

# **Guile-GNOME: Atk**

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# 1 Overview

The ATK wrapper for Guile is a part of Guile-GNOME. Maybe write more here at some point.

## 2 AtkAction

The ATK interface provided by UI components which the user can activate/interact with,

### 2.1 Overview

<atk-action> should be implemented by instances of <atk-object> classes with which the user can interact directly, i.e. buttons, checkboxes, scrollbars, e.g. components which are not "passive" providers of UI information.

Exceptions: when the user interaction is already covered by another appropriate interface such as <atk-editable-text> (insert/delete text, etc.) or <atk-value> (set value) then these actions should not be exposed by <atk-action> as well.

Also note that the <atk-action> API is limited in that parameters may not be passed to the object being activated; thus the action must be self-contained and specifiable via only a single "verb". Concrete examples include "press", "release", "click" for buttons, "drag" (meaning initiate drag) and "drop" for drag sources and drop targets, etc.

Though most UI interactions on components should be invocable via keyboard as well as mouse, there will generally be a close mapping between "mouse actions" that are possible on a component and the AtkActions. Where mouse and keyboard actions are redundant in effect, <atk-action> should expose only one action rather than exposing redundant actions if possible. By convention we have been using "mouse centric" terminology for <atk-action> names.

### 2.2 Usage

`atk-action-do-action (self <atk-action*>) (i int) => (ret bool)` [Function]

Perform the specified action on the object.

*action* a <gobject> instance that implements AtkActionIface

*i* the action index corresponding to the action to be performed

*ret* '#t' if success, '#f' otherwise

`atk-action-get-n-actions (self <atk-action*>) => (ret int)` [Function]

Gets the number of accessible actions available on the object. If there are more than one, the first one is considered the "default" action of the object.

*action* a <gobject> instance that implements AtkActionIface

*ret* a the number of actions, or 0 if *action* does not implement this interface.

`atk-action-get-description (self <atk-action*>) (i int) => (ret mchars)` [Function]

Returns a description of the specified action of the object.

*action* a <gobject> instance that implements AtkActionIface

*i* the action index corresponding to the action to be performed

*ret* a description string, or '#f' if *action* does not implement this interface.

**atk-action-get-name** (*self* <atk-action\*>) (*i* int) ⇒ (*ret* mchars) [Function]  
 Returns the name of the specified action of the object.

*action* a <gobject> instance that implements AtkActionIface  
*i* the action index corresponding to the action to be performed  
*ret* a name string, or '#f' if *action* does not implement this interface.

**atk-action-get-localized-name** (*self* <atk-action\*>) (*i* int) ⇒ [Function]  
 (*ret* mchars)

Returns the localized name of the specified action of the object.

*action* a <gobject> instance that implements AtkActionIface  
*i* the action index corresponding to the action to be performed  
*ret* a name string, or '#f' if *action* does not implement this interface.

**atk-action-get-keybinding** (*self* <atk-action\*>) (*i* int) ⇒ (*ret* mchars) [Function]

Returns a keybinding associated with this action, if one exists.

*action* a <gobject> instance that implements AtkActionIface  
*i* the action index corresponding to the action to be performed  
*ret* a string representing the keybinding, or '#f' if there is no keybinding for this action.

**atk-action-set-description** (*self* <atk-action\*>) (*i* int) (*desc* mchars) ⇒ (*ret* bool) [Function]

Sets a description of the specified action of the object.

*action* a <gobject> instance that implements AtkActionIface  
*i* the action index corresponding to the action to be performed  
*desc* the description to be assigned to this action  
*ret* a gboolean representing if the description was successfully set;

## 3 AtkComponent

The ATK interface provided by UI components which occupy a physical area on the screen.

### 3.1 Overview

<atk-component> should be implemented by most if not all UI elements with an actual on-screen presence, i.e. components which can be said to have a screen-coordinate bounding box. Virtually all widgets will need to have <atk-component> implementations provided for their corresponding <atk-object> class. In short, only UI elements which are *\*not\** GUI elements will omit this ATK interface.

A possible exception might be textual information with a transparent background, in which case text glyph bounding box information is provided by <atk-text>.

### 3.2 Usage

**atk-component-add-focus-handler** (*self* <atk-component\*>) [Function]  
 (*handler* <atk-focus-handler>) ⇒ (*ret* unsigned-int)

Add the specified handler to the set of functions to be called when this object receives focus events (in or out). If the handler is already added it is not added again

*component*

The <atk-component> to attach the *handler* to

*handler*

The <atk-focus-handler> to be attached to *component*

*ret*

a handler id which can be used in `atk_component_remove_focus_handler` or zero if the handler was already added.

**atk-component-contains** (*self* <atk-component\*>) (*x* int) (*y* int) [Function]  
 (*coord\_type* <atk-coord-type>) ⇒ (*ret* bool)

Checks whether the specified point is within the extent of the *component*.

*component*

the <atk-component>

*x*

x coordinate

*y*

y coordinate

*coord-type*

specifies whether the coordinates are relative to the screen or to the components top level window

*ret*

'#t' or '#f' indicating whether the specified point is within the extent of the *component* or not

**atk-component-get-extents** (*self* <atk-component\*>) (*coord\_type* [Function]  
 <atk-coord-type>) ⇒ (*x* int) (*y* int) (*width* int) (*height* int)

Gets the rectangle which gives the extent of the *component*.

*component*

an <atk-component>

*x* address of <gint> to put x coordinate  
*y* address of <gint> to put y coordinate  
*width* address of <gint> to put width  
*height* address of <gint> to put height  
*coord-type*  
 specifies whether the coordinates are relative to the screen or to the components top level window

**atk-component-get-layer** (*self* <atk-component\*>) ⇒ (*ret* [Function]  
 <atk-layer>)

Gets the layer of the component.

*component*

an <atk-component>

*ret*

an <atk-layer> which is the layer of the component

**atk-component-get-mdi-zorder** (*self* <atk-component\*>) ⇒ (*ret* [Function]  
 int)

Gets the zorder of the component. The value G\_MININT will be returned if the layer of the component is not ATK\_LAYER\_MDI or ATK\_LAYER\_WINDOW.

*component*

an <atk-component>

*ret*

a gint which is the zorder of the component, i.e. the depth at which the component is shown in relation to other components in the same container.

**atk-component-get-position** (*self* <atk-component\*>) (*coord-type* [Function]  
 <atk-coord-type>) ⇒ (*x* int) (*y* int)

Gets the position of *component* in the form of a point specifying *component*'s top-left corner.

*component*

an <atk-component>

*x*

address of <gint> to put x coordinate position

*y*

address of <gint> to put y coordinate position

*coord-type*

specifies whether the coordinates are relative to the screen or to the components top level window

**atk-component-get-size** (*self* <atk-component\*>) ⇒ (*width* int) [Function]  
 (*height* int)

Gets the size of the *component* in terms of width and height.

*component*

an <atk-component>



*width* address of <gint> to put width of *component*  
*height* address of <gint> to put height of *component*

**atk-component-grab-focus** (*self* <atk-component\*>) ⇒ (*ret* bool) [Function]  
 Grabs focus for this *component*.

*component*  
 an <atk-component>

*ret* ‘#t’ if successful, ‘#f’ otherwise.

