Reference Manual

GR*i*NS Editor for RealONE
Windows-98/2000/XP
November, 2001

GR*i*NS Editor for RealONE Reference Manual for Windows-98/2000/XP. November, 2001.

Important Notices

This document is the GR*i*NS Editor for RealONE *Reference Manual*. All of the information presented in this publication has been verified, but incremental product updates may impact part of this guide.

This version of the GR*i*NS Editor for RealONE *Reference Manual* has been produced for use as an off-line reference. Images and page layout have been optimized for printing on a 600-dpi (or greater) laser printer. For best reproducibility, the use of a color printer is recommended, although every effort has been made to make illustrations readable on other printers as well. If you wish to use it as an on-line reference via a PDF reader, we recommend that you increase the level of display magnification when viewing images.

The images used in this publication were taken from the GR*i*NS Editor for RealONE build 2.0-win32-116 for Windows 2000. While the look of other versions of GR*i*NS are slightly different because of adherence to common conventions on those other environments, the functionality described is similar for all versions of GR*i*NS. In order to reduce document size, only images from the Windows version have been included in this document.

We welcome your questions on GR*i*NS Editor for RealONE and comments on this documentation. Please submit all questions and comments to our support desk at *grins-support@oratrix.com*. We maintain a list server dedicated to sharing experiences among GR*i*NS Editor for RealONE users. See the on-line release notes that come with the software distribution for details of this listserver. Finally, if you wish to submit your own SMIL files as examples for other users, please send a request for submission to: *grins-examples@oratrix.com*.

Table of Contents

Introduction

About this manual

This manual is a reference document that explains the functionality of the core features of GR*i*NS. It is not intended to be tutorial in nature. Readers should also consult other GR*i*NS documentation:

- the *Quick Start Guide*, which contains installation and initial use instructions;
- the *Template Guide*, which describes the basic GRiNS template set;
- the *Tutorials Guide*, which gives a how-to overview of GR*i*NS.

Readers should also consult relevant RealONE documentation and, as a final authority, the official W3C SMIL 2.0 Specification (available at: **http://www.w3.org/AudioVideo/**).

Published Formats

GR*i*NS documentation is available in the following formats:

PDF The PDF version, to be used with the Adobe Acrobat 4.0 and later viewer, is intended as an off-line reference document, suited for printing on a 600-dpi or greater printer.

HTML An HTML version, installed in the GRiNS home directory, suited for on-screen viewing.

Program Interface Contents of this Reference manual will be linkable through the GRiNS help system (via the Help pull-down menu). This requires a connection to the Internet as it accesses the latest in documentation.

Note that not all versions may be available in early product releases.

Text Formats

A series of type faces are employed to distinguish information groups.

Code Text used to show SMIL coding is in a Courier format.

Hyperlink Hyperlinks are used to navigate to other documents. They are bold, blue and underlined.

Conditional Text Conditional text is used to explain specific differences between versions of software or platform specific data.

General User Interface

Toolbars

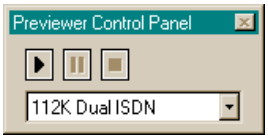
The GR*i*NS user interface provides a set of control panels and toolbars that contain short-cut icons for common operations. Toolbars can be anchored to the GR*i*NS main window or floating. Toolbar visibility is controlled through the View -> toolbars pull-down menu. See also "Toolbars" on page 13.

Previewer Control Panel

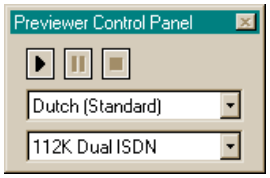
The previewer control panel controls the GRiNS internal preview of a document. It always has buttons for the Play, Pause, and Stop commands. In addition, if Bandwidth Use Monitoring has been selected, it allows a specific simulation bandwidth to be set. If one or more nodes have a System Test attribute set, the potential values are also shown.

Three common settings for this control are shown below:

Preview control when bandwidth monitoring is not selected.



Previewer control, plus bitrate selection for simulation when bandwidth monitoring is active.



Previewer control, plus bitrate selection and active language control when bandwidth monitoring is selected and at least one node has a language attribute set

(Note: GRiNS/Pro contains additional controls for all system test properties, including captions and accessibility features.)

File and General

This toolbar contains single-click buttons to the File menu items:

New	Create a new presentation. "New..." on page 7.	
Open	Open an existing presentation. "Open..." on page 7.	
Save	Save the presentation. "Save" on page 7.	
Restore	Revert to the last saved version. "Revert to saved" on page 7.	
Close	Close the current document.	
Close window	Close the current view or dialog.	
Zoom in/out	Zoom the timeline or the layout view. See also "Zoom" on page 13.	
Help	Short-cut help icon, for future use.	

Containers

This toolbar contains items that can be dragged to the structured timeline to create a container (group) node or media object. The same result also can be achieved through menu-bar commands or using the right-click contextual menus. All of the icons below are also available in the Insert pull-down menu.

The container icons are active only when in the structured timeline. For more details about the behaviors of these objects "Containers (Groups)" on page 15.

Par Create a Parallel container;
all children share a common time base, starting at the beginning of the parallel.

Seq Create a Sequential container;
each component is scheduled after its predecessor.

Switch Create a Switch container;
at most one of the children will be activated, based on Language or Bitrate settings on the items.

Excl Create an Exclusive container;
at most one child will be active, based on event behavior or scheduled start times.

Priority Class Create a Priority container;
define a priority grouping for contained nodes. *(May be used inside an Excl only.)*

Media Item Create an empty Media object;
the media node's properties will determine when and how it is rendered.

Brush Create a Brush object;
fills an area with the color based on the node's properties.

The following icons are only active when in the Layout view:

Top Layout Create a new Top-Layout. "Top-layout" on page 19. *(Note: GRiNS/Pro Only.)*

Region Create a new region that is a child of the parent region/layout. "Region" on page 19

Timing and Linking

This toolbar allows synchronization and timing events to be added to containers and media objects in any view where presentation objects (media, nodes) can be selected. They are single-click buttons that apply to the currently selected object. Only those icons that are relevant to the current editing context are active. For instance, a begin event or hyper link destination cannot be created unless the source has been created and selected first.

External Link Use the selection as the source of a hyperlink to an external node. See "Create full link source and edit" on page 10.

Context Link Use the selection as the source of a trigger to place content in the RealONE *Context* window. "Create link to context window" on page 10.

Browser Link Use the selection as the source of a trigger to place content in the RealONE *Browser* window. "Create link to browser window" on page 10.

Event source Use the selection as the source of an event. "Use as event source" on page 10.

Create begin event Create a begin event on the selection using the previously selected event source. "Create begin event" on page 10.

Create end event Create an end event on the selection. "Create end event" on page 10.

Align / Distribute (GR*i*NS/Pro Only)

These single-click buttons are active when two or more objects are selected in the layout view ("Layout Overview" on page 19) for purpose of physical arrangement.

The *align/distribute* toolbar is active only for the Layout view and is only available in the GR*i*NS/Pro product.

Left edges Align left edges of 2 or more items.

V-Centers Align vertical centers of 2 or more items.

Right edges Align right edges of 2 or more items.

Top edges Align top edges of 2 or more items.

H-Centers Align horizontal centers of 2 or more items.

Bottom edges Align bottom edges of 2 or more items.

Distribute horizontal Divide available horizontal space between 3 or more items.

Distribute vertical Divide available horizontal space between 3 or more items.

Pull-Down Menus

General Information

All commands in the GR*i*NS Editors are available via the menu bar. (The only exceptions to this rule are commands that have meaning only in the context of a single dialog.)

Many common commands are also available in a contextual popup menu on the object, invoked with the right mouse button, but these contextual menus are only a subset of the full command set available in the menu bar.

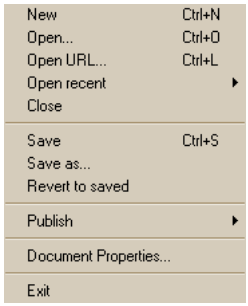
Many commands also have keyboard shortcuts which can be seen in the pull-down menu, or toolbar buttons (See "Toolbars" on page 3), but again these are a subset of the complete command set.

Commands are active only if they make sense given the current selection, state of the document, etc.

Pull-Down Menu Sets

File Menu

The structure for the File menu is shown at right.



New... Create a new document, blank or from a template. (The template selection dialog is shown as a result of this command.) A filename will be requested upon creating the new document.

Open... Open an existing presentation. The presentation can be a GR*i*NS project file (*.grins*) or a standard SMIL file (*.smi* or *.smil*).

