Leitch)
  - 250 SDI switches (Leitch)
  - 110 ATM adapters (Tandberg)
  - GPIO (Rittal)
  - 60 MPEG video encoders
    10 video decoders (Tandberg)
  - MPEG-2 splicers (Tandberg)
  - Audio codecs (Mayah, Centauri)

For outside-broadcast five event cars are equipped with technical devices that they can take over the signals from the ob-van and transmit to the ATM-network.

Functions

Planning and control of the overall network is performed using the DIAMANT system. The following functions are implemented in this system:
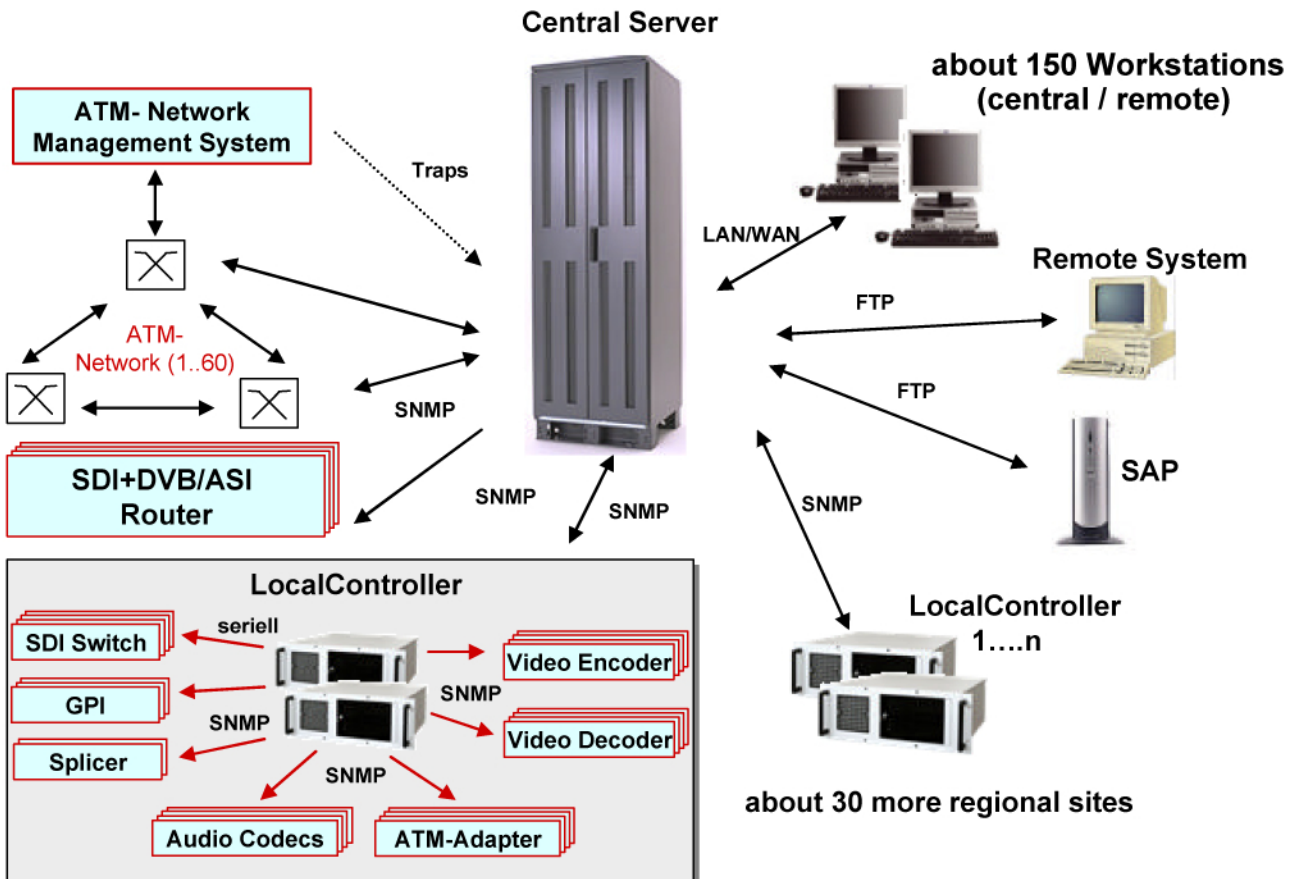
- Management of configuration data (network, devices, lines, etc.)
- Definition of jobs and connections
- Planning of lines within the network, Routing
  Bandwidth Management
- Establishing of links (control of routers and ATM-nodes)
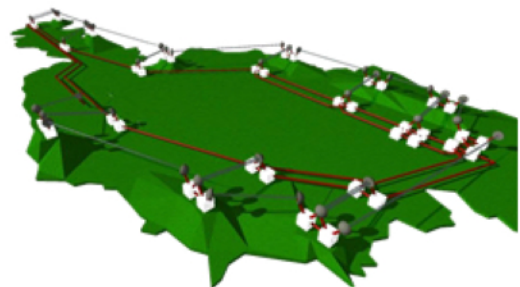
- Fault processing
- Maintenance support
- Archiving of connection data
- Interfaces to in-house systems (SAP etc.)
- Planning and switching for outside-broadcast events
- Control and statistics of SLA (Service level agreement)

Configuration of the system DIAMANT

Central Server

ATM- Network Management System

Traps

about 150 Workstations (central / remote)

LAN/WAN

Remote System

FTP

ATM-Network (1..60)

SNMP

FTP

SAP

SDI+DVB/ASI Router

SNMP

SNMP

SNMP

LocalController 1….n

LocalController

SDI Switch

seriell

Video Encoder

GPI

SNMP

SNMP

Video Decoder

Splicer

SNMP

Audio Codecs

ATM-Adapter

about 30 more regional sites

Solution

The central server of the DIAMANT system is a **fault-tolerant Stratus computer** (Continuum, HP UNIX) to which all of the workstations responsible for planning and processing/coordination are linked via Ethernet LAN/WANs. The workstations are standard, commercially available PCs and the application run under Windows.

Oracle 8i is used as the central database.

LocalControllers, which are provided as concentrators for the individual devices at each location (encoders, decoders, ATM terminal adapters, splicers, etc.), are installed in all of the studios and broadcasting facilities. They are linked via **SNMP**.

The software concept is based on a **client-server architecture** with a modular design. The client software is a **Delphi** application, on the server the software is implemented in **C, C++**.

Dimetis Services

As general contractor, Dimetis implemented the DIAMANT Management System, including software development for the central server, the PC application, control of the local controllers and the computer configuration and network links.

A central task also assumed by Dimetis was system integration of DIAMANT into the new network.