**atk-component-remove-focus-handler** (*self* <atk-component\*>) [Function]  
 (*handler\_id* unsigned-int)  
 Remove the handler specified by *handler-id* from the list of functions to be executed when this object receives focus events (in or out).

*component*  
 the <atk-component> to remove the focus handler from

*handler-id* the handler id of the focus handler to be removed from *component*

**atk-component-set-extents** (*self* <atk-component\*>) (*x* int) (*y* int) (*width* int) (*height* int) (*coord\_type* <atk-coord-type>) ⇒ (*ret* bool) [Function]  
 Sets the extents of *component*.

*component*  
 an <atk-component>

*x* x coordinate

*y* y coordinate

*width* width to set for *component*

*height* height to set for *component*

*coord-type*  
 specifies whether the coordinates are relative to the screen or to the components top level window

*ret* ‘#t’ or ‘#f’ whether the extents were set or not

**atk-component-set-position** (*self* <atk-component\*>) (*x* int) (*y* int) (*coord\_type* <atk-coord-type>) ⇒ (*ret* bool) [Function]  
 Sets the position of *component*.

*component*  
 an <atk-component>

*x* x coordinate

*y* y coordinate

*coord-type*  
 specifies whether the coordinates are relative to the screen or to the components top level window

*ret* ‘#t’ or ‘#f’ whether or not the position was set or not

**atk-component-set-size** (*self* <atk-component\*>) (*width* int) (*height* int) ⇒ (*ret* bool) [Function]

Set the size of the *component* in terms of width and height.

*component*

an <atk-component>

*width* width to set for *component*

*height* height to set for *component*

*ret* ‘#t’ or ‘#f’ whether the size was set or not

**atk-component-get-alpha** (*self* <atk-component\*>) ⇒ (*ret* double) [Function]

Returns the alpha value (i.e. the opacity) for this *component*, on a scale from 0 (fully transparent) to 1.0 (fully opaque).

*component*

an <atk-component>

*ret* An alpha value from 0 to 1.0, inclusive.

Since ATK 1.12

## 4 AtkDocument

The ATK interface which represents the toplevel container for document content.

### 4.1 Overview

The AtkDocument interface should be supported by any object whose content is a representation or view of a document. The AtkDocument interface should appear on the toplevel container for the document content; however AtkDocument instances may be nested (i.e. an AtkDocument may be a descendant of another AtkDocument) in those cases where one document contains "embedded content" which can reasonably be considered a document in its own right.

### 4.2 Usage

`atk-document-get-document-type` (*self* <atk-document\*>) ⇒ (*ret* [Function]  
mchars)

Gets a string indicating the document type.

*document* a <gobject> instance that implements AtkDocumentIface

*ret* a string indicating the document type

`atk-document-get-document` (*self* <atk-document\*>) ⇒ (*ret* [Function]  
<gpointer>)

Gets a 'gpointer' that points to an instance of the DOM. It is up to the caller to check `atk_document_get_type` to determine how to cast this pointer.

*document* a <gobject> instance that implements AtkDocumentIface

*ret* a 'gpointer' that points to an instance of the DOM.

`atk-document-get-attribute-value` (*self* <atk-document\*>) [Function]  
(*attribute\_name* mchars) ⇒ (*ret* mchars)

Returns:

*document* a <gobject> instance that implements AtkDocumentIface

*attribute-name*

a character string representing the name of the attribute whose value is being queried.

*ret* a string value associated with the named attribute for this document, or NULL if a value for <attribute-name> has not been specified for this document.

Since ATK 1.12

`atk-document-set-attribute-value` (*self* <atk-document\*>) [Function]  
(*attribute\_name* mchars) (*attribute\_value* mchars) ⇒ (*ret* bool)

Returns:

*document* a <gobject> instance that implements AtkDocumentIface

*attribute-name*

a character string representing the name of the attribute whose value is being set.

*attribute-value*

a string value to be associated with `<attribute-name>`.

*ret*

TRUE if `<value>` is successfully associated with `<attribute-name>` for this document, FALSE otherwise (e.g. if the document does not allow the attribute to be modified).

Since ATK 1.12

`atk-document-get-attributes (self <atk-document*>) => (ret [Function]  
 <atk-attribute-set*>)`

Gets an `AtkAttributeSet` which describes document-wide attributes as name-value pairs.

Returns:

*document* a `<gobject>` instance that implements `AtkDocumentIface`

*ret* An `AtkAttributeSet` containing the explicitly set name-value-pair attributes associated with this document as a whole.

Since ATK 1.12

`atk-document-get-locale (self <atk-document*>) => (ret mchars) [Function]`

Gets a UTF-8 string indicating the POSIX-style `LC_MESSAGES` locale of the content of this document instance. Individual text substrings or images within this document may have a different locale, see `atk_text_get_attributes` and `atk_image_get_image_locale`.

*document* a `<gobject>` instance that implements `AtkDocumentIface`

*ret* a UTF-8 string indicating the POSIX-style `LC_MESSAGES` locale of the document content as a whole, or NULL if the document content does not specify a locale.

## 5 AtkEditableText

The ATK interface implemented by components containing user-editable text content.

### 5.1 Overview

`<atk-editable-text>` should be implemented by UI components which contain text which the user can edit, via the `<atk-object>` corresponding to that component (see `<atk-object>`).

`<atk-editable-text>` is a subclass of `<atk-text>`, and as such, an object which implements `<atk-editable-text>` is by definition an `<atk-text>` implementor as well.

### 5.2 Usage

`atk-editable-text-set-text-contents` (*self* `<atk-editable-text*>`) (*string* *mchars*) [Function]

Set text contents of *text*.

*text* an `<atk-editable-text>`

*string* string to set for text contents of *text*

`atk-editable-text-insert-text` (*self* `<atk-editable-text*>`) (*string* *mchars*) (*length* *int*)  $\Rightarrow$  (*position* *int*) [Function]

Insert text at a given position.

*text* an `<atk-editable-text>`

*string* the text to insert

*length* the length of text to insert, in bytes

*position* The caller initializes this to the position at which to insert the text. After the call it points at the position after the newly inserted text.

`atk-editable-text-copy-text` (*self* `<atk-editable-text*>`) (*start\_pos* *int*) (*end\_pos* *int*) [Function]

Copy text from *start-pos* up to, but not including *end-pos* to the clipboard.

*text* an `<atk-editable-text>`

*start-pos* start position

*end-pos* end position

`atk-editable-text-cut-text` (*self* `<atk-editable-text*>`) (*start\_pos* *int*) (*end\_pos* *int*) [Function]

Copy text from *start-pos* up to, but not including *end-pos* to the clipboard and then delete from the widget.

*text* an `<atk-editable-text>`

*start-pos* start position

*end-pos* end position

`atk-editable-text-delete-text` (*self* <atk-editable-text\*>) [Function]  
(*start\_pos* int) (*end\_pos* int)

Delete text *start\_pos* up to, but not including *end\_pos*.

*text* an <atk-editable-text>

*start\_pos* start position

*end\_pos* end position

`atk-editable-text-paste-text` (*self* <atk-editable-text\*>) [Function]  
(*position* int)

Paste text from clipboard to specified *position*.

*text* an <atk-editable-text>

*position* position to paste

## 6 AtkGObjectAccessible

This object class is derived from `AtkObject` and can be used as a basis implementing accessible objects.