Open URL... Opens an existing presentation by giving a URL, allowing you to read in presentations from a web server. However, since you cannot save the presentation back to the web, so you will be prompted to use Save as....

Open recent A submenu of the most recent presentations edited, for quick access.

Close Closes the current presentation and all its views.

Save Save the current presentation.

Save as... Save the current presentation to a new *.grins* or *.smil* file. It is best to use a *.grins* file and not a *.smil* file, as a *.grins* file keeps state information about the authoring process. Use Publish to produce a *.smil* file.

Revert to saved Discards all the changes made to the document since the last save.

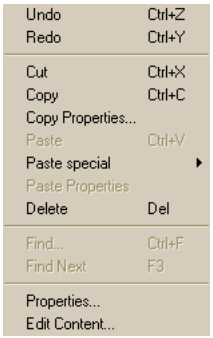
Publish A submenu providing exports of a GR*i*NS presentation. GR*i*NS/RealONE only exports to the RealONE player. GR*i*NS/Pro also exports to IE-6 (HTML+Time), RealPlayer-8 and generic SMIL 2.

Document Properties This shows the document properties dialog (See "Info Tab" on page 37). Top-level document properties can be set such as Author and Copyright information, as well as FTP addresses for uploading to the server that will host the data.

Exit Exit the GR*i*NS Editor session.

Edit Menu

The structure of the Edit menu is shown at right:



Undo Undo the last edit operation. Edit operations are operations that modify the presentation (or the clipboard); non-editing operations, such as selecting a different node are not undoable. The undo stack is accessible until saving the document.

Redo Redo the operation most recently undone.

Cut Remove the currently selected object and place it on the clipboard. References to and from the item on the clipboard (begin events, hyperlinks, etc.) will continue to point to that object.

Copy Create a copy of the selection and put this copy on the clipboard.

Copy properties Shows a dialog that lists all properties on the currently selected item. Highlight the desired properties and they are copied to the clipboard. This is very useful for quickly duplicating special properties to many places (such as duration or region placement).

Paste Properties Used to paste the *Copied Properties* onto the currently selected object.

Paste Put the contents of the clipboard back in the document, using *paste after* semantics.

Paste special Similar to paste but with an object placement submenu that allows *paste before*, *paste within* and/or *paste after* semantics.

Delete Remove the currently selected object from the document.

Properties... Show the properties dialog for the current selection. In the properties dialog you can set such things as duration (for media items) or background color (for regions). See "Property Dialogs" on page 35 for more information.

Edit content Open an external media editor for the media item in the current selection. This only works if the item resides on the local disk, and if a media editor is known for the specific media type.

The following commands are active only for the source view in the GR*i*NS/Pro product.

Find... Search for text.

Find next Find the next occurrence of the search string.

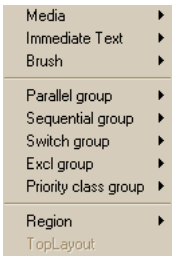
Replace... Search for text and replace it.

Insert Menu

Insert commands are used for inserting new containers and objects and regions into a presentation.

The insert media commands have three varieties that dictate where the new object will be inserted. These positions are *before*, *after* and *within*. The latter is only available if the selection is a container such as a sequential or parallel node.

The structure of the Insert menu is shown at right:



Media Insert an empty media item. Use drag and drop or the property dialog to select the media file.

Immediate text A media item that will hold an amount of text. This is a convenience item for small text items such as captions.

Brush A media item that puts a solid color in a region.

The *insert container* commands have an additional sub-command *parent* which creates the new container node as the parent of the current selection. When selected, a dialog is shown highlighting properties of the current selection that will propagate (move) to the new parent node. The remaining properties are left on the child node. This can be used to ensure that certain events and attributes continue to function as desired.

Parallel A container item that plays all its children (the items contained within itself) relative to the same time base and (by default) finishes playing when all its children are finished.

Sequential An item that plays its children in sequence, with each successor scheduled relative to its predecessor. The seq ends when the last child is done or when the container itself has a set duration.

Switch A group that selects one of its children, based on system test attributes such as the bitrate of the internet connection.

Exclusive A group that plays at maximum one of its children at any given time. *Exclusives* can be used to control presentation flow by event-based user interaction.

Priority Class A sub-group of the *Exclusive* node. Each priority class defines a priority container with contents that can interrupt a low-priority exclusive member. The interruption can be temporary or permanent, based on priority class attributes.

The following commands are only active in the Layout view:

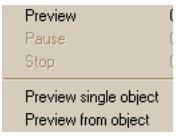
Region Insert a new region within the current selection.

Toplayout Create a new main window in which regions can be created. This command is available only in GR*i*NS/Pro.

Preview Menu

These commands pertain to the integrated preview player. Some are also available from the right-click contextual menus and from the Preview Control Panel.

The structure of the Preview menu is shown at right:



Preview Start playing the presentation from the beginning.

Pause Pause the presentation.

Stop Stop playing the presentation.

The Preview menu also allows you to selective preview part of a document. This can be a single node, such as a media node, or a group of nodes.

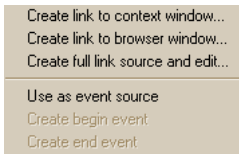
Preview node Play the current selection only. This is only meaningful for nodes (either single media or a sub-group) that resolves to an explicit duration.

Preview from node Play the presentation starting at the current selection.

Linking Menu

These commands are specific to the interaction of objects and timing of the document. They are available only in the structured timeline.

The structure of the Linking menu is shown at right:



Create link to context window Creates a link to a HTML page that is to be displayed in the RealONE context window. The content is displayed without user interaction.

Create link to browser window Creates a link to a HTML page that is to be displayed in the RealONE browser window. The content is displayed without user interaction.

Create full link source and edit Use the currently selected media item as the source of an external hyperlink.

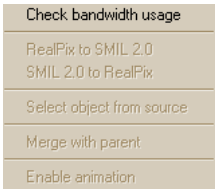
Use as event source Use the currently selected item as the begin or end source of an event. By default this creates an event triggered by the viewer clicking the media item. This can later be changed in the property dialog when the event is completed.

Create begin event Create a begin event on the currently selected item. The item will only start to play when the event is triggered. This function is only active when an event source has been created previously. Details of the event, such as the activation method, such as delay can be modified through the node properties (See "Begin/End Tabs" on page 38).

Create end event Similar to *Create begin event* but an end event is created on the currently selected item. The item will stop playing when the event is triggered.

Tools Menu

The structure of the Tools menu is shown at right:



Check bandwidth usage Checks that the bandwidth usage by the media elements in the document is consistent with the system bitrate as set in the player control panel (See "Previewer Control Panel" on page 3). A short report is shown giving presentation startup delay (preroll time) and the number of times the presentation will pause and rebuffer (stall). Individual media items will get a bandwidth icon that shows whether the item caused any bandwidth problems (See "Show Bandwidth" on page 18).

RealPix to SMIL2 Convert a RealPix media item to the corresponding sequence of images and transitions using SMIL 2 and RealONE syntax. This command is used when converting legacy RealPlayer documents to SMIL 2.

Select node from source Active only in the source view. This looks at where the source view text cursor is positioned and selects that node or region in the structure view and layout view. *This function is available to the GRiNS/Pro product.*

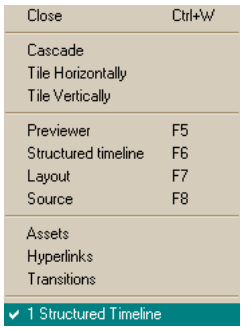
Distribute Active only in the layout view when three or more items are selected. The outermost two elements stay where they are, the other elements are positioned so that all elements are equally spaced. This command works best if all items are the same size and non-overlapping. *This function is available to the GRiNS/Pro product.*

Merge with parent Active when the selection consists of a parent node and its single child. The function will collapse the two items into a single. This is the reverse operation of the various insert parent commands (See "Insert Menu" on page 9).

Enable animation Active only in the Layout view if the current selection is a media item. Allows animation of the items position, size, background color, etc. See "Animation" on page 21 regarding using the animateNode facility.

Window Menu

The structure of the Window menu is shown at right:



Close Closes the topmost view or dialog window.

Tile horizontally Stack all open views horizontally. Note that this also tiles the previewer window, if open.

Tile vertically Stack all windows vertically.

The use of tiled window configurations is not recommended because of its interaction with the Previewer. It is supported for legacy reasons only.

The following options select a GR*i*NS editing view:

Previewer view Shows the previewer window.

