NovraLink

Overview

NovraLink is an innovative digital media distribution and management system based on industry network standards and a flexible software architecture, enabling many types of digital media and data broadcasting applications. **NovraLink** is at the cutting edge of technology in terms of speed, security, reliability and efficiency and has been designed to allow service providers to reliably distribute digital media and data. Through an intuitive content management user interface, the user can easily manage **what** plays **where** and **when**.

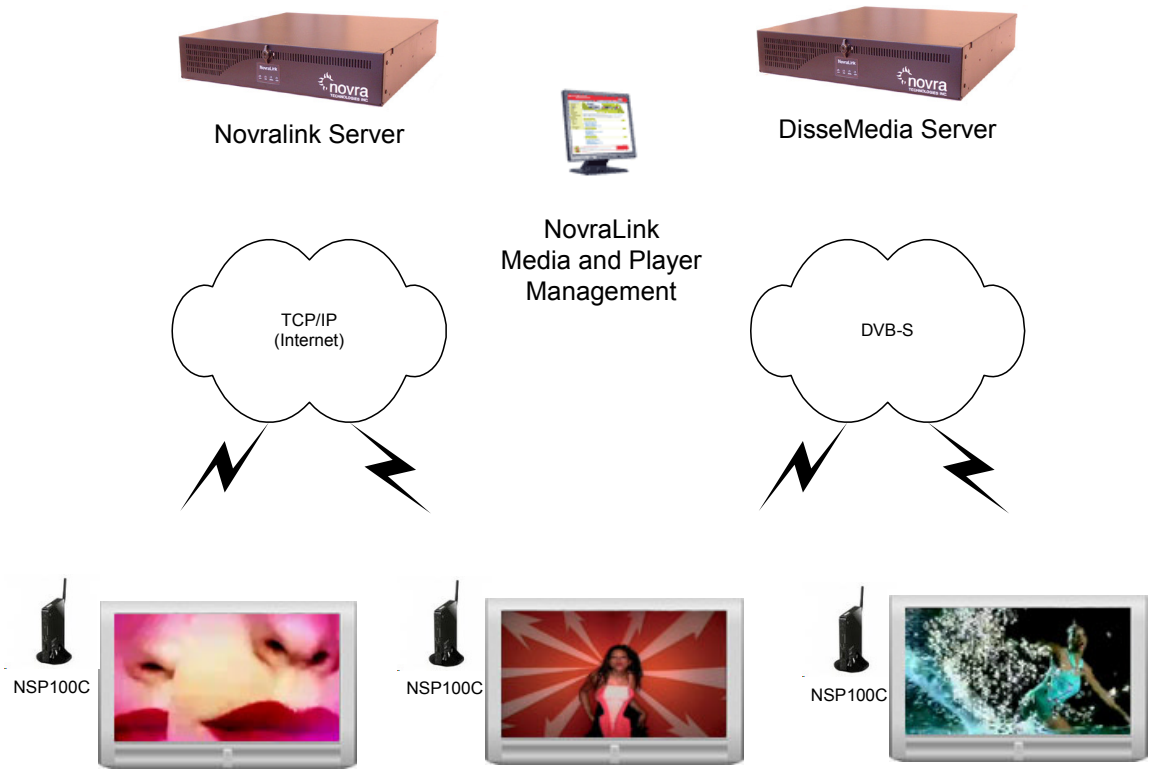


Figure 1 : Novralink Media Distribution Overview

Multicast data distribution supports multiple acknowledgement schemes or can be run without a return channel, using adjustable forward error correction. Receivers can be addressed individually or in groups, executing received scripts or programs. **NovraLInk** can be deployed over a TCP/IP network (Internet/Intranet) or using DVB (Digital Video Broadcast) IP multicast file delivery. Each NovraLink component is designed to be flexible and robust . The remainder of this document will describe the major features of the various components.

Advertising Support

Many new media applications are driven by revenue generating advertising model. In this case Novralink allow complete support for entering detailed playout contracts for media pieces by location and time. Typically this advertising database needs to be honored with playout audit information and without complex scheduling. Novralink provides a data driven ad campaign management system where the ad contract details are sent to the correct players that play the content at the requested times. This capability can be thought of as a television ad insertion being done for every display.