### 6.1 Overview

This object class is derived from `AtkObject`. It can be used as a basis for implementing accessible objects for `GObjects` which are not derived from `GtkWidget`. One example of its use is in providing an accessible object for `GnomeCanvasItem` in the `GAIL` library.

### 6.2 Usage

```
atk-gobject-accessible-for-object (obj <gobject>) ⇒ (ret           [Function]
    <atk-object>)
```

Gets the accessible object for the specified *obj*.

*obj*            a <gobject>

*ret*            a <atk-object> which is the accessible object for the *obj*

```
atk-gobject-accessible-get-object (self                               [Function]
    <atk-gobject-accessible>) ⇒ (ret <gobject>)
```

```
get-object                                                                [Method]
```

Gets the `GObject` for which *obj* is the accessible object.

*obj*            a <atk-object>

*ret*            a <gobject> which is the object for which *obj* is the accessible object

## 7 AtkHyperlinkImpl

An interface from which the `AtkHyperlink` associated with an `AtkObject` may be obtained.

### 7.1 Overview

`AtkHyperlinkImpl` allows `AtkObjects` to refer to their associated `AtkHyperlink` instance, if one exists. `AtkHyperlinkImpl` differs from `AtkHyperlink` in that `AtkHyperlinkImpl` is an interface, whereas `AtkHyperlink` is a object type. The `AtkHyperlinkImpl` interface allows a client to query an `AtkObject` for the availability of an associated `AtkHyperlink` instance, and obtain that instance. It is thus particularly useful in cases where embedded content or inline content within a text object is present, since the embedding text object implements `AtkHypertext` and the inline/embedded objects are exposed as children which implement `AtkHyperlinkImpl`, in addition to their being obtainable via `AtkHypertext:getLink` followed by `AtkHyperlink:getObject`.

### 7.2 Usage

```
atk-hyperlink-impl-get-hyperlink (self <atk-hyperlink-impl*>) [Function]  
    ⇒ (ret <atk-hyperlink>)
```

Gets the hyperlink associated with this object.

*obj*            a `GObject` instance that implements `AtkHyperlinkImpl`iface

*ret*            an `AtkHyperlink` object which points to this implementing `AtkObject`.

Since ATK 1.12



## 8 AtkHyperlink

An ATK object which encapsulates a link or set of links in a hypertext document.

### 8.1 Overview

An ATK object which encapsulates a link or set of links (for instance in the case of client-side image maps) in a hypertext document. It may implement the `AtkAction` interface. `AtkHyperlink` may also be used to refer to inline embedded content, since it allows specification of a start and end offset within the host `AtkHypertext` object.

### 8.2 Usage

`atk-hyperlink-get-uri` (*self* <atk-hyperlink>) (*i* int) ⇒ (*ret* mchars) [Function]

`get-uri` [Method]

Get a the URI associated with the anchor specified by *i* of *link*.

Multiple anchors are primarily used by client-side image maps.

*link* an <atk-hyperlink>

*i* a (zero-index) integer specifying the desired anchor

*ret* a string specifying the URI

`atk-hyperlink-get-object` (*self* <atk-hyperlink>) (*i* int) ⇒ (*ret* <atk-object>) [Function]

`get-object` [Method]

Returns the item associated with this hyperlinks *nth* anchor. For instance, the returned <atk-object> will implement <atk-text> if *link* is a text hyperlink, <atk-image> if *link* is an image hyperlink etc.

Multiple anchors are primarily used by client-side image maps.

*link* an <atk-hyperlink>

*i* a (zero-index) integer specifying the desired anchor

*ret* an <atk-object> associated with this hyperlinks *i*-th anchor

`atk-hyperlink-get-end-index` (*self* <atk-hyperlink>) ⇒ (*ret* int) [Function]

`get-end-index` [Method]

Gets the index with the hypertext document at which this link ends.

*link* an <atk-hyperlink>

*ret* the index with the hypertext document at which this link ends

`atk-hyperlink-get-start-index` (*self* <atk-hyperlink>) ⇒ (*ret* int) [Function]

`get-start-index` [Method]

Gets the index with the hypertext document at which this link begins.

*link* an <atk-hyperlink>

*ret* the index with the hypertext document at which this link begins

`atk-hyperlink-is-valid` (*self* <atk-hyperlink>) ⇒ (*ret* bool) [Function]  
`is-valid` [Method]

Since the document that a link is associated with may have changed this method returns ‘#t’ if the link is still valid (with respect to the document it references) and ‘#f’ otherwise.

*link* an <atk-hyperlink>

*ret* whether or not this link is still valid

`atk-hyperlink-is-inline` (*self* <atk-hyperlink>) ⇒ (*ret* bool) [Function]  
`is-inline` [Method]

Indicates whether the link currently displays some or all of its content inline. Ordinary HTML links will usually return ‘#f’, but an inline <src> HTML element will return ‘#t’. a \*

*link* an <atk-hyperlink>

*ret* whether or not this link displays its content inline.

`atk-hyperlink-get-n-anchors` (*self* <atk-hyperlink>) ⇒ (*ret* int) [Function]  
`get-n-anchors` [Method]

Gets the number of anchors associated with this hyperlink.

*link* an <atk-hyperlink>

*ret* the number of anchors associated with this hyperlink

`atk-hyperlink-is-selected-link` (*self* <atk-hyperlink>) ⇒ (*ret* bool) [Function]  
`is-selected-link` [Method]

Determines whether this AtkHyperlink is selected

Returns:

*link* an <atk-hyperlink>

*ret* True is the AtkHyperlink is selected, False otherwise

Since ATK 1.4 @Deprecated: This method is deprecated since ATK version 1.8. Please use ATK\_STATE\_SELECTED to indicate when a hyperlink within a Hypertext container is selected.

## 9 AtkHypertext

The ATK interface which provides standard mechanism for manipulating hyperlinks.

### 9.1 Overview

An interface used for objects which implement linking between multiple resource or content locations, or multiple 'markers' within a single document. A Hypertext instance is associated with one or more Hyperlinks, which are associated with particular offsets within the Hypertext's included content. While this interface is derived from Text, there is no requirement that Hypertext instances have textual content; they may implement Image as well, and Hyperlinks need not have non-zero text offsets.

### 9.2 Usage

**atk-hypertext-get-link** (*self* <atk-hypertext\*>) (*link\_index* int) [Function]  
 $\Rightarrow$  (*ret* <atk-hyperlink>)

Gets the link in this hypertext document at index *link-index*

*hypertext* an <atk-hypertext>

*link-index* an integer specifying the desired link

*ret* the link in this hypertext document at index *link-index*

**atk-hypertext-get-n-links** (*self* <atk-hypertext\*>)  $\Rightarrow$  (*ret* int) [Function]

Gets the number of links within this hypertext document.

*hypertext* an <atk-hypertext>

*ret* the number of links within this hypertext document

**atk-hypertext-get-link-index** (*self* <atk-hypertext\*>) [Function]  
 (*char\_index* int)  $\Rightarrow$  (*ret* int)

Gets the index into the array of hyperlinks that is associated with the character specified by *char-index*.

*hypertext* an <atk-hypertext>

*char-index*

a character index

*ret* an index into the array of hyperlinks in *hypertext*, or -1 if there is no hyperlink associated with this character.