Structured Timeline Shows the structured timeline, the main editing view of GR*i*NS (See "Structured Timeline" on page 15).

Layout view Show the layout view, where region layout, placement of media and animation editing occurs (See "Layout" on page 19).

Source view Show the source view, where the raw smil source is viewable in XML format (See "Source View" on page 25). *Source editing is available only in the GRiNS/Pro product.*

The following views are for special-purpose editing windows.

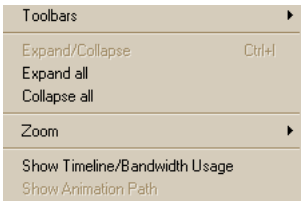
Assets Show the assets view, where an index of used/unused media items and code snippets are kept for re-use in the document (See "Source View" on page 25).

Hyperlinks Shows the hyperlink editor, which allows navigation and creation of advanced hyperlinks (See "Hyperlink View" on page 29).

Transitions Shows the transition view, which allows creation and modification of media transitions (See "Transitions View" on page 23).

View Menu

The structure of the View menu is shown at right:



Toolbars Shows or hides the various toolbars and the player control panel. See "Toolbars" on page 3 for an explanation of the individual toolbars.

Expand/ Collapse Expand or collapse a container item, showing and hiding its contents. Useful for complex presentation to un-clutter the structure view.

Expand all Expand the selected container item and all collapsed child container items.

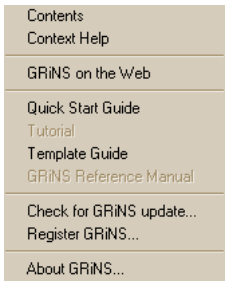
Collapse all Collapse the selected container item and all container items contained within it.

Zoom In the timeline-enabled structure view, this enlarges or diminishes the timeline. In the layout view it magnifies the preview canvas. (A rollover menu provides a zoom factor selector.)

Show Timeline/ Bandwidth Toggle the display of time in the structure view. Showing the timing of your media objects in a display that is governed by length of time rather than purely by structure. It is particularly useful for adjusting media durations and delays. Not showing time can display more items on the screen at the same time, and is the preferred mode of viewing when editing the high-level structure of a presentation. *Show time* also turns on the begin/duration drag handles for objects in the structure view (See "Show Time" on page 18).

Help

The structure of the Help menu is shown at right:



Contents Opens a web-browser which connects to the GR*i*NS online documentation set. This directs to the main index for the documentation regarding the particular product in use.

Context Help Opens a web-browser which connects to the GR*i*NS online documentation set. This directs to the informative help regarding the view which is currently in the foreground such as the structure view, layout view, etc. *(Available in GRiNS/Pro only.)*

GR*i*NS on the web Opens a web-browser which connects to the homepage of the Oratrix web site.

Quick Start Guide Accesses the Quick Start Guide that is installed to the local machine. Viewing requires Adobe Acrobat.

Tutorials Accesses the Tutorial document that is installed to the local machine. Viewing requires Adobe Acrobat.

Template Guide Accesses the Template Design Guide that is installed to the local machine. Viewing requires Adobe Acrobat.

GR*i*NS Reference manual Accesses the GR*i*NS Reference manual that is installed to the local machine. Viewing requires Adobe Acrobat. (You are currently reading this manual!)

Check for GR*i*NS update...	Opens a web-browser which connects to the Oratrix web site to check for a newer version or upgrade to the particular product in use.
Register GR*i*NS...	Opens a web-browser which connects to the Oratrix web site to register the product. This is only appropriate for license-holders who have purchased their copy from an official reseller of GR*i*NS products, such as Real Networks. Those who have purchased from Oratrix will not need to register.
About GRiNS	Displays information on the version and build of the GR*i*NS product.

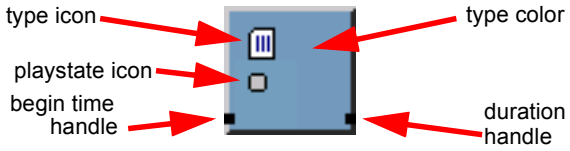
Structured Timeline

Overview of the Structured Timeline

The structured timeline is the main editing interface for GR*i*NS. The following text outlines the fundamentals of using this view.

Each object in the Structured Timeline can be identified by a color and a type icon. The state of the object can also be identified by the color of its playstate icon.

The following image identifies the main components of a node in the structure view:



In addition, media items also have special visual properties, to be described below.

Containers and Icons

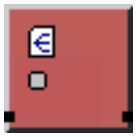
Containers (Groups)

Containers are structure buckets that hold a series of objects. The type of container dictates how child objects are scheduled and activated. The structured timeline uses a variety of visual concepts to denote the playable structure of a document.

Sequential All children of the sequential container are played one at a time in the order that they appear in the container. Scheduling within a sequential container is *relative*.

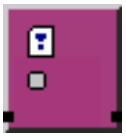
Parallel All children of the parallel container are played according to the same time base. Scheduling within a parallel container is *absolute with respect to the start of the parallel*.

Switch A switch container defines a collection of one or more children, of which at most one will be activated. (It is also possible that none of the children are activated.) Each child of the switch must have either a system test attribute that triggers the playing of that one child. In GR*i*NS/RealONE, these attributes may only be a language and/or bitrate setting. In GRiNS/Pro, all possible system test and custom test attribute settings are allowed. When the switch is played, the first child that fits the profile of the setting is activated.

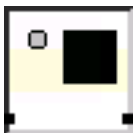


Exclusive The exclusive container is used for manual interaction in a presentation. Children of the exclusive container are played only if they are referenced by a parent object of the exclusive container. This allows user control of the presentation such as menu selected navigation.

Priority Priority containers determine the relative priority among a set of priority class containers in an exclusive. If a priority class is used by one child of an exclusive, all children of that exclusive container must be priority containers. The priority class provides a layer of logic that deals with interrupt and pause actions among the children of the exclusive. One practical application example is the use of banner ads in a presentation that should change when users are interacting with higher-level parts of the document. For the most part, these priority class containers are timeline transparen.



Brush This is a pseudo media item, containing a color, a layout region reference and a duration.



Information/Interaction Icons

Each container is displayed with a set of icons that give feedback on activation and state information. The purpose is to visually aid content-creation rather than bog the user down with endless text strings.

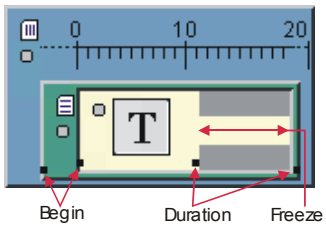
Playstate When playing a document, the playstate icons feedback the current status and position of the playing. When user interaction in a presentation occurs, certain containers are played, others are ignored. The three playstate indicators are as follows:

- **Playing**: When a parent container or media object is currently being played, the playstate indicator illuminates a bright green.
- **Finished**: After a parent container or media object's duration is fully completed, the playstate indicator illuminates a dark green. However, this does not mean it cannot play again in the case of events that restarts played containers.
- **Skipped**: If a parent container or media object did not play for any reason, it turns grey to show it was skipped. This is very useful for showing errors an navigational choice in a presentation.

Drag handles Drag handles allow the (relative) begin time and forced duration of an object to be specified graphically. The right handle governs duration and the left governs begin.

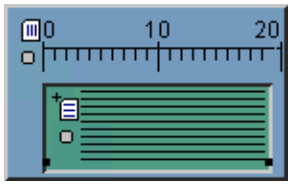
Freeze field

If a node has a *fill* attribute with a value of *freeze*, a grey/yellow background is drawn at after the end of the active duration of the object. The yellow bar against the grey bakground represents the duration that the object remains on the screen after its scheduling duration has ended.



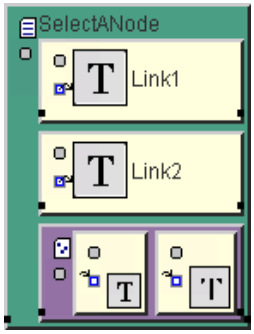
Expand/ Collapse

Each type icon in the top-left corner. also serves as an expand/collapse toggle. Clicking on the icon will show or hide the contents of that container, allowing more detail, or more work space. This is useful for complex presentations that often get visually cluttered, especially when work is being done on a different part of the document.



Events

Event icons serve two purposes. They denote the presence of an event, and the connection of that event. When creating an event, and finishing that connection, the two objects involved have the icons that indicate the presence of the event, and then clicking on one of those icons will show the connection that was made and the direction.