Content Management

Overview

Novralink content management software is used to mange each piece of digital content from its entry into the system to the point of obsolescence. Software is used to import and index media. From that point it can be uploaded to the distribution server. After content has been added to the content library it can be incorporated into playlists that in turn can be scheduled for each player group. The overall flow of content and control information is shown in Figure 2.

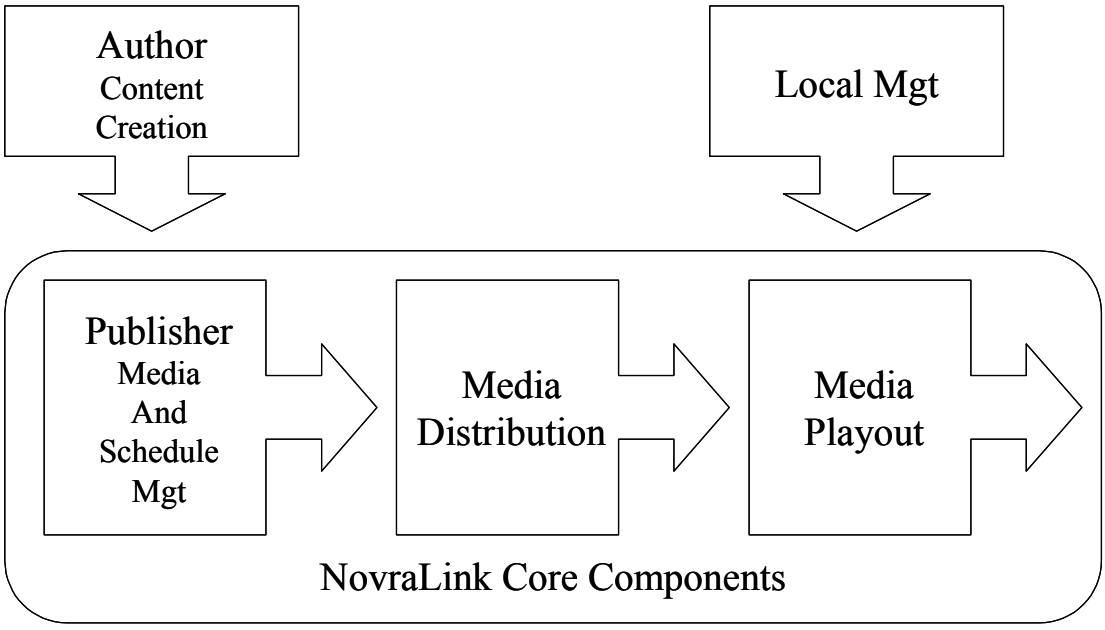


Figure 2 : Content Flow with NovraLink

There are specific opportunities for local interaction as well. For example using the local messaging feature, local retailers can put their own messages on top of professional video backgrounds. The number of local message slots are determined by the central scheduler.

Importing Content

Upon receiving the latest new media prepared for delivery and playout, a user simply copies the content to their content management PC from DVD/CD. The user then can import all of the new media to the NovraLink Content Management application. Before this new media is sent to DisseMedia (the NovraLink multicast server) for distribution, it must be previewed and tagged. The user needs to set the "Properties" or keywords for each of these new media items. Many critical elements are automatically detected by the software such as media size and duration. Other keywords will have meaning only to the user and specifics of their application and are used for finding media in the library and matching media with appropriate player groups.

