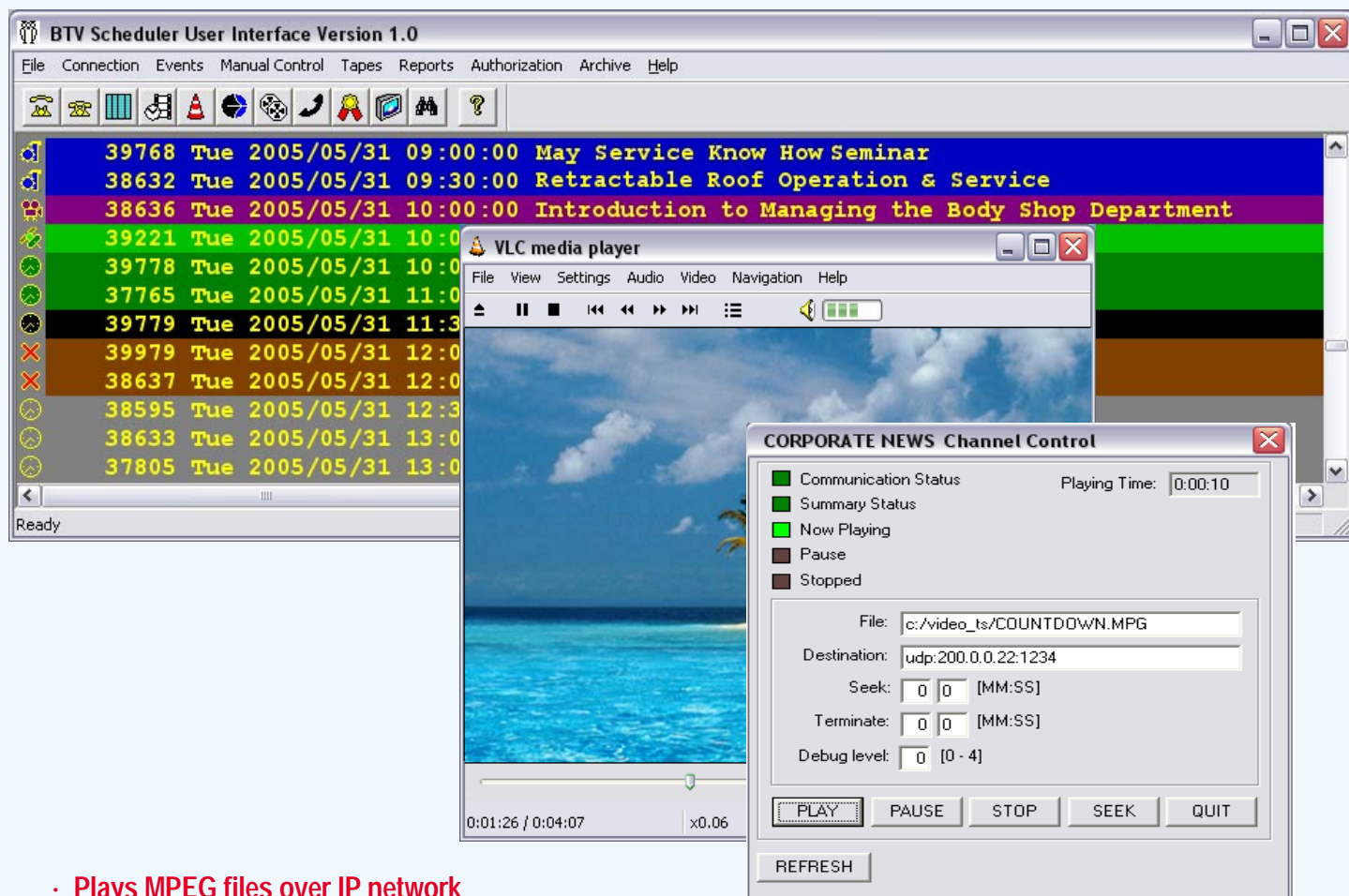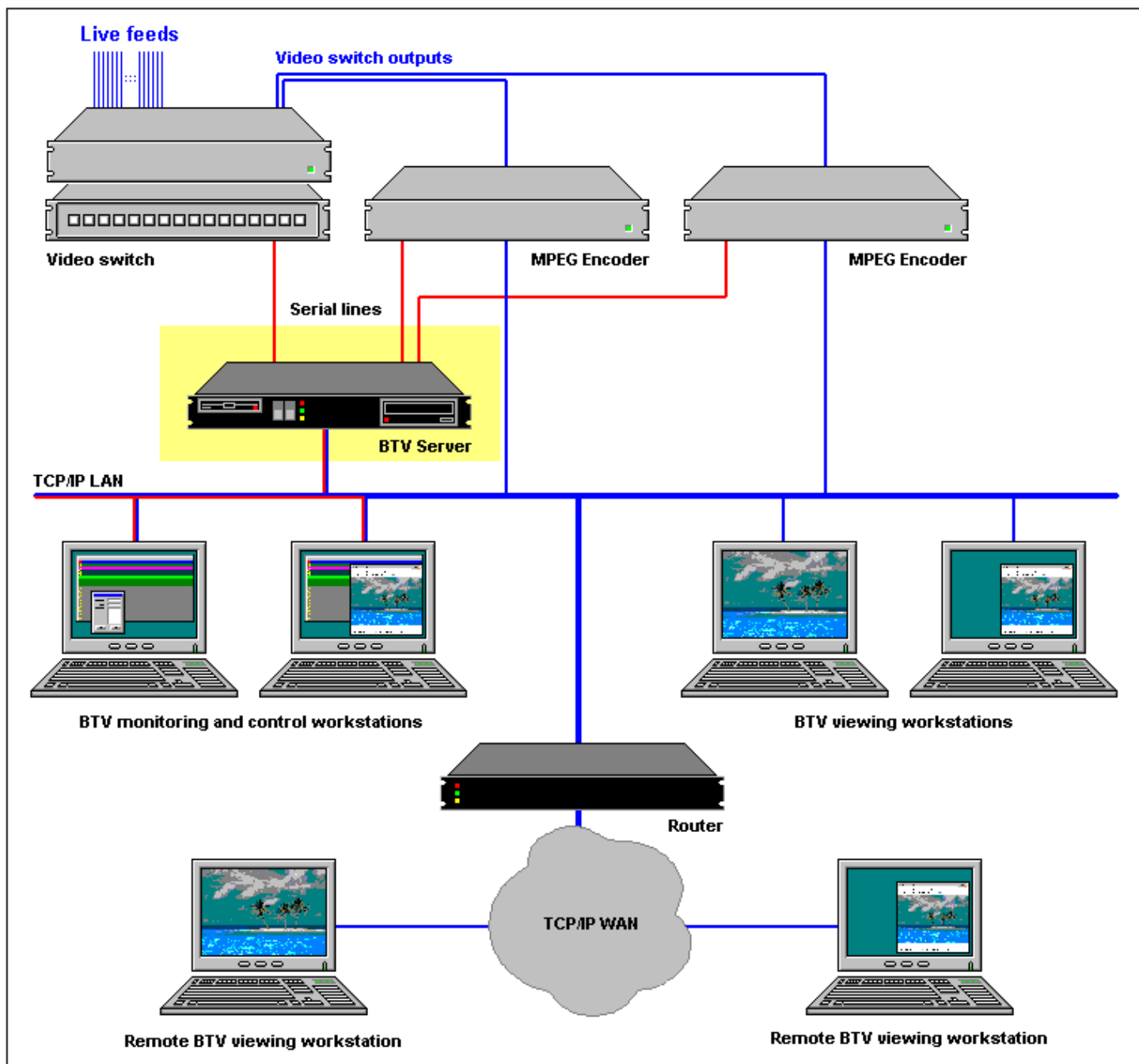**Micus Real Time Software Inc.**
5863 Leslie St. Suite 127
Toronto, Ontario
M2H 1J8
Canada
Tel: (416) 493 3623
Fax: (416) 502 9083
www.micus.ca