Warnings

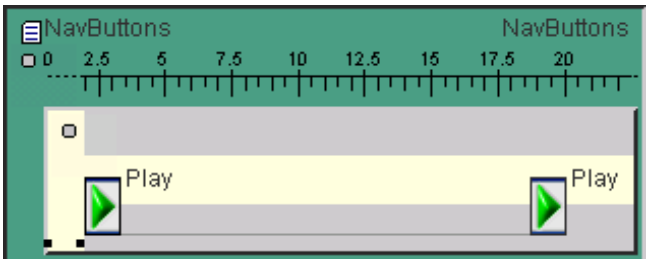
Warning icons notify the user that an error has occurred in the presentation. They appear when the document is played and the error has occurred. They most often denote that an object will not be played because of attribute problems. Clicking the warning icon will show the error message.

Time, Structure and Bandwidth

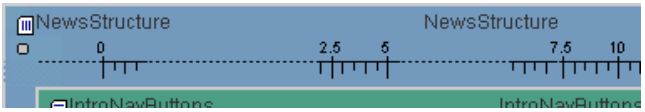
Show Time

Show time in a presentation enables the timeline and is enabled by default. The timeline is used in all time-based authoring, and adopted into the structured timeline with the same purpose. However in GR*i*NS, the timeline must have additional behavior to fit non-linear timelines as complex presentations most often have. Some exceptions apply for when the timeline is broken into segments because of gaps required to draw presentation structure.

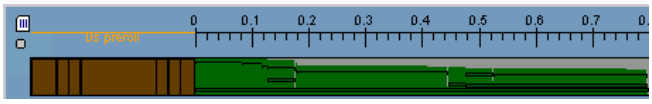
The following image depicts a standard timeline:



When special-class containers are used in a presentation (particularly exclusive and priority class), or when the presentation contains large numbers of embedded structure containers, breaks in the timeline may occur. In this case, the timeline breaks into pieces called *timeline discontinuities* — theses are intervals that take up space but do not take up any time in the presentation.



Show Bandwidth



The bandwidth strip computes expected bandwidth usage and displays it underneath the main timeline. The computation is done based on the bitrate set in the Player control panel (see "Previewer Control Panel" on page 3). The computation is a conservative approximation of what may happen during playback: some problems shown may not occur during real playback, but if the bandwidth strip show no problems, your presentation is probably in good shape.

The following colors are used in the three representations of bandwidth:

Green — No problems. The bandwidth is adequate to fit the media objects through the pipeline.

Amber — Could be a problem. Amber color in the main part of the presentation denotes a potential stall. Amber used in the very beginning (before the zero second marker of the timeline) is the preload time. This does not indicate a stall, but the amount of time required to download the initial part of the presentation. An amber color in the middle of a presentation indicates a stall which coincides with a wait for user interaction — this is typically not a performance problem.

Red — Definitely a problem. Red indicates that in most likelihood there will be a stall. When stalls occur, the streaming player goes into a state of re-buffering which means the presentation stops and data is recollected before it continues to play.

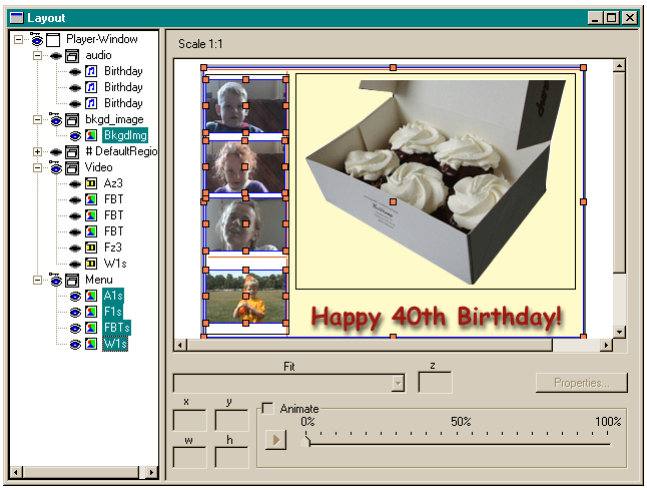
The GR*i*NS Previewer software does *not* have streaming capabilities enabled. The purpose of the bandwidth indicator is specifically designed for use with RealONE and HTML+Time exports.

Layout

Layout Overview

Where the structured timeline is used to create temporal behavior in a presentation, the layout view is used to create the spatial behavior. This is done by creating *regions* which are the planes to which data is rendered.

Regions are rectangular areas of rendering space. Each region is created with a series of co-ordinates, a z-index and a fit behavior that determines how media fill the presentation canvas. The follow view illustrates a generic Layout view structure:

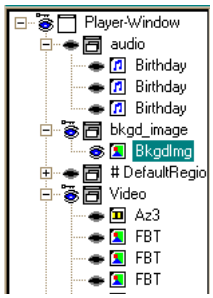


The Layout view is divided into three parts: the *browser*, *layout* and *property* panes.

Layout View Panes

Browser Pane

This is a hierarchical view (tree widget) containing the media objects in the presentation and their region assignment. The browser pane has full drag/drop functionality. This view is especially useful for moving media between regions. It also has a number of informative icons to help with visual arrangement:



Top-layout The outer document window. All of the regions and media assets in the presentation are nested in this layout except HTML content in the Browser and Context windows..

Region The icon denoting a region. It will contain the media children

Media Icons denoting the different media items. The media objects each have an eye icon (it changes color when the object is selected for view) and a type icon. The name (if any) is also shown.

Visible/ Invisible key If you click on the eye icon, a lock key appears, to indicate that the associated item will be locked into view even if another object is selected in the tree. Click again to unlock.

Layout Pane

The layout pane is where all regions and their content are displayed. Most often, the region/media to be displayed will be selected in the Browser pane. Selecting a region in the Layout pane has the following semantic:

- if no other object is selected, then the object with the highest z-order under the mouse will be selected;
- if another object is already selected, clicking within that object retains its selection, and click outside the object, it follows the rule above.

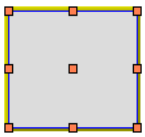
Using the ctl-click method will allow the selection of multiple regions, as in the browser pane.

When working with regions, you can work with either a region outline (as shown below) or, using the browser pane, select a media items associated with that region and display is during region resizing or placement.

Resizing a region will only resize the associated media items if the value of the *fit* attribute allows such resizing.

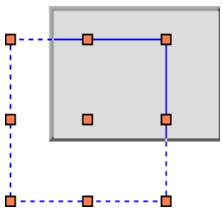
In working with regions, some functions can be achieved by using mouse clicking and dragging actions:

Region selection/ Resizing



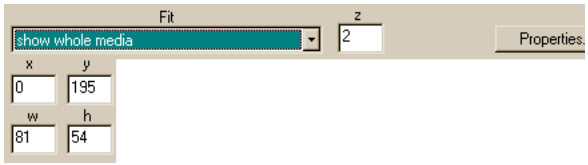
The currently selected region will show drag handles, allowing positioning and resizing of the region. Note that when working with hierarchical regions, repositioning a parent region will also reposition its children.

Region/media positioning



Content media within regions are clipped to their parent. Positioning can occur with both regions and media. Therefore, a media or region child object can be positioned outside of its parent region, rendering part of it invisible. This is denoted by drawing the child with a dotted line. (This is particularly useful for animations that appear to pan in from a direction.)

Property Pane



The property pane contains common properties for the currently selected region or media object. Right clicking an object in either the browser pane or layout pane will allow the complete property window to be shown. Less often used region attributes are accessible via the properties box.

Fit The fit attribute determines the scaling of the object to the space it is assigned to. In the case of regions, the fit attribute will specify the default fit for all child media objects unless otherwise specified.

z The z-index attribute for arranging the top-to-bottom layering of regions and media. A higher z-index value means that the object is more to the front.

Properties Opens the main property window for the currently selected object. The property tabs and attributes are described later in this manual.

x/y/w/h Positioning coordinates that can be a pixel value. (Positioning via percentages is possible via the properties button.) When using percentage-based placement, relationships among items are preserved if the containing window is resized in the RealONE player.

Animation

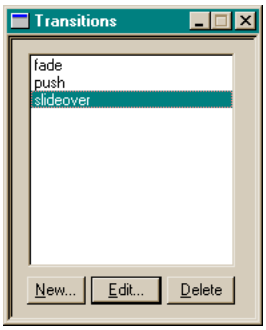
When a media object is selected, the animate checkbox becomes active, allowing for animations to be applied to that object's region.