## 10 AtkImage

The ATK Interface implemented by components which expose image or pixmap content on-screen.

### 10.1 Overview

`<atk-image>` should be implemented by `<atk-object>` subtypes on behalf of components which display image/pixmap information onscreen, and which provide information (other than just widget borders, etc.) via that image content. For instance, icons, buttons with icons, toolbar elements, and image viewing panes typically should implement `<atk-image>`.

`<atk-image>` primarily provides two types of information: coordinate information (useful for screen review mode of screenreaders, and for use by onscreen magnifiers), and descriptive information. The descriptive information is provided for alternative, text-only presentation of the most significant information present in the image.

### 10.2 Usage

`atk-image-get-image-position` (*self* `<atk-image*>`) (*coord-type* [Function]  
`<atk-coord-type>`)  $\Rightarrow$  (*x* `int`) (*y* `int`)

Gets the position of the image in the form of a point specifying the images top-left corner.

*image* a `<gobject>` instance that implements `AtkImageIface`

*x* address of `<gint>` to put x coordinate position; otherwise, -1 if value cannot be obtained.

*y* address of `<gint>` to put y coordinate position; otherwise, -1 if value cannot be obtained.

*coord-type* specifies whether the coordinates are relative to the screen or to the components top level window

`atk-image-get-image-description` (*self* `<atk-image*>`)  $\Rightarrow$  (*ret* [Function]  
`mchars`)

Get a textual description of this image.

*image* a `<gobject>` instance that implements `AtkImageIface`

*ret* a string representing the image description

`atk-image-set-image-description` (*self* `<atk-image*>`) (*description* [Function]  
`mchars`)  $\Rightarrow$  (*ret* `bool`)

Sets the textual description for this image.

*image* a `<gobject>` instance that implements `AtkImageIface`

*description* a string description to set for *image*

*ret* boolean TRUE, or FALSE if operation could not be completed.

`atk-image-get-image-size` (*self* <atk-image\*>) ⇒ (*width* int) [Function]  
 (*height* int)

Get the width and height in pixels for the specified image. The values of *width* and *height* are returned as -1 if the values cannot be obtained (for instance, if the object is not onscreen).

*image* a <gobject> instance that implements AtkImageIface

*width* filled with the image width, or -1 if the value cannot be obtained.

*height* filled with the image height, or -1 if the value cannot be obtained.

`atk-image-get-image-locale` (*self* <atk-image\*>) ⇒ (*ret* mchars) [Function]  
 Since ATK 1.12

*image* An <atk-image>

*ret* a string corresponding to the POSIX LC\_MESSAGES locale used by the image description, or NULL if the image does not specify a locale.

## 11 `AtkNoOpObjectFactory`

The `AtkObjectFactory` which creates an `AtkNoOpObject`.

### 11.1 Overview

The `AtkObjectFactory` which creates an `AtkNoOpObject`. An instance of this is created by an `AtkRegistry` if no factory type has not been specified to create an accessible object of a particular type.

### 11.2 Usage

`atk-no-op-object-factory-new`  $\Rightarrow$  (*ret* `<atk-object-factory>`) [Function]

Creates an instance of an `<atk-object-factory>` which generates primitive (non-functioning) `<atk-objects>`.

*ret* an instance of an `<atk-object-factory>`

## 12 `AtkNoOpObject`

An `AtkObject` which purports to implement all ATK interfaces.

### 12.1 Overview

An `AtkNoOpObject` is an `AtkObject` which purports to implement all ATK interfaces. It is the type of `AtkObject` which is created if an accessible object is requested for an object type for which no factory type is specified.

### 12.2 Usage

`atk-no-op-object-new` (*obj* <gobject>) ⇒ (*ret* <atk-object>) [Function]

Provides a default (non-functioning stub) <atk-object>. Application maintainers should not use this method.

*obj*            a <gobject>

*ret*            a default (non-functioning stub) <atk-object>

## 13 AtkObjectFactory

The base object class for a factory used to create accessible objects for objects of a specific GType.

### 13.1 Overview

This class is the base object class for a factory used to create an accessible object for a specific GType. The function `atk-registry-set-factory-type` is normally called to store in the registry the factory type to be used to create an accessible of a particular GType.

### 13.2 Usage

`atk-object-factory-invalidate` (*self* <atk-object-factory>) [Function]  
`invalidate` [Method]

Inform *factory* that it is no longer being used to create accessibles. When called, *factory* may need to inform <atk-objects> which it has created that they need to be re-instantiated. Note: primarily used for runtime replacement of <atk-object-factorys> in object registries.

*factory* an <atk-object-factory> to invalidate



## 14 AtkObject

The base object class for the Accessibility Toolkit API.

### 14.1 Overview

This class is the primary class for accessibility support via the Accessibility ToolKit (ATK). Objects which are instances of `<atk-object>` (or instances of `AtkObject`-derived types) are queried for properties which relate basic (and generic) properties of a UI component such as name and description. Instances of `<atk-object>` may also be queried as to whether they implement other ATK interfaces (e.g. `<atk-action>`, `<atk-component>`, etc.), as appropriate to the role which a given UI component plays in a user interface.

All UI components in an application which provide useful information or services to the user must provide corresponding `<atk-object>` instances on request (in GTK+, for instance, usually on a call to `#gtk-widget-get-accessible`), either via ATK support built into the toolkit for the widget class or ancestor class, or in the case of custom widgets, if the inherited `<atk-object>` implementation is insufficient, via instances of a new `<atk-object>` subclass.

### 14.2 Usage

`atk-implementor-ref-accessible` (*self* `<atk-implementor*>`)  $\Rightarrow$  [Function]  
(*ret* `<atk-object>`)

Gets a reference to an object's `<atk-object>` implementation, if the object implements `<atk-object-iface>`

*implementor*

The `<gobject>` instance which should implement `<atk-implementor-iface>` if a non-null return value is required.

*ret* a reference to an object's `<atk-object>` implementation

`atk-object-get-name` (*self* `<atk-object>`)  $\Rightarrow$  (*ret* `mchars`) [Function]  
`get-name` [Method]

Gets the accessible name of the accessible.

*accessible* an `<atk-object>`

*ret* a character string representing the accessible name of the object.

`atk-object-get-description` (*self* `<atk-object>`)  $\Rightarrow$  (*ret* `mchars`) [Function]  
`get-description` [Method]

Gets the accessible description of the accessible.

*accessible* an `<atk-object>`

*ret* a character string representing the accessible description of the accessible.

`atk-object-get-parent` (*self* `<atk-object>`)  $\Rightarrow$  (*ret* `<atk-object>`) [Function]  
`get-parent` [Method]

Gets the accessible parent of the accessible.

*accessible* an <atk-object>

*ret* a <atk-object> representing the accessible parent of the accessible

**atk-object-ref-accessible-child** (*self* <atk-object>) (*i* int) ⇒ [Function]  
 (*ret* <atk-object>)

**ref-accessible-child** [Method]  
 Gets a reference to the specified accessible child of the object. The accessible children are 0-based so the first accessible child is at index 0, the second at index 1 and so on.

*accessible* an <atk-object>

*i* a gint representing the position of the child, starting from 0

*ret* an <atk-object> representing the specified accessible child of the accessible.