Need to broadcast corporate news to employees?
Need a cost effective way to train employees?
Want to use the existing IP infrastructure for video broadcasts?
Need to automate video and audio broadcasting?

Let Micus Business Television Broadcast Scheduler do the work

- · **Plays MPEG files over IP network**
- · **Supports live feeds from TV studios**
- · **Supports any number of TV channels**
- · **Automatically loads and executes program schedule**
- · **Allows program schedule manual editing**
- · **Provides manual controls for video players and video switches**
- · **Generates a variety of predefined and custom reports**

Live feeds

Video switch outputs

Video switch

MPEG Encoder

MPEG Encoder

Serial lines

BTV Server

TCP/IP LAN

BTV monitoring and control workstations

BTV viewing workstations

Router

TCP/IP WAN

Remote BTV viewing workstation

Remote BTV viewing workstation

The Task

Many companies, especially those with offices in geographically distant locations, face the question of how to provide employees with up to date corporate information, and how to train their workforce in a consistent, cost-effective and efficient manner.

Traditional ways of organizing conferences, seminars and training sessions are expensive and time consuming. This is why an ever increasing number of companies are switching to the concept of *Business Television (BTV)*, based on MPEG stream and UDP multicast via IP. Live events or prerecorded training sessions are broadcast to the employees over the corporate IP network. The employees watch the programs using media players on their computer workstations.