The animateNode functionality allows a media node or its containing region to be moved and resized over time. When a media object has the animate checkbox enabled, multiple key frames can be defined along a motions path. To use animation effectively:

1. Enable the animate check for the currently selected object.
2. The red arrow indicates the currently selected keyframe.
3. If the media object in the layout pane is currently positioned in the desired *starting* position, drag the progress bar to the far right so it is positioned at 100%. This will specify that the end animation position will be recorded. Also note that the last keyframe becomes red.
4. When the 100% keyframe indicator is illuminated red, drag the media object to its desired destination.
5. Press the play on the right of the progress meter to watch the animation in action.
6. Should additional key frames are to be added, stop the playback and position the progress bar to an new point somewhere between and end.
7. Position or size the media object in the layout pane and note that a new red keyframe appears.
8. Playback the animation again and note that additional movements have been added.

Transitions View

Transitions Overview

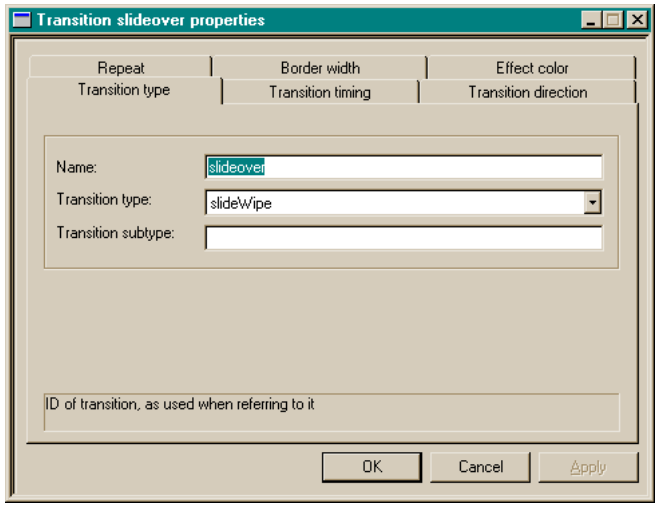


The *transition view* shows the set of transitions that have been defined for the current presentation. Transitions are defined locally to a presentation. Each of the GRiNS design templates contain a set of transitions, which may be extended by a presentation author.

Each transition has a standard set of properties, such as type, sub-type, duration, and direction. The properties can be manipulated via the transition view's Edit button. Once a transition is defined, it can be applied to a media object as an *input* or *output* transition. When relevant, an object's property box will contain a tab called *Transitions,* the transition used for the begin and end of that object can be defined.

Transitions Definition Options

The set of properties associated with a transition are illustrated in the following figure:



NOTE: While the transitions architecture has been standardized in SMIL 2.0, the supported set of transition sub-types has not. All SMIL players are required to support at least one of each of the six primary SMTE transition classes, but most players do not support the hundreds of sub-types. Consult the RealONE and IE-6 documentation for the current set of supported transition classes.

Source View

Source Viewing and Editing

Overview

Since SMIL is an XML-based language, the actual creation of presentations can be done in a text editor. Of course, the power of GR*i*NS is that all of this work is done visually, with embedded preview and bandwidth monitoring. (This enables authors to spend a fraction of the time otherwise required with a text editor.)

While a visual interface is useful in most cases, there are times when viewing the SMIL source generated by the editor also can be useful — such as during debugging or when learning the language. Therefore GR*i*NS also has a source view that allows the author to view what the actual end result will be.

The functionality provided by the source view is differentiated by product.

GR*i*NS/ RealONE — A plain source view. It has no editing capabilities and merely displays the source.

GR*i*NS/Pro — This source view includes full source editing capabilities as well as search and replace features.

Editing Commands (GRiNS/Pro Only)

This section denotes associated commands for the GR*i*NS/Pro editor product only.

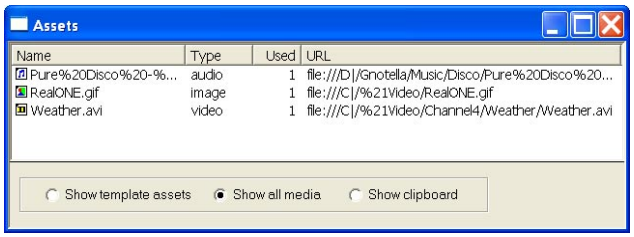
Apply — When doing manual edits to the source, the changes must be applied before the document is affected. The reason for this is that GR*i*NS' internal parser provides error checking that a normal text editor does not. Should errors occur, the author is notified by a dialog box.

Revert — When editing the source, should the author want to revert back to previously before making the changes, this command-button will erase the changes. However, this does not work if the changes were applied.

Find / Find next / Replace — These commands are available in the Edit pull-down menu.

Asset View

Assets Overview



When authoring large and complex presentations, it is usually important to be able to manage the media objects that are used in that presentation. GRiNS provides an Assets view, which holds media objects and presentation sub-structures; these may be integrated into a template or a document.

Asset View Options

The asset view has three options for organizing various kinds of media used during a presentation and identifying where where it is kept. A radio widget is supplied at the bottom of the view to change organizational view.

Show template assets — Show the media/structure items that are available for re-use in the presentation. These fragments are stored locally in the .grins file. You can add new assets via drag and drop from the structured timeline view, or by dropping items from your system directly into the asset view window.

Show all media — A full listing of all media used in the document. This view is read-only.

Show clipboard — Showing contents of the clipboard. Structure can also be kept here. This view is read-only.

Each of the organizational views has up to four columns:

Name — The name of the object.

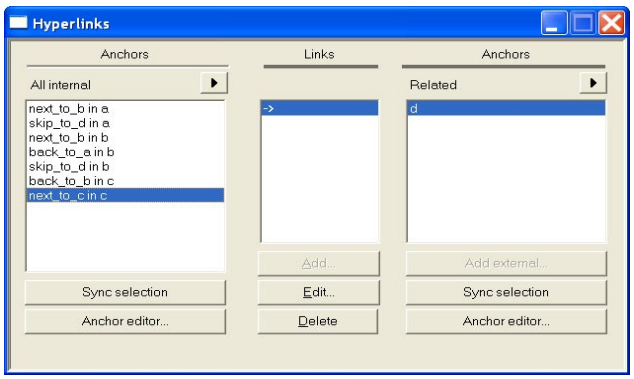
Type — The media type of the file

Used — Whether or not the media object has been used in the presentation and how often.

URL — The fully qualified pathname of the object on the local filesystem. This can also be URLs to the source objects.

Hyperlink View

Linking Overview



Hyperlinks provide a facility to associate one part of a presentation with an internal or external link to another (part of) a document.

Unlike HTML links, SMIL-based links also allow the activation and termination of links to be automatic (self-firing) and to be constrained by temporal attributes. The RealONE player also provides two HTML windows (the *context* and *browser* windows), which can contain Web content synchronized to the SMIL player content.

GR*i*NS provides a comprehensive management interface to maintain links in the presentation.

Link Management Commands

Hyperlinks source and destination can be visually created in the structured timeline, but they cannot be edited from that view. Modification and deletion of hyperlinks can only be done in the Hyperlink view. The view is divided into three sections: source anchor, links and destination anchors.

Anchor source — The left pane of the view identifies the source of the hyperlink. By default when creating a hyperlink, they are unnamed. But in this view, the anchors can be given names. Generally the anchor name should reflect the action that is desired by the hyperlink, rather than the name or the source or destination.

Links — The center section of the view that denotes a connection between source and destination. This link can be any of three directions, but that the most general usage is forward.

Anchor destination — The right pane of the view that shows the destination of the link. Both anchor panes do not actually show if a connection is present, but show a list of qualified anchors that may or not be connected.

The anchor destination pane also comes equipped with a toggle button that will filter the types of anchors by their used relation:

All internal A full listing of all internal anchors, whether used or unused. Should a connected source and destination be selected in the appropriate panes, the Links pane will reflect that the connection exists.

Dangling Show anchors that have no hyperlinks attached to them yet.

Follow global focus Show anchors on the objects currently selected in the structure view.

All related anchors This list shows only the existing connection to the anchor that is selected in the anchor source pane. If there are no connections from the source, this pane is empty.

No anchors, links only Makes the right pane empty, but shows all links that originate from the anchor that is selected in the left pane.

External Similar behavior to the *All related anchors* option except that it relates to external links only. This is used to create links to external documents such as other presentations or web-pages.

Keep list Freezes the current contents of the pane.

Custom Tests

Custom Test Overview

Custom test attributes are not supported in RealONE.