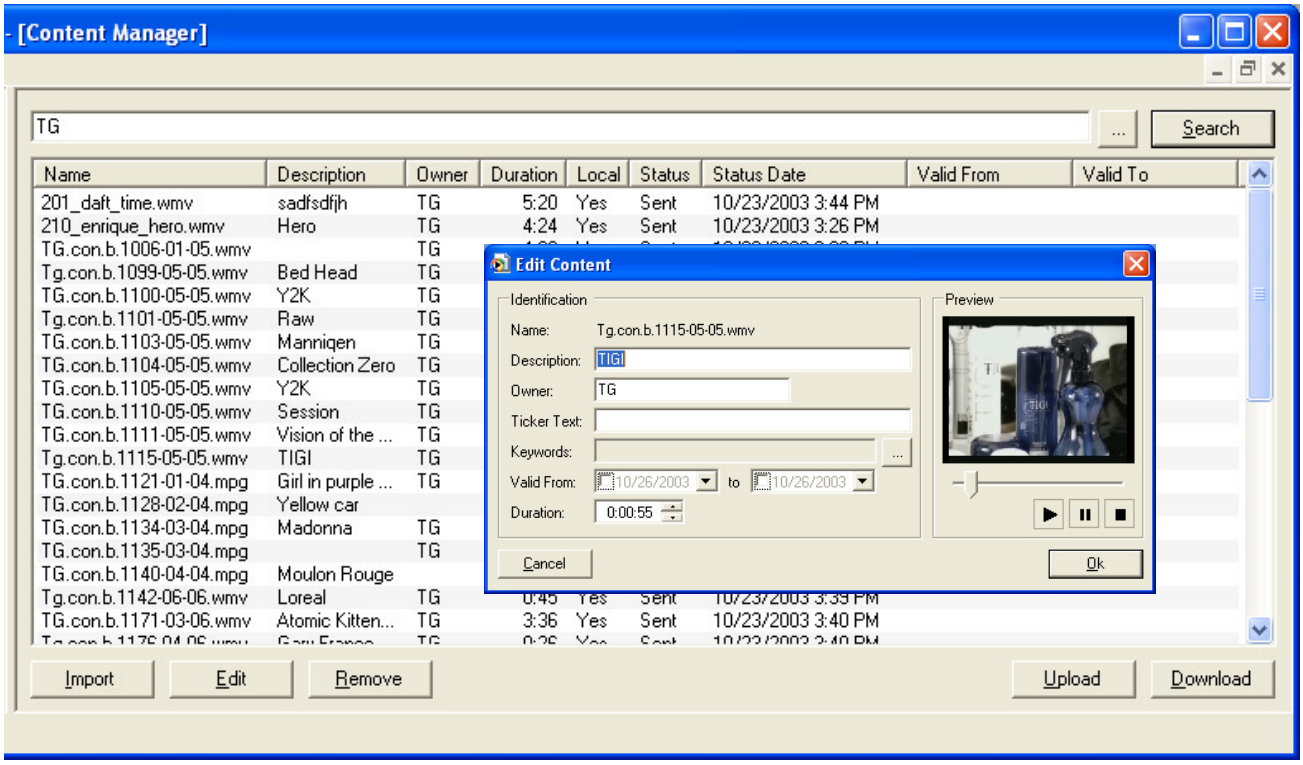


Figure 4: Registering Content

Playlist Creation

Once content is added to the content library, it is available for new or existing playlists. Playlists can be as simple as a sequence of media items that can be scheduled for playout on a group of player units. Playlists can also control optional messaging features that are available.

Playlists can also act as templates for network operation. For example one can create templates for various parts of a day that are edited for weekly/daily publication. Playlist templates can be constrained so that operations staff will create playlists that meet corporate playout guidelines.