**atk-object-ref-relation-set** (*self* <atk-object>) ⇒ (*ret* [Function]  
 <atk-relation-set>)

**ref-relation-set** [Method]  
 Gets the <atk-relation-set> associated with the object.

*accessible* an <atk-object>

*ret* an <atk-relation-set> representing the relation set of the object.

**atk-object-get-layer** (*self* <atk-object>) ⇒ (*ret* <atk-layer>) [Function]  
**get-layer** [Method]  
 ‘atk\_object\_get\_layer’ is deprecated and should not be used in newly-written code. Use `atk_component_get_layer` instead.

Gets the layer of the accessible.

Returns:

*accessible* an <atk-object>

*ret* an <atk-layer> which is the layer of the accessible

**atk-object-get-mdi-zorder** (*self* <atk-object>) ⇒ (*ret* int) [Function]  
**get-mdi-zorder** [Method]  
 ‘atk\_object\_get\_mdi\_zorder’ is deprecated and should not be used in newly-written code. Use `atk_component_get_mdi_zorder` instead.

Gets the zorder of the accessible. The value `G_MININT` will be returned if the layer of the accessible is not `ATK_LAYER_MDI`.

Returns:

*accessible* an <atk-object>

*ret* a gint which is the zorder of the accessible, i.e. the depth at which the component is shown in relation to other components in the same container.

**atk-object-get-role** (*self* <atk-object>) ⇒ (*ret* <atk-role>) [Function]  
**get-role** [Method]

Gets the role of the accessible.

*accessible* an <atk-object>

*ret* an <atk-role> which is the role of the accessible

**atk-object-ref-state-set** (*self* <atk-object>) ⇒ (*ret* [Function]  
 <atk-state-set>)

**ref-state-set** [Method]

Gets a reference to the state set of the accessible; the caller must unreference it when it is no longer needed.

*accessible* an <atk-object>

*ret* a reference to an <atk-state-set> which is the state set of the accessible

**atk-object-get-index-in-parent** (*self* <atk-object>) ⇒ (*ret* int) [Function]  
**get-index-in-parent** [Method]

Gets the 0-based index of this accessible in its parent; returns -1 if the accessible does not have an accessible parent.

*accessible* an <atk-object>

*ret* an integer which is the index of the accessible in its parent

**atk-object-set-name** (*self* <atk-object>) (*name* mchars) [Function]  
**set-name** [Method]

Sets the accessible name of the accessible.

*accessible* an <atk-object>

*name* a character string to be set as the accessible name

**atk-object-set-description** (*self* <atk-object>) (*description* [Function]  
 mchars)

**set-description** [Method]

Sets the accessible description of the accessible.

*accessible* an <atk-object>

*description*  
 a character string to be set as the accessible description

**atk-object-set-parent** (*self* <atk-object>) (*parent* <atk-object>) [Function]  
**set-parent** [Method]

Sets the accessible parent of the accessible.

*accessible* an <atk-object>

*parent* an <atk-object> to be set as the accessible parent

<code>atk-object-set-role</code>	<code>(self &lt;atk-object&gt;) (role &lt;atk-role&gt;)</code>	[Function]
<code>set-role</code>		[Method]
	Sets the role of the accessible.	
	<i>accessible</i> an <atk-object>	
	<i>role</i> an <atk-role> to be set as the role	
<code>atk-object-notify-state-change</code>	<code>(self &lt;atk-object&gt;) (state</code>	[Function]
	<code>unsigned-int64) (value bool)</code>	
<code>notify-state-change</code>		[Method]
	Emits a state-change signal for the specified state.	
	<i>accessible</i> an <atk-object>	
	<i>state</i> an <atk-state> whose state is changed	
	<i>value</i> a gboolean which indicates whether the state is being set on or off	
<code>atk-object-initialize</code>	<code>(self &lt;atk-object&gt;) (data &lt;gpointer&gt;)</code>	[Function]
<code>initialize</code>		[Method]
	This function is called when implementing subclasses of <atk-object>. It does initialization required for the new object. It is intended that this function should be called only in the ...-new functions used to create an instance of a subclass of <atk-object>	
	<i>accessible</i> a <atk-object>	
	<i>data</i> a <gpointer> which identifies the object for which the <code>AtkObject</code> was created.	
<code>atk-object-add-relationship</code>	<code>(self &lt;atk-object&gt;) (relationship</code>	[Function]
	<code>&lt;atk-relation-type&gt;) (target &lt;atk-object&gt;) =&gt; (ret bool)</code>	
<code>add-relationship</code>		[Method]
	Adds a relationship of the specified type with the specified target.	
	<i>object</i> The <atk-object> to which an <code>AtkRelation</code> is to be added.	
	<i>relationship</i> The <atk-relation-type> of the relation	
	<i>target</i> The <atk-object> which is to be the target of the relation.	
	<i>ret</i> TRUE if the relationship is added.	
<code>atk-object-remove-relationship</code>	<code>(self &lt;atk-object&gt;) (relationship</code>	[Function]
	<code>&lt;atk-relation-type&gt;) (target &lt;atk-object&gt;) =&gt; (ret bool)</code>	
<code>remove-relationship</code>		[Method]
	Removes a relationship of the specified type with the specified target.	
	<i>object</i> The <atk-object> from which an <code>AtkRelation</code> is to be removed.	
	<i>relationship</i> The <atk-relation-type> of the relation	
	<i>target</i> The <atk-object> which is the target of the relation to be removed.	
	<i>ret</i> TRUE if the relationship is removed.	

`atk-object-get-attributes` (*self* <atk-object>) ⇒ (*ret* <atk-attribute-set\*>) [Function]

`get-attributes` [Method]

Get a list of properties applied to this object as a whole, as an <atk-attribute-set> consisting of name-value pairs. As such these attributes may be considered weakly-typed properties or annotations, as distinct from strongly-typed object data available via other get/set methods. Not all objects have explicit "name-value pair" <atk-attribute-set> properties.

Returns:

*accessible* An <atk-object>.

*ret* an <atk-attribute-set> consisting of all explicit properties/annotations applied to the object, or an empty set if the object has no name-value pair attributes assigned to it.

Since ATK 1.12

`atk-role-get-name` (*role* <atk-role>) ⇒ (*ret* mchars) [Function]

Gets the description string describing the <atk-role>*role*.

*role* The <atk-role> whose name is required

*ret* the string describing the AtkRole

`atk-role-get-localized-name` (*role* <atk-role>) ⇒ (*ret* mchars) [Function]

Gets the localized description string describing the <atk-role>*role*.

*role* The <atk-role> whose localized name is required

*ret* the localized string describing the AtkRole

`atk-role-for-name` (*name* mchars) ⇒ (*ret* <atk-role>) [Function]

Get the <atk-role> type corresponding to a rolew name.

*name* a string which is the (non-localized) name of an ATK role.

*ret* the <atk-role> enumerated type corresponding to the specified name, or <atk-role-invalid> if no matching role is found.

## 15 AtkRegistry

An object used to store the GType of the factories used to create an accessible object for an object of a particular GType.

### 15.1 Overview

The AtkRegistry is normally used to create appropriate ATK "peers" for user interface components. Application developers usually need only interact with the AtkRegistry by associating appropriate ATK implementation classes with GObject classes via the `atk_registry_set_factory_type` call, passing the appropriate GType for application custom widget classes.