Source File Error Messages

Message Management (GRiNS/Pro)

The Error Messages view provides an interactive interface to finding and fixing errors in SMIL source files. A scan of the source file is made at parse time (when the document is loaded). If any errors are found, they are listed in an error window managed by the Error Messages view. If you select an error in this view, the source editor is activated so that you can correct the problem. (You may also select automatic correction.)

As this view is closely coupled to the GR*i*NS Source Editor, it is only available for the GR*i*NS/Pro product. Users of GR*i*NS/RealONE are given the option of accepting automatic error corrections for problems found during document parsing.

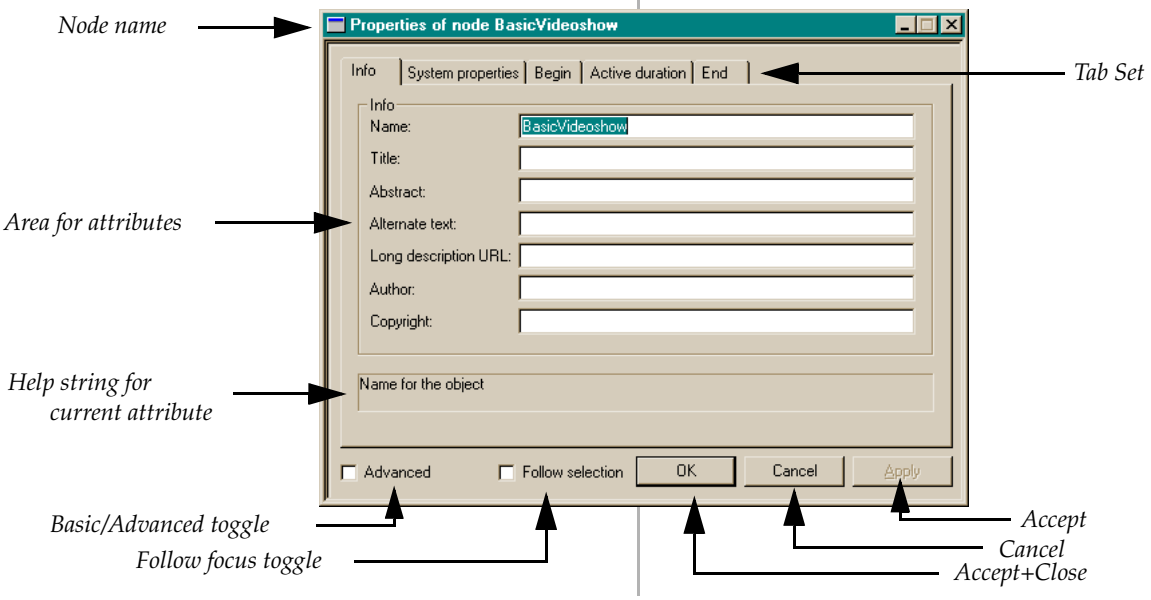
Property Dialogs

Overview

Property dialogs contain all attributes that control the behavior of an object in the presentation. Property dialogs contain a set of tabs, arranged in a series of classes.

All property dialogs are contextually sensitive to the object that is currently selected; as a result, not all property dialogs will always contain the same set of tabs. In addition, the tabs available in a property box are grouped into *Basic* and *Advanced* sets. (For common template-based editing, most users can turn off the Advanced setting.)

The general architecture of the property dialog is shown below:



A good understanding of the elements, attributes and legal attributes values in SMIL 2.0 is highly recommended in order to gain full benefit from the properties dialogs in GR*i*NS.

In this chapter, a comprehensive list of the available tabs will be explained, although not necessarily in the order of appearance in the consecutive tabs.

In each of the sections below, the various attributes on a particular tab are illustrated and described. In some cases, the number of attributes available on a tab will depend on the setting of the Advanced toggle. In these cases, both the Basic and Advanced mode will be illustrated.

General Property Tab Controls

Every property dialog contains a set of 2 checkboxes and a series of three command buttons.

Advanced This checkbox provides access to advanced attributed and property tabs. For most common editing functions, this can be set unchecked (to Basic mode).

Follow selection This allows for the modal snapping of the property dialog to objects that are currently selected. The property dialog will follow focus to objects being selected in other views.

OK/Cancel Commit/cancel changes and close the property dialog.

Apply Commits changes leaving the property dialog open. An important note about regarding using the follow focus option is that changes must be applied before moving focus to the next object. If this is not done, the user is notified by a popup dialog if they want to commit the changes first.

Media/Time Container Properties

All media and time container (that is, PAR, SEQ, EXCL) share the following set of property tabs:

Info A tab containing general information on the node (such as name, copyright, etc.), plus (if a media node) the URL of the associated media object.

System Properties A tab containing the language and bitrate settings associated with the media or time container.

Begin / End Timing attributes that control when a node starts and ends.

Active Duration Timing attributes that control node duration, whether it repeats and where the object remains on the screen after the active duration expires.

In addition to the general properties, media containers also have the following property tabs available:

Layout Short-cut access to media related layout rendering control values

Transition Attributes for setting input/output transitions.

In Advanced mode, media object also have the following tabs exposed:

Geometry Advanced sub-region positioning attributes

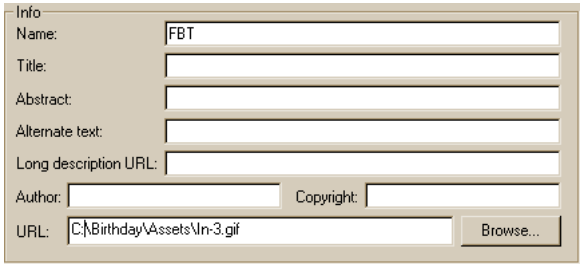
Conversion Attributes to control media conversion to RealMedia formats

Miscellaneous Control over 'kitchen sink' attributes

Common Media/Time Container Tabs

Info Tab

Providing values of all Info attributes is optional.



Name The name given to the object. This is not required, but can be used for descriptive purposes. If events or links are used in a document, then names are automatically generated if not supplied by the user. If non-unique names are used (as a result, for instance, of node copying and pasting), GR*i*NS will automatically make names unique on export.

Title Descriptive text.

Abstract Descriptive text.

Alternate text Similar to the ALT attribute in HTML.

Long description (URL) Pointer to extensive descriptive text.

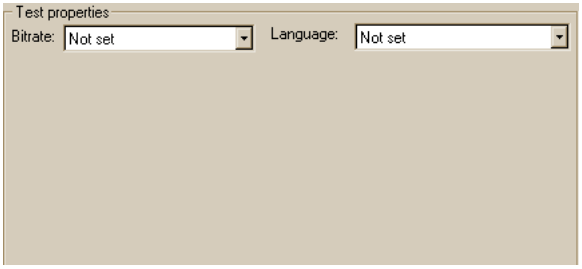
Author Informative dialog for the author's name of the object.

Copyright Informative dialog for the copyright of the object.

URL (Media objects only.) The physical location of the media object. Can be pointed towards an object this is web, FTP or local.

System Properties Tab

The System Properties tab contains test attribute settings for any node. The node is only played if the current player setting match the value of the attributes.



Bitrate The *bitrate* setting for the node and its children. Setting this will cause the object to skipped if the client's connection is slower than the attribute value.

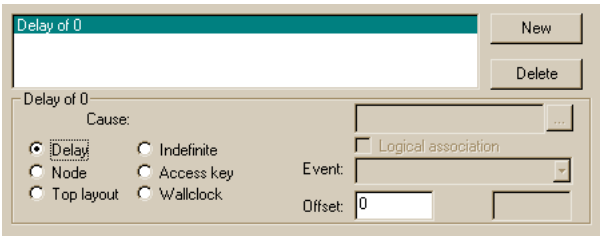
Language The language setting for the node and its children. Setting this is not mandatory unless for use with exclusive nodes. Functions as a gate similar to *bitrate*.

In the GRiNS/Pro editor, additional attributes exist for all of the system test and custom test attributes defined in SMIL 2.0.

Begin/End Tabs

The begin and end attributed of a node are separated into two nearly identical tabs. We will treat them together in this section.

Note that if an item has multiple begin times defined, it will became active as soon as any of the conditions are satisfied.



New This command button enables the creation of a begin or end event. Using this button will create a default *Delay of 0s* event that can then be changed.

Delete This command deletes the selected begin/end condition. Note that the source event connected to the event is not deleted.

Cause A radio widget allowing the selection of the affect of the event. The most commonly used are Delay and Node events. Check the W3C standard for more information regarding these.