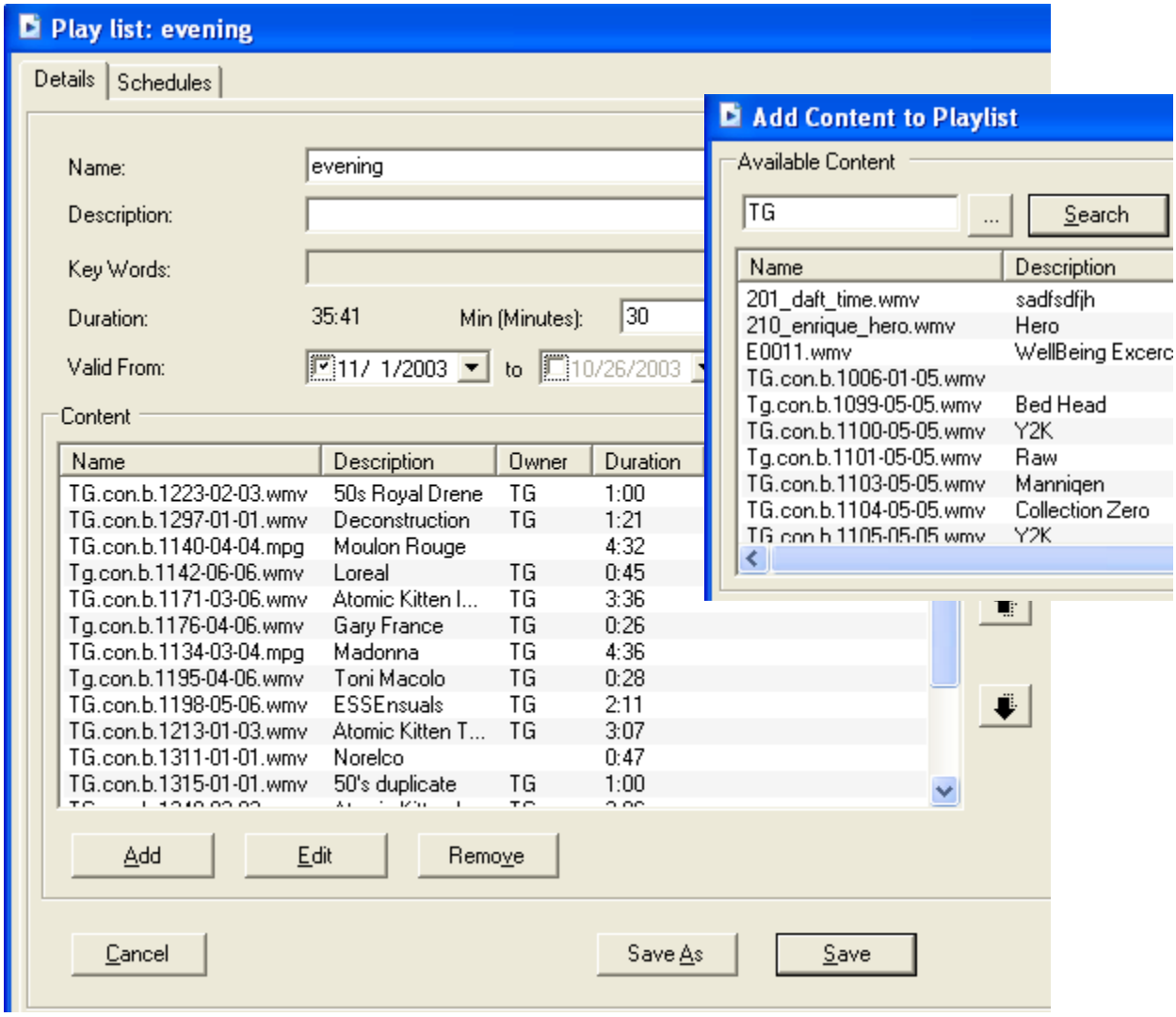