 Running a BTV broadcast center is a complex task, particu-larly in the environments where several TV channels require attention at the same time. Delivering a high quality of service in a cost effective manner and with a minimal resources requires a high degree of automation.
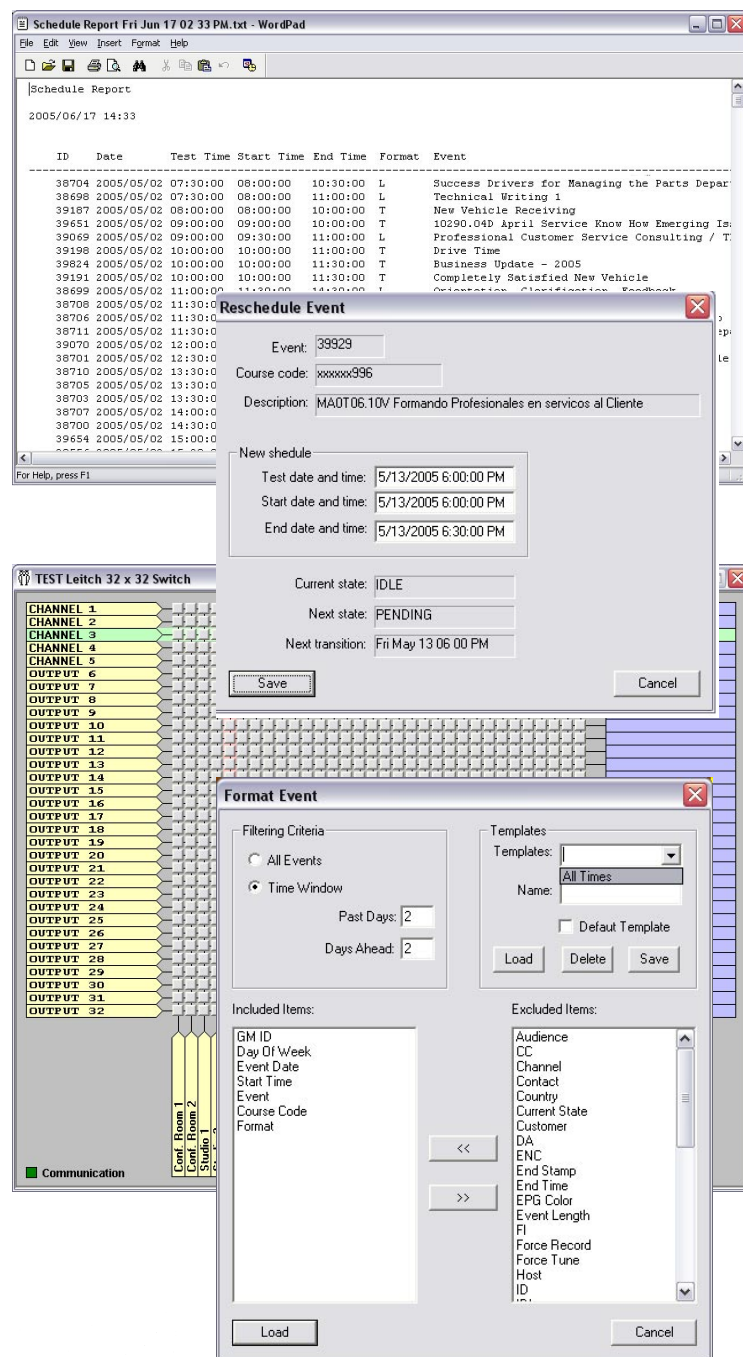
The Solution

As a solution to automating your BTV broadcast center, we offer the *BTV Broadcast Scheduler*. This product specifically addresses issues such as: loading program schedule from the spreadsheets, automatically playing MPEG files on the selected channels and at scheduled times, operating video switches to broadcast live events, editing schedule and generating various reports.

BTV Broadcast Scheduler is fully compatible with other Micus Real Time Software Inc. products, such as *Micus Alarm and Control System (MACS)* and *Trouble Ticketing System (TTS)*.

BTV Broadcast Scheduler Key Features:

- Simultaneously plays any number of MPEG files.

- Checks the scheduled events consistency and issues appropriate alarms if it detects any errors or problems.

- Controls video switches and MPEG encoders used to broadcast live events.

- Automatically parses spreadsheets that contain TV listings and updates its database accordingly.

- Automatically generates processing reports, which contain processing statistics and a list of detected errors.

- Emails reports to the individual responsible for the service.

- Automatically plays default MPEG files on idle channels.