Logical association Creates an internal X-Pointer value; if the node containing this link is copied, the link is saved as a relative value.

Event The type of event that is the result of the Cause. This is a drop-down list of event types that can be applied to the object, such as firing when the user clicks or when the referenced node starts/stops..

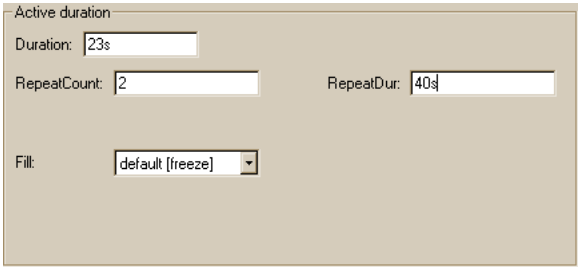
Offset A numerical value that offsets the cause's event. Usually a time setting that is used as a delay time prior to the event firing.

Selecting the Advanced box will expose the following attributes (begin tab only):

Restart node Determines whether a node should restart if a second begin event references it when its already playing.

Active Duration Tab

The Active Duration tab provides basic scheduling information for the node. (The values for this tab are often set by UI actions rather than direct editing.)



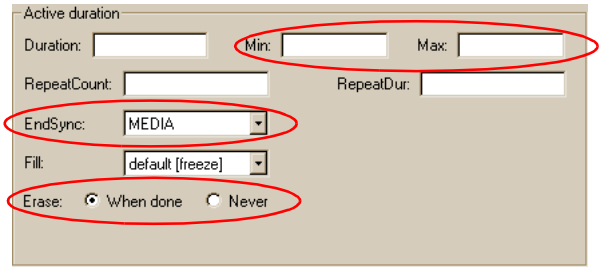
Duration The numerical time-value assigned to allow the length of time for the object to play. If left blank, the object will either use the intrinsic value of the media or inherit the duration of its parent.

RepeatCount The number of times the object will repeat its duration before it is considered to have ended.

RepeatDur The total amount of time that the object should repeat for. This overrides the time calculated by *Duration*RepeatCount*.

Fill This attribute determines of a media object is left on the rendering surface after its active duration ends.

The following additional attributes are exposed in Advanced mode:



Min The minimum duration time of the object.

Max The maximum duration time.

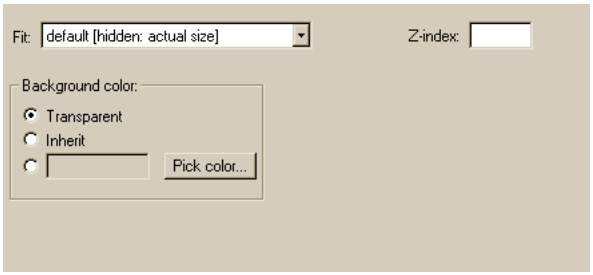
EndSync For use with parallel and exclusive container. This attribute specifies if the first, last or a named child should terminate the time container.

Erase An attribute that forces the object to be erased after its active duration has completed.

Additional Media Container Tabs

Layout Tab

The Layout tab provides access to the principal layout attributes for the object (not for the region). While most layout editing will occur via the Layout view, this tab can useful for quick access to specifying individual object over-ride values.



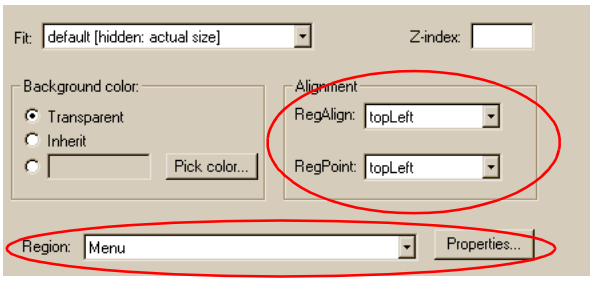
Should these be left blank or default, the properties of the region will apply to the object.

Fit The visual behavior of the media object as it is rendered to the region.

Z-index The top-to-bottom layering of the media object.

Background color A radio group that sets the color used as the background to the media object.

The following attributes are exposed in Advanced mode:



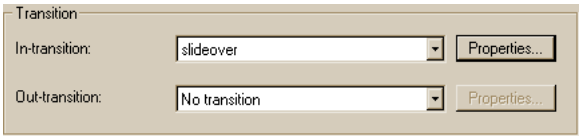
RegAlign The alignment of the object in relation to the set RegPoint.

RegPoint The point inside the region that the alignment is adjusted to. The RegPoint is generated by first dividing the region into 4 quadrants and the RegPoint is one of 9 points.

Region The assigned region that the media object belongs to. The property button to the right leads to the Region property dialog (See "Region Property Tabs" on page 44).

Transition Tab

The transitions tab allows an input and or output transition to be attached to a media object.



These attributes are selectable as per the transition definitions in the transition view:

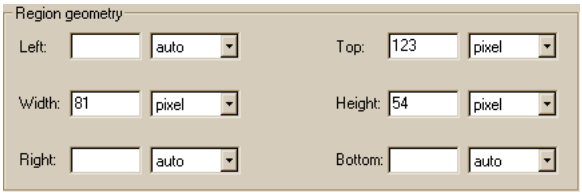
In-transition The transition to be used when the media object begins its playing. The Property button to the right leads to the Transition property dialog (See "Transition Properties Tabs" on page 43).

Out-transition The transition to be used when the media object is ending is play. The transition time is subtractive from the total duration of the object.

Advanced Media Container Tabs

Geometry

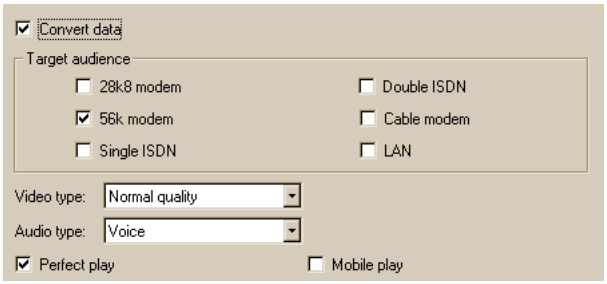
The Geometry tab specifies sub-region placement attributes. These attributes allow media to be positioned within the current region; all attribute values are *relative to the containing region*.



Note that values can be specified as being pixels or percentages. By default, values have the value of Auto, and placement corresponds according to W3C CSS-2 absolute placement semantics.

Media Conversion

The conversion tab control media conversion from native format to RealMedia.



Convert Data A checkbox that determines whether this media node is converted to RealMedia upon export.

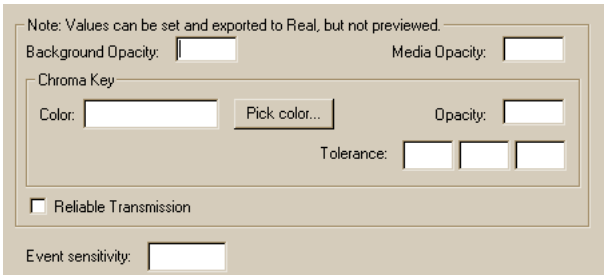
Target Audience A set of common bitrates that determine which RealProducer codes are used to encode the media. If multiple values are selected, a RealNetworks SureStream file will be produced.
Note: SureStream technology is only recommended if you are sure you will host your presentation on a streaming RealServer, not a Web site.

Video Type For video data, the type of image material. (Used to optimize encoding.)

Audio Type For audio data, the type of audio material. (Used to optimize encoding.)

Miscellaneous

These attributes cover a range of functionality and RealNetworks extensions to the SMIL language. They can be set in the Editor, but the GRiNS Preview *will not* render the associated behavior.



Background opacity The percentage of opacity applied to a transparent background.

Media opacity The percentage of transparency applied to an opaque media object.

Chroma key color The color used for chroma keying. Chroma keying selects a particular color of a media object and renders it as transparent.

Chroma key opacity The opacity percentage applied to the color selected for chroma keying.

Tolerance The tolerance color value set in Red-Green-Blue allowing a differential to the chroma key color set to a media object.

Reliable transmission A directive to the streaming server to force reliable transmission even if this results in presentation delays.

Event sensitivity An opacity percentage that determines if events are caught or passed to another media object.

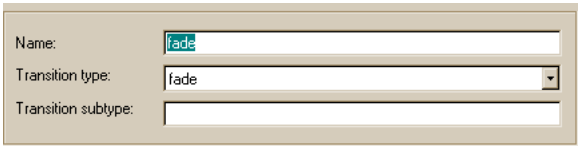
Transition Properties Tabs

Transitions are defined in the Transitions view. These table control the various properties associated with transitions.