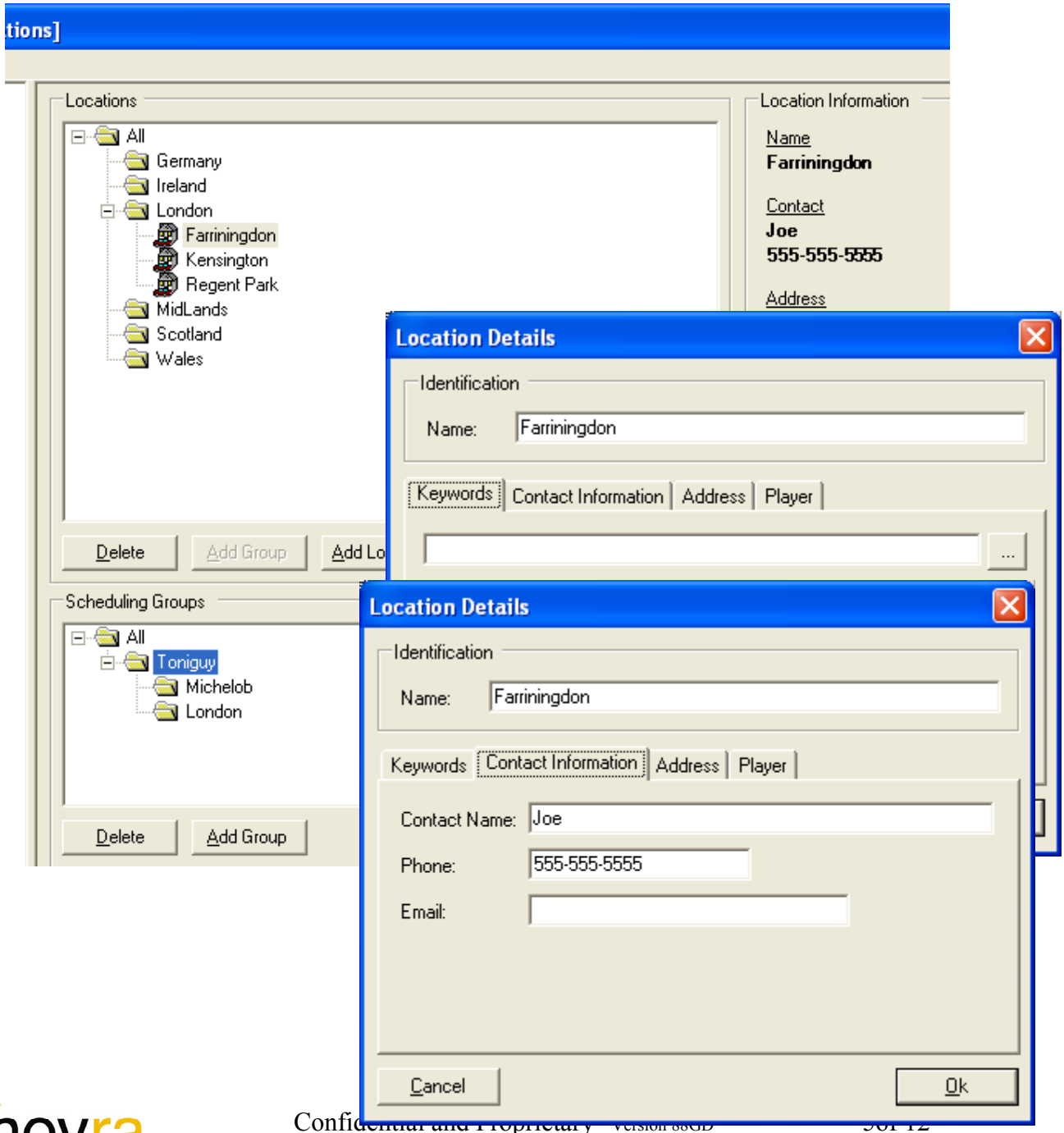