- Monitors operational status of all hardware and software components and issues appropriate alarms if it detects any failures.

- Provides a user friendly and intuitive *Graphical User Interface (GUI)*

- Supports multi-user access over a TCP/IP network.

- Grants or restricts user access to individual user interface screens depending on the user login account.

- Reports all status changes and alarms to the user interface clients and saves them into the event log files.

- Shows a list of scheduled events in a scrollable window and allows operators to customize their format.

- Allows operators to edit, add and delete scheduled events.

- Provides commands to manually control media players, video switches and MPEG encoders.

- Provides a set of commands to manage the MPEG files inventory.

- Creates variety of reports, either automatically or upon operator's request.

- Provides a set of archive commands to manage files and database records.

Rack mounted 1U BTV server

SERVER FEATURES

The server simultaneously plays any number of MPEG files using distinct multicast IP addresses, referred to as *channels*. Operators can define any number of channels. Media players used to broadcast MPEG files can run on the server itself, or on any other Windows, Linux or UNIX machine on the TCP/IP network.

The server checks the consistency of every event several minutes ahead of its scheduled time. If it detects any resource conflicts, missing files or invalid parameters, the server issues an appropriate alarm, thus allowing operators enough time to intervene and fix the problem.

The server controls video switches and MPEG encoders used to broadcast live events. The system automatically crossconnects a backhaul used for the live feed to a MPEG encoder used for the UDP multicast.

The server automatically parses spreadsheets that contain TV listings and updates its database accordingly. The same spreadsheet can be used to insert new programming events and to update events already in the server database.

While parsing a schedule spreadsheet, the server automatically generates a processing report, which contains statistics and a list of undefined channels, missing MPEG files, and other errors. The server automatically emails the report to a list of individuals responsible for the BTV service.

USER INTERFACE FEATURES

The *Graphical User Interface (GUI)* provides access to all system monitoring and control commands. Configuration commands are implemented as a separate configuration utility program.

In its main window, the GUI shows scheduled events as a list of text lines, one line per each event. An event may be in various states, such as *idle, pending, broadcasting, terminated, cancelled* and so on. The GUI indicates each event present state using a distinct icon and color.

An event definition contains a number of parameters, such as channel number, channel name, event start and end time, event description, and so on. Operators can select which event parameters to show in the main window, and in which order to present them. These settings can be saved into templates for future use.

The GUI also offers a rich set of commands used to monitor server operation, to control broadcasts manually, and to edit events. Operators can modify, add and delete events from the schedule. A set of commands is provided to find an event, change its parameters, reschedule its start and end time, and to terminate the event manually.

A number of commands are available to create and to view a variety of reports, such as schedule report, file inventory report, and processing reports.

MANUAL CONTROLS

Manual media player controls allow operators to select and play an MPEG file on a given channel, and to pause, stop, rewind, and seek within the selected file. In addition, a set of indicators show the present state of the media player. Similarly, video switch controls allow operators to operate the switch manually, and to monitor its status.

MPEG FILES INVENTORY

The MPEG files used by the BTV Broadcast Scheduler are typically stored on the server itself, or on a shared network drive. The server maintains a list of files in its database. In addition to the file location, the server keeps track of the corresponding program name, exact file duration, and program description. The GUI provides a set of commands to manage the MPEG files inventory.

REPORTS

The BTV Broadcast Scheduler generates a number of reports. Some of these reports are generated automatically by the server, while others are created upon operators request. Some reports always have the same format, while others allow operators to select report columns, channels and time range. The GUI provides a set of commands to view and to manage report files.

EVENT LOG MANAGEMENT

All event reports are stored into log files. This feature allows static analysis of the recorded status changes and detected alarm conditions. The server automatically creates and maintains log files on a daily basis.

MULTIUSER SUPPORT

BTV Broadcast Scheduler is a multiuser system. Any number of users can monitor schedule execution, or perform various control and configuration tasks concurrently. Each instance of the user interface is a completely independent program which may run on any computer on the TCP/IP network. Depending on the login account name, the GUI grants or restricts user access to the individual screens.

NETWORKING AND REMOTE ACCESS

BTV Broadcast Scheduler provides full LAN and WAN support. The system may be configured to use any physical network topology as long as TCP/IP protocol is available for that network. Therefore, the system may run on Ethernet networks, and across wide area networks. In addition, clients may use Remote Access Service (RAS) to communicate using TCP/IP over dial-up serial lines.

ON-LINE DIAGNOSTICS

The server has powerful built-in real time on-line diagnostics which can be used in the field to verify system configuration and to monitor operation of the external interfaces.

On-line diagnostics can be accessed remotely by our customer support personnel, to assist operators in configuring and running the system.