### 15.2 Usage

`atk-registry-set-factory-type` (*self* <atk-registry>) (*type* <gtype>) (*factory-type* <gtype>) [Function]

`set-factory-type` [Method]

Associate an <atk-object-factory> subclass with a <g-type>. Note: The associated *factory-type* will thereafter be responsible for the creation of new <atk-object> implementations for instances appropriate for *type*.

*registry* the <atk-registry> in which to register the type association

*type* an <atk-object> type

*factory-type* an <atk-object-factory> type to associate with *type*. Must implement AtkObject appropriate for *type*.

`atk-registry-get-factory-type` (*self* <atk-registry>) (*type* <gtype>) ⇒ (*ret* <gtype>) [Function]

`get-factory-type` [Method]

Provides a <g-type> indicating the <atk-object-factory> subclass associated with *type*.

*registry* an <atk-registry>

*type* a <g-type> with which to look up the associated <atk-object-factory> subclass

*ret* a <g-type> associated with type *type*

`atk-registry-get-factory` (*self* <atk-registry>) (*type* <gtype>) ⇒ (*ret* <atk-object-factory>) [Function]

`get-factory` [Method]

Gets an <atk-object-factory> appropriate for creating <atk-objects> appropriate for *type*.

*registry* an <atk-registry>

*type* a <g-type> with which to look up the associated <atk-object-factory>

*ret* an <atk-object-factory> appropriate for creating <atk-objects> appropriate for *type*.

`atk-get-default-registry` ⇒ (*ret* <atk-registry>) [Function]

Gets a default implementation of the <atk-object-factory>/type registry. Note: For most toolkit maintainers, this will be the correct registry for registering new <atk-object> factories. Following a call to this function, maintainers may call `atk-registry-set-factory-type` to associate an <atk-object-factory> subclass with the GType of objects for whom accessibility information will be provided.

*ret* a default implementation of the <atk-object-factory>/type registry

## 16 `AtkRelationSet`

A set of `AtkRelations`, normally the set of `AtkRelations` which an `AtkObject` has.

### 16.1 Overview

The `AtkRelationSet` held by an object establishes its relationships with objects beyond the normal "parent/child" hierarchical relationships that all user interface objects have. `AtkRelationSets` establish whether objects are labelled or controlled by other components, share group membership with other components (for instance within a radio-button group), or share content which "flows" between them, among other types of possible relationships.

### 16.2 Usage

`atk-relation-set-new`  $\Rightarrow$  (*ret* `<atk-relation-set>`) [Function]  
Creates a new empty relation set.

*ret*            a new `<atk-relation-set>`

`atk-relation-set-contains` (*self* `<atk-relation-set>`) [Function]  
(*relationship* `<atk-relation-type>`)  $\Rightarrow$  (*ret* `bool`)

`contains` [Method]

Determines whether the relation set contains a relation that matches the specified type.

*set*            an `<atk-relation-set>`

*relationship*  
                an `<atk-relation-type>`

*ret*            ‘#t’ if *relationship* is the relationship type of a relation in *set*, ‘#f’ otherwise

`atk-relation-set-remove` (*self* `<atk-relation-set>`) (*relation* [Function]  
`<atk-relation>`)

`remove` [Method]

Removes a relation from the relation set. This function unref's the `<atk-relation>` so it will be deleted unless there is another reference to it.

*set*            an `<atk-relation-set>`

*relation*      an `<atk-relation>`

`atk-relation-set-add` (*self* `<atk-relation-set>`) (*relation* [Function]  
`<atk-relation>`)

`add` [Method]

Add a new relation to the current relation set if it is not already present. This function ref's the `AtkRelation` so the caller of this function should unref it to ensure that it will be destroyed when the `AtkRelationSet` is destroyed.

*set*            an `<atk-relation-set>`

*relation*      an `<atk-relation>`



`atk-relation-set-get-n-relations` (*self* <atk-relation-set>) ⇒ [Function]  
(*ret* int)

`get-n-relations` [Method]

Determines the number of relations in a relation set.

*set* an <atk-relation-set>

*ret* an integer representing the number of relations in the set.

`atk-relation-set-get-relation` (*self* <atk-relation-set>) (*i* int) [Function]  
⇒ (*ret* <atk-relation>)

`get-relation` [Method]

Determines the relation at the specified position in the relation set.

*set* an <atk-relation-set>

*i* a gint representing a position in the set, starting from 0.

*ret* a <atk-relation>, which is the relation at position *i* in the set.

## 17 AtkRelation

An object used to describe a relation between a object and one or more other objects.

### 17.1 Overview

An AtkRelation describes a relation between an object and one or more other objects. The actual relations that an object has with other objects are defined as an AtkRelationSet, which is a set of AtkRelations.

### 17.2 Usage

`atk-relation-type-register` (*name* mchars) ⇒ (*ret* `<atk-relation-type>`) [Function]

Associate *name* with a new `<atk-relation-type>`

*name* a name string

*ret* an `<atk-relation-type>` associated with *name*

`atk-relation-type-get-name` (*type* `<atk-relation-type>`) ⇒ (*ret* mchars) [Function]

Gets the description string describing the `<atk-relation-type>`*type*.

*type* The `<atk-relation-type>` whose name is required

*ret* the string describing the AtkRelationType

`atk-relation-type-for-name` (*name* mchars) ⇒ (*ret* `<atk-relation-type>`) [Function]

Get the `<atk-relation-type>` type corresponding to a relation name.

*name* a string which is the (non-localized) name of an ATK relation type.

*ret* the `<atk-relation-type>` enumerated type corresponding to the specified name, or `<atk-relation-null>` if no matching relation type is found.

`atk-relation-new` (*targets* `<atk-object**>`) (*n-targets* int) (*relationship* `<atk-relation-type>`) ⇒ (*ret* `<atk-relation>`) [Function]

Create a new relation for the specified key and the specified list of targets.

*targets* an array of pointers to `<atk-objects>`

*n-targets* number of `<atk-objects>` pointed to by *targets*

*relationship*

an `<atk-relation-type>` with which to create the new `<atk-relation>`

*ret* a pointer to a new `<atk-relation>`

`atk-relation-get-relation-type` (*self* `<atk-relation>`) ⇒ (*ret* `<atk-relation-type>`) [Function]

`get-relation-type` [Method]

Gets the type of *relation*

*relation* an <atk-relation>  
*ret* the type of *relation*

`atk-relation-get-target` (*self* <atk-relation>) ⇒ (*ret* [Function]  
    <g-ptr-array\*>)

`get-target` [Method]  
    Gets the target list of *relation*

*relation* an <atk-relation>  
*ret* the target list of *relation*

`atk-relation-add-target` (*self* <atk-relation>) (*target* [Function]  
    <atk-object>)

`add-target` [Method]  
    Adds the specified AtkObject to the target for the relation, if it is not already present.

*relation* an <atk-relation>  
*target* an <atk-object>

Since ATK 1.9

## 18 AtkSelection

The ATK interface implemented by container objects whose children can be selected.

### 18.1 Overview

`<atk-selection>` should be implemented by UI components with children which are exposed by `<atk-object-ref-child>` and `<atk-object-get-n-children>`, if the use of the parent UI component ordinarily involves selection of one or more of the objects corresponding to those `<atk-object>` children - for example, selectable lists.

Note that other types of "selection" (for instance text selection) are accomplished a other ATK interfaces - `<atk-selection>` is limited to the selection/deselection of children.