Figure 5 : Creating Playlists

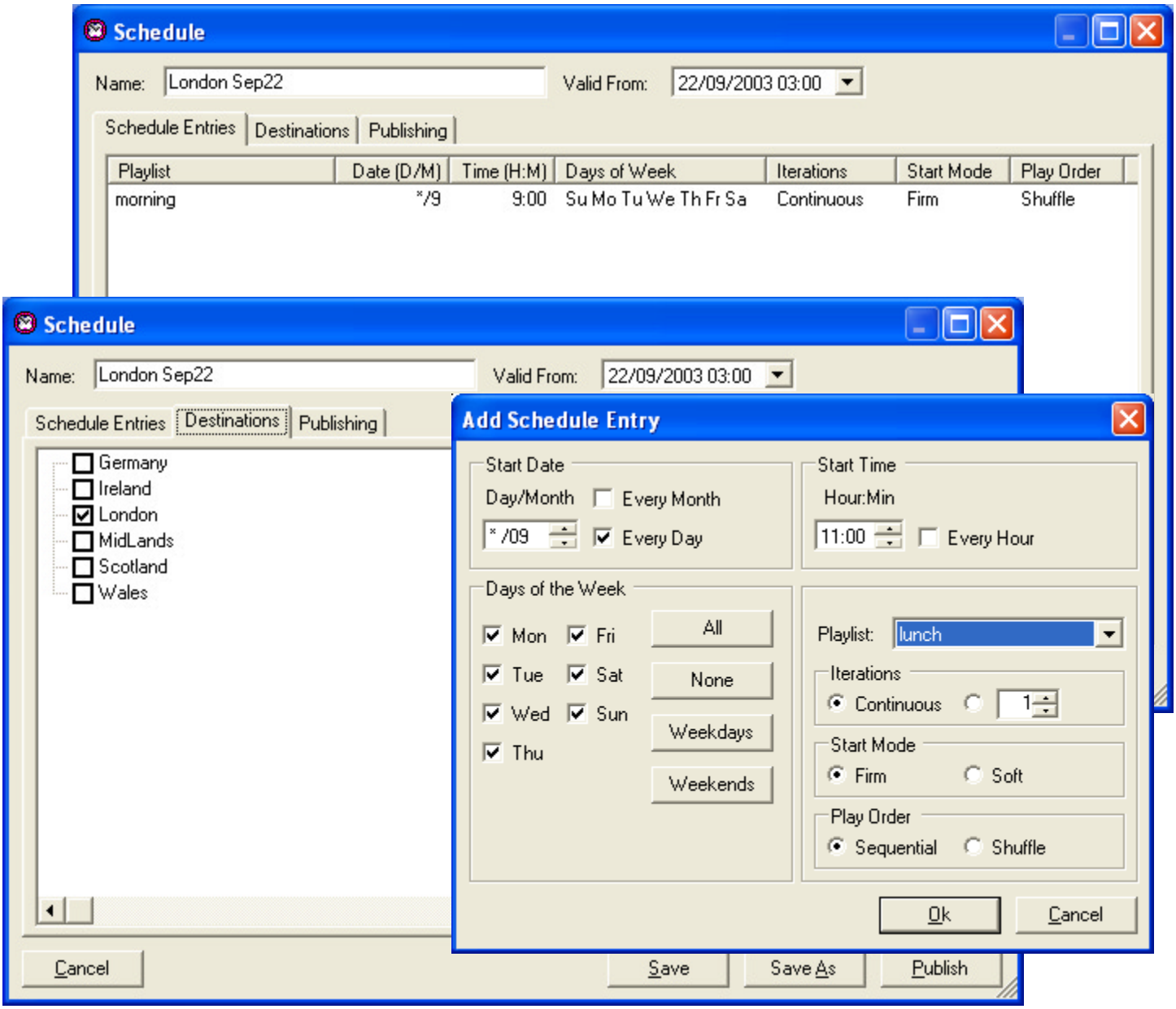
Player/Location Management

Your network of locations can be easily managed through a simple management interface. With this application you can define all of your locations along with important contact details, player id and important keywords. Locations can then be grouped together easily for purposes of scheduling and other mgt functions.



Content/Location Scheduling

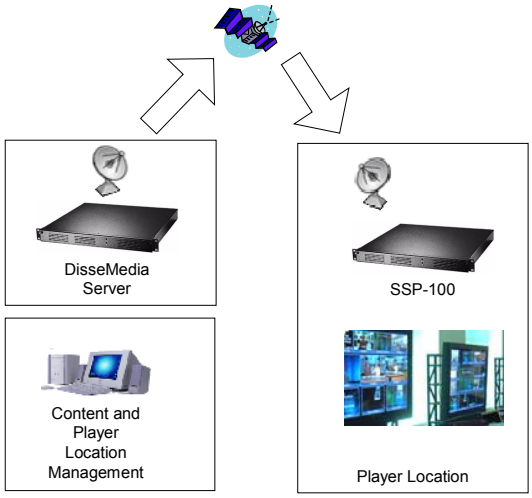
Schedules are created as required for location groups. Each schedule can incorporate single or repeating playlist events. New events can occur every minute and allow for soft or firm playlist startup. Multiple schedules can be worked on using the backup and restore feature along with different "valid from" dates. Schedules that are delivered early are only activated when the valid from date/time occurs.



Content Distribution Services

Overview

NovraLink's DisseMedia server is used for multicast content distribution over DVB transport streams or multicast enabled IP networks. It is preconfigured for bandwidth requirements of your operation. Typically there is a high speed channel for content and a high priority low speed channel for control information. Once this configuration is complete there is no need for a content publisher to access the DisseMedia screens.