Note that the GR*i*NS preview does not support all of the transition types, but allows all types to be defined and exported to the RealONE player.

Transition Type Tab

This tab allows a name, type and sub-type to be defined for a transition:



Name The name for the transition definition. Must be unique.

Transition type The major transition type used. The rendering of this effect depends entirely on the implementation of the player the document is exported to. The list as shown is fully supported by the GR*i*NS player.

Subtype A secondary transition type, as defined by SMTE.

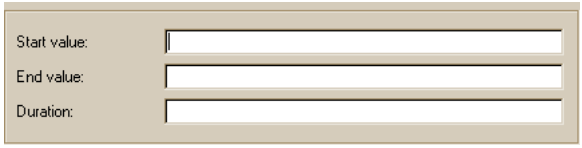
Transition Direction Tab

A single attribute to determine the direction of the transition, if applicable:

Transition direction The playing direction of the transition, whether it be forward or reverse. Support depends entirely on the implementation of the target player.

Transition Timing Tab

This tab allows the duration of the transiton to be defined:



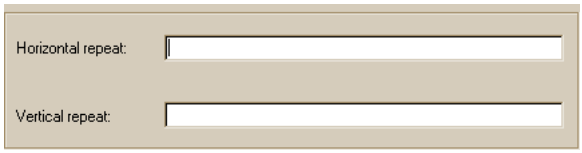
Start value Used to define where the transition should start as a percentage of the transition's effect. (Default is 0.)

End value Used to define where the transition should start as a percentage of the transition's effect. (Default is 1.)

Duration The timed duration of the transition definition. The default value is 1 second.

Repeat Tab

Two attributes are available on this tab to control the repeat behavior of the transition:



Horizontal repeat The number of times that the transition will be repeated in its horizontal axis.

Vertical repeat The number of times that the transition will be repeated in its vertical axis.

Border Width Tab

A single attribute to set the width of a Wipe transition border:

Border width This attribute applies only to the *wipe* transition. It controls the border size in pixels.

Effect Color Tab

This single-attribute tab is used to specify the color associated with certain transitions:

Effect color This attribute is used in conjunction with the *fade* transition and the *fadeToColor* or *fadeFromColor* subtype.

Region Property Tabs

When a region is created or edited in the layout view, the author is given access to two sets of tabs in Basic mode:

General A set of informational attributes on the region or topLayout, some of which are only visible in Advanced mode.

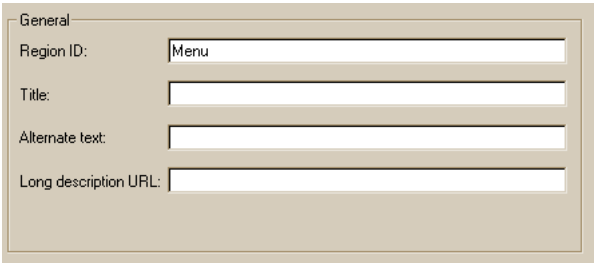
Layout Properties of the region, some of which are only visible in Advanced mode.

In Advanced mode, the following additional tab is available:

Basic Region Property Tabs

General Tab

The general tab for regions is similar to the Info tab for other objects.



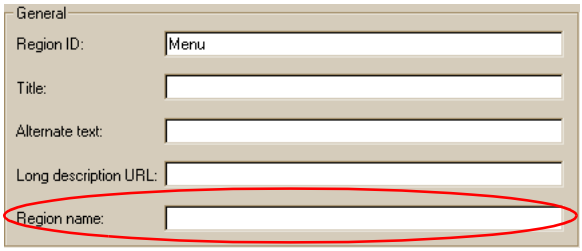
Region ID The referenced name of region that media objects will be assigned to in the presentation layout. If left as a null value, GR*i*NS will automatically generate a name.

Title An informative title that can be added to the region.

Alternate Text Alternative information that can be used to describe the region.

Long description URL A pointer to a text string that can be used to describe the purpose of the region.

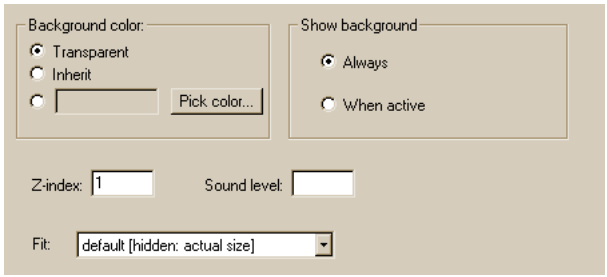
The following additional attribute is exposed in Advanced mode:



Region name A non-unique region name that is a synonym for the Region ID. Used in presentations that have multiple layouts embedded in a switch. The region is selected based on the name rather than the ID, since regions IDs must be unique.

Region Layout Tab

This tab provide basic information on the structure of the region:



Background color The default background color assigned to the region. This behavior of this attribute depends on the value set for *Show Background*. (Only if SMIL Advanced Layout is supported.)

Show background Determines whether the background color of a region is rendered when the contents are *not* active.

Z-index The top-to-bottom layering of the region in relation to the master *Top-Layout* region. Higher values specify content that is more towards the front.

Sound level For use with regions that contain audio objects. A percentage value that controls the level of audio playback for the entire duration.

In Advanced mode, the following attribute is exposed:

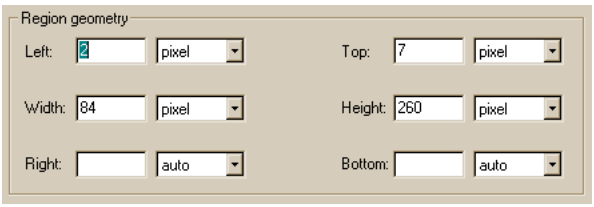
Opacity A percentage reduction of background color opacity. A default of 0% is equivalent to transparent.

Advanced Region Property Tabs

A single extra tab is exposed when in Advanced mode: the Geometry tab.

Region Geometry Tab

The Geometry tab allows basic region positioning to be defined.



Note that values can be specified as being pixels or percentages. If percentages are used, the relative placement of objects will be preserved in the RealONE player when the view is magnified.

By default, values have the value of Auto, and placement corresponds according to W3C CSS-2 absolute placement semantics.

SMIL Compliance Information

The GR*i*NS/RealONE supports the entire SMIL 2.0 specification, although not all features are previewed during editing. Documents that make use of these constructs are parsed correctly, but the features are ignored during rendering.

Supported Media Table

The following chart gives a listing of the media types supported by various versions of GR*i*NS Editor for RealONE:

MIME type	Extensions	Windows 98/2K/XP
audio/basic	au	yes
audio/x-aiff	aiff, aifc, aif	yes
audio/x-wav	wav	yes
image/jpeg	jpeg, jpg	yes
image/png	png	yes (2)
image/tiff	tiff, tif	yes
image/x-portable-anymap	pnm	no
image/x-portable-bitmap	pbm	no
image/x-portable-graymap	pgm	no
image/x-portable-pixmap	ppm	no
image/x-rgb	rgb	yes
image/x-xbitmap	xbm	no
	bmp	yes
	ras	yes
	tga	yes
video/mpeg	mpeg, mpg	yes
video/quicktime	qt	yes
video/x-msvideo	avi	yes
video/x-sgi-movie	mov	no
text/html (5)	html, htm	no
text/plain	txt	yes

Notes

1. Uncompressed WAV only.
2. Support seems to be somewhat buggy.
3. Not all encodings supported.
4. Linux information provided for planning purposes only.
5. HTML data is rendered by the GRiNS Preview Player, but not converted to RealText.

Each of these formats is converted to the appropriate RealSystem datatype. For highest quality rending of a final presentation, we recommend converting some datatypes to RealMedia before inserting them in a presentation, if possible.

RealONE Media Conversion

The following chart describes the levels of support provided in the GR*i*NS/RealONE version for the listed RealMedia data types used in the RealNetworks RealONE Player:

RealMedia	Extension	Importable	Generated
RealAudio	ra, rm	yes	yes
RealVideo	rm	yes	yes
RealText	rt	yes	no(1)
RealPix	rp	yes	no

Notes

1. GR*i*NS/RealONE provides support for the automatic generation of simple RealText documents from immediate strings in the Editor, but it does not at present provide full RealText editing facilities. This is expected in a future release.
2. GR*i*NS/RealONE can import and convert most existing RealPix files.

References and Links

Please see the Links section of the GR*i*NS/RealONE Web site (*www.oratrix.com/GRiNS*).