### 18.2 Usage

`atk-selection-add-selection (self <atk-selection*>) (i int) => [Function]`  
*(ret bool)*

Adds the specified accessible child of the object to the object's selection.

*selection* a `<gobject>` instance that implements `AtkSelectionIface`

*i* a `<gint>` specifying the child index.

*ret* TRUE if success, FALSE otherwise.

`atk-selection-clear-selection (self <atk-selection*>) => (ret [Function]`  
*bool)*

Clears the selection in the object so that no children in the object are selected.

*selection* a `<gobject>` instance that implements `AtkSelectionIface`

*ret* TRUE if success, FALSE otherwise.

`atk-selection-ref-selection (self <atk-selection*>) (i int) => [Function]`  
*(ret <atk-object>)*

Gets a reference to the accessible object representing the specified selected child of the object. Note: callers should not rely on `'#f'` or on a zero value for indication of whether `AtkSelectionIface` is implemented, they should use type checking/interface checking macros or the `atk-get-accessible-value` convenience method.

*selection* a `<gobject>` instance that implements `AtkSelectionIface`

*i* a `<gint>` specifying the index in the selection set. (e.g. the *i*th selection as opposed to the *i*th child).

*ret* an `<atk-object>` representing the selected accessible , or `'#f'` if *selection* does not implement this interface.

`atk-selection-get-selection-count (self <atk-selection*>) => [Function]`  
*(ret int)*

Gets the number of accessible children currently selected. Note: callers should not rely on `'#f'` or on a zero value for indication of whether `AtkSelectionIface` is implemented, they should use type checking/interface checking macros or the `atk-get-accessible-value` convenience method.

*selection* a <gobject> instance that implements AtkSelectionIface  
*ret* a gint representing the number of items selected, or 0 if *selection* does not implement this interface.

**atk-selection-is-child-selected** (*self* <atk-selection\*>) (*i* int) [Function]  
 ⇒ (*ret* bool)

Determines if the current child of this object is selected Note: callers should not rely on ‘#f’ or on a zero value for indication of whether AtkSelectionIface is implemented, they should use type checking/interface checking macros or the **atk-get-accessible-value** convenience method.

*selection* a <gobject> instance that implements AtkSelectionIface  
*i* a <gint> specifying the child index.  
*ret* a gboolean representing the specified child is selected, or 0 if *selection* does not implement this interface.

**atk-selection-remove-selection** (*self* <atk-selection\*>) (*i* int) [Function]  
 ⇒ (*ret* bool)

Removes the specified child of the object from the object’s selection.

*selection* a <gobject> instance that implements AtkSelectionIface  
*i* a <gint> specifying the index in the selection set. (e.g. the *i*th selection as opposed to the *i*th child).  
*ret* TRUE if success, FALSE otherwise.

**atk-selection-select-all-selection** (*self* <atk-selection\*>) ⇒ [Function]  
 (*ret* bool)

Causes every child of the object to be selected if the object supports multiple selections.

*selection* a <gobject> instance that implements AtkSelectionIface  
*ret* TRUE if success, FALSE otherwise.

## 19 `AtkStateSet`

An `AtkStateSet` determines a component's state set.

### 19.1 Overview

An `AtkStateSet` determines a component's state set. It is composed of a set of `AtkStates`.

### 19.2 Usage

`atk-state-set-new`  $\Rightarrow$  (*ret* `<atk-state-set>`) [Function]

Creates a new empty state set.

*ret* a new `<atk-state-set>`

`atk-state-set-is-empty` (*self* `<atk-state-set>`)  $\Rightarrow$  (*ret* `bool`) [Function]

`is-empty` [Method]

Checks whether the state set is empty, i.e. has no states set.

*set* an `<atk-state-type>`

*ret* `'#t'` if *set* has no states set, otherwise `'#f'`

`atk-state-set-add-state` (*self* `<atk-state-set>`) (*type* `<atk-state-type>`)  $\Rightarrow$  (*ret* `bool`) [Function]

`add-state` [Method]

Add a new state for the specified type to the current state set if it is not already present.

*set* an `<atk-state-set>`

*type* an `<atk-state-type>`

*ret* `'#t'` if the state for *type* is not already in *set*.

`atk-state-set-add-states` (*self* `<atk-state-set>`) (*types* `<atk-state-type*>`) (*n-types* `int`) [Function]

`add-states` [Method]

Add the states for the specified types to the current state set.

*set* an `<atk-state-set>`

*types* an array of `<atk-state-type>`

*n-types* The number of elements in the array

`atk-state-set-clear-states` (*self* `<atk-state-set>`) [Function]

`clear-states` [Method]

Removes all states from the state set.

*set* an `<atk-state-set>`

<code>atk-state-set-contains-state</code>	<code>(self &lt;atk-state-set&gt;) (type &lt;atk-state-type&gt;) ⇒ (ret bool)</code>	[Function]
<code>contains-state</code>	Checks whether the state for the specified type is in the specified set.	[Method]
	<i>set</i> an <code>&lt;atk-state-set&gt;</code>	
	<i>type</i> an <code>&lt;atk-state-type&gt;</code>	
	<i>ret</i> <code>'#t'</code> if <i>type</i> is the state type is in <i>set</i> .	
<code>atk-state-set-contains-states</code>	<code>(self &lt;atk-state-set&gt;) (types &lt;atk-state-type*&gt;) (n-types int) ⇒ (ret bool)</code>	[Function]
<code>contains-states</code>	Checks whether the states for all the specified types are in the specified set.	[Method]
	<i>set</i> an <code>&lt;atk-state-set&gt;</code>	
	<i>types</i> an array of <code>&lt;atk-state-type&gt;</code>	
	<i>n-types</i> The number of elements in the array	
	<i>ret</i> <code>'#t'</code> if all the states for <i>type</i> are in <i>set</i> .	
<code>atk-state-set-remove-state</code>	<code>(self &lt;atk-state-set&gt;) (type &lt;atk-state-type&gt;) ⇒ (ret bool)</code>	[Function]
<code>remove-state</code>	Removes the state for the specified type from the state set.	[Method]
	<i>set</i> an <code>&lt;atk-state-set&gt;</code>	
	<i>type</i> an <code>&lt;atk-type&gt;</code>	
	<i>ret</i> <code>'#t'</code> if <i>type</i> was the state type is in <i>set</i> .	
<code>atk-state-set-and-sets</code>	<code>(self &lt;atk-state-set&gt;) (compare_set &lt;atk-state-set&gt;) ⇒ (ret &lt;atk-state-set&gt;)</code>	[Function]
<code>and-sets</code>	Constructs the intersection of the two sets, returning <code>'#f'</code> if the intersection is empty.	[Method]
	<i>set</i> an <code>&lt;atk-state-set&gt;</code>	
	<i>compare-set</i> another <code>&lt;atk-state-set&gt;</code>	
	<i>ret</i> a new <code>&lt;atk-state-set&gt;</code> which is the intersection of the two sets.	
<code>atk-state-set-or-sets</code>	<code>(self &lt;atk-state-set&gt;) (compare_set &lt;atk-state-set&gt;) ⇒ (ret &lt;atk-state-set&gt;)</code>	[Function]
<code>or-sets</code>	Constructs the union of the two sets.	[Method]
	<i>set</i> an <code>&lt;atk-state-set&gt;</code>	
	<i>compare-set</i> another <code>&lt;atk-state-set&gt;</code>	
	<i>ret</i> a new <code>&lt;atk-state-set&gt;</code> which is the union of the two sets, returning <code>'#f'</code> is empty.	