Novralink Servers can also act as update servers to broadband players (cable/DSL IP networks). In this type of configuration the players can be scheduled to check for updates or the server can push content as needed.

Multiple Networks/Providers

DisseMedia supports multiple player networks. Content and control information for each network is securely stored in separate locations on the server. Bandwidth for each of the separate networks can be shared according to agreed on bandwidth requirements that specify a minimum and maximum speed for both of the content and control channels for each provider.

Content Retransmission

Using the missing file reports from the receivers, one can decide to retransmit one or more files. This is simply accomplished by selecting upload for each of the individual media items.

If required, the optional DisseMedia retransmit module will automatically process the missing file reports and retransmit files.

Player Scripts and Upgrades

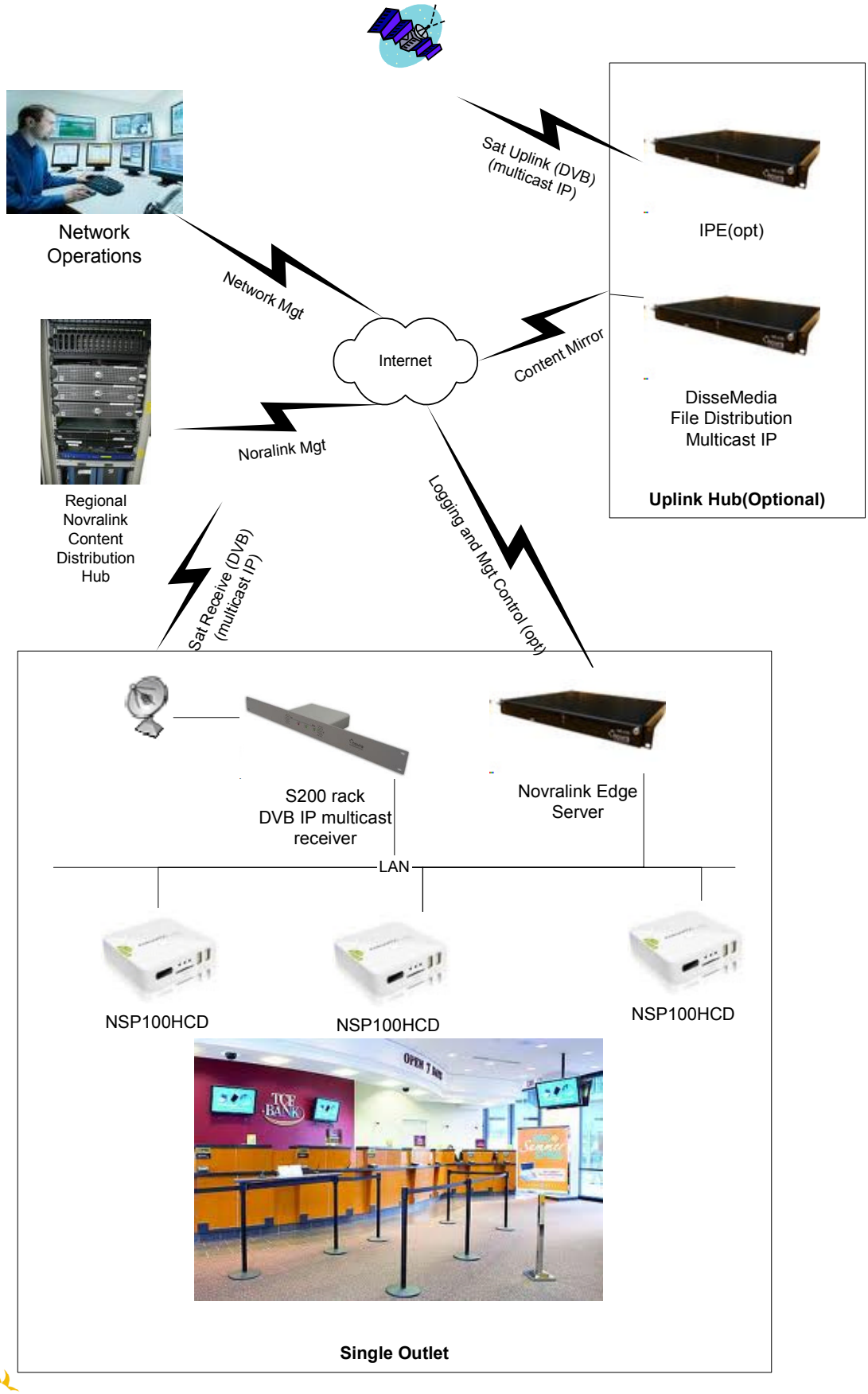
When new features are required for the player network, NovraLink provides the capability to send player updates that will automatically upgrade some or all player units.

Novralink Architecture

Novralink is an integrated family of flexible robust components that can be integrated together to meet specific requirements of a particular service provider and/or requirements of the end user network.

Generally, satellite distribution (via DVB-S) is the recommended distribution architecture. However there are cases where an Internet distribution system is suitable. For example, when there are a small number of players or when some sites are unable to get approval for a satellite dish.

Distribution of Novralink information is available in either a push of pull configuration between the Novralink Server/relay and a NMP (Network Media Player).


Network Operations
Sat Uplink (DVB) (multicast IP)
IPE(opt)
Network Mgt
Internet
Content Mirror
DisseMedia File Distribution Multicast IP
Uplink Hub(Optional)
Regional Novralink Content Distribution Hub
Noralink Mgt
Sat Receive (DVB) (multicast IP)
Logging and Mgt Control (opt)
S200 rack DVB IP multicast receiver
Novralink Edge Server
LAN
NSP100HCD
NSP100HCD
NSP100HCD
Single Outlet

Novralink Players

Novralink player software is pre-installed on a number of different hardware players that suit different deployment requirements. All Novralink players share the following functionality.

- Internet or Satellite File reception
- Multiple Video codec support
- Flash and Web playback
- Reliable 24/7 media playback
- 100% media playback logging
- Comprehensive System logging
- Remote diagnostics

Novralink players are available in the following three hardware categories.

1. Rack mount for locations using video distribution (NSP100-1RU)
2. Compact Embedded Windows Platform (NSP100C)
3. Looping HW Video player (NSP-100CHD)

NSP100-1RU

NSP100C

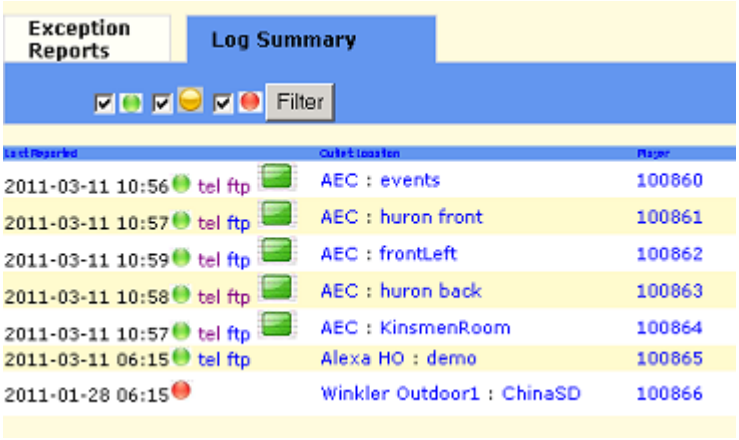
NSP100HCD

Features

- Robust Unattended Operation
- Excellent graphic and sound display quality
- Compatible with any type of media files
- Remote Monitoring and Management
- Local Messaging Options
- Hardware Watchdog
- DVB and TCP/IP Compliant
- Remote script execution capability
- Live software upgrades and management

Logging Server

Using a TCP/IP compliant return channel, a player network can be configured to provide regular updates to the Novralink Server. Using a simple web browser your operations staff can be fully informed of the current status of all player units in the field. This data includes full media playout details for input to a advertising audit or billing system.



Local Messaging

Another example of location interaction supported by Novralink players is the local messaging feature that allows local operators (eg retail/banks/bars) to promote local events specials using professional video backgrounds and local text messages.

The management of the messages is achieved through a simple to use web application hosted by the player. This application allow the user to select video templates, enter the message and choose timing by date and time and frequency.

Contact

For more information visit our web site www.novra.com or send and email to info@novra.com.