`atk-state-set-xor-sets` (*self* `<atk-state-set>`) (*compare-set* `<atk-state-set>`)  $\Rightarrow$  (*ret* `<atk-state-set>`) [Function]

`xor-sets` [Method]

Constructs the exclusive-or of the two sets, returning `#f` if empty. The set returned by this operation contains the states in exactly one of the two sets.

*set* an `<atk-state-set>`

*compare-set*  
another `<atk-state-set>`

*ret* a new `<atk-state-set>` which contains the states which are in exactly one of the two sets.



## 20 `AtkState`

An `AtkState` describes a component's particular state.

### 20.1 Overview

An `AtkState` describes a component's particular state. The actual state of an component is described by its `AtkStateSet`, which is a set of `AtkStates`.

### 20.2 Usage

`atk-state-type-get-name` (*type* `<atk-state-type>`)  $\Rightarrow$  (*ret* `mchars`) [Function]  
Gets the description string describing the `<atk-state-type>`*type*.

*type*        The `<atk-state-type>` whose name is required

*ret*        the string describing the `AtkStateType`

`atk-state-type-for-name` (*name* `mchars`)  $\Rightarrow$  (*ret* `<atk-state-type>`) [Function]  
Gets the `<atk-state-type>` corresponding to the description string *name*.

*name*       a character string state name

*ret*        an `<atk-state-type>` corresponding to *name*

## 21 AtkStreamableContent

The ATK interface which provides access to streamable content.

### 21.1 Overview

An interface whereby an object allows its backing content to be streamed to clients. Typical implementors would be images or icons, HTML content, or multimedia display/rendering widgets.

Negotiation of content type is allowed. Clients may examine the backing data and transform, convert, or parse the content in order to present it in an alternate form to end-users.

The AtkStreamableContent interface is particularly useful for saving, printing, or post-processing entire documents, or for persisting alternate views of a document. If document content itself is being serialized, stored, or converted, then use of the AtkStreamableContent interface can help address performance issues. Unlike most ATK interfaces, this interface is not strongly tied to the current user-agent view of the a particular document, but may in some cases give access to the underlying model data.

### 21.2 Usage

```
atk-streamable-content-get-stream (self [Function]
    <atk-streamable-content*>) (mime_type mchars) ⇒ (ret
    <gio-channel*>)
```

Gets the content in the specified mime type.

*streamable*

a GObject instance that implements AtkStreamableContentIface

*mime-type*

a gchar\* representing the mime type

*ret*

A <gio-channel> which contains the content in the specified mime type.

```
atk-streamable-content-get-uri (self [Function]
    <atk-streamable-content*>) (mime_type mchars) ⇒ (ret mchars)
```

Get a string representing a URI in IETF standard format (see <http://www.ietf.org/rfc/rfc2396.txt>) from which the object's content may be streamed in the specified mime-type, if one is available. If *mime\_type* is NULL, the URI for the default (and possibly only) mime-type is returned.

Note that it is possible for *get\_uri* to return NULL but for *get\_stream* to work nonetheless, since not all GIOChannels connect to URIs.

*streamable*

a GObject instance that implements AtkStreamableContentIface

*mime-type*

a gchar\* representing the mime type, or NULL to request a URI for the default mime type.

*ret* Returns a string representing a URI, or NULL if no corresponding URI can be constructed.

Since ATK 1.12

## 22 AtkTable

The ATK interface implemented for UI components which contain tabular or row/column information.

### 22.1 Overview

`<atk-table>` should be implemented by components which present elements ordered via rows and columns. It may also be used to present tree-structured information if the nodes of the trees can be said to contain multiple "columns". Individual elements of an `<atk-table>` are typically referred to as "cells", and these cells are exposed by `<atk-table>` as child `<atk-objects>` of the `<atk-table>`. Both row/column and child-index-based access to these children is provided.

Children of `<atk-table>` are frequently "lightweight" objects, that is, they may not have backing widgets in the host UI toolkit. They are therefore often transient.

Since tables are often very complex, `<atk-table>` includes provision for offering simplified summary information, as well as row and column headers and captions. Headers and captions are `<atk-objects>` which may implement other interfaces (`<atk-text>`, `<atk-image>`, etc.) as appropriate. `<atk-table>` summaries may themselves be (simplified) `<atk-tables>`, etc.

### 22.2 Usage

`atk-table-ref-at` (*self* `<atk-table*>`) (*row* `int`) (*column* `int`)  $\Rightarrow$  (*ret* [Function] `<atk-object>`)

Get a reference to the table cell at *row*, *column*.

*table* a GObject instance that implements AtkTableIface

*row* a `<gint>` representing a row in *table*

*column* a `<gint>` representing a column in *table*

*ret* a `AtkObject*` representing the referred to accessible

`atk-table-get-index-at` (*self* `<atk-table*>`) (*row* `int`) (*column* [Function] `int`)  $\Rightarrow$  (*ret* `int`)

Gets a `<gint>` representing the index at the specified *row* and *column*.

*table* a GObject instance that implements AtkTableIface

*row* a `<gint>` representing a row in *table*

*column* a `<gint>` representing a column in *table*

*ret* a `<gint>` representing the index at specified position. The value -1 is returned if the object at row,column is not a child of table or table does not implement this interface.

`atk-table-get-column-at-index` (*self* `<atk-table*>`) (*index\_* `int`) [Function]  $\Rightarrow$  (*ret* `int`)

Gets a `<gint>` representing the column at the specified *index*.

*table* a GObject instance that implements AtkTableInterface  
*index* a <gint> representing an index in *table*  
*ret* a gint representing the column at the specified index, or -1 if the table does not implement this interface

**atk-table-get-row-at-index** (*self* <atk-table\*>) (*index* int) ⇒ [Function]  
 (*ret* int)

Gets a <gint> representing the row at the specified *index*.

*table* a GObject instance that implements AtkTableInterface  
*index* a <gint> representing an index in *table*  
*ret* a gint representing the row at the specified index, or -1 if the table does not implement this interface

**atk-table-get-n-columns** (*self* <atk-table\*>) ⇒ (*ret* int) [Function]  
 Gets the number of columns in the table.

*table* a GObject instance that implements AtkTableInterface  
*ret* a gint representing the number of columns, or 0 if value does not implement this interface.

**atk-table-get-n-rows** (*self* <atk-table\*>) ⇒ (*ret* int) [Function]  
 Gets the number of rows in the table.

*table* a GObject instance that implements AtkTableInterface  
*ret* a gint representing the number of rows, or 0 if value does not implement this interface.

**atk-table-get-column-extent-at** (*self* <atk-table\*>) (*row* int) [Function]  
 (*column* int) ⇒ (*ret* int)

Gets the number of columns occupied by the accessible object at the specified *row* and *column* in the *table*.

*table* a GObject instance that implements AtkTableInterface  
*row* a <gint> representing a row in *table*  
*column* a <gint> representing a column in *table*  
*ret* a gint representing the column extent at specified position, or 0 if value does not implement this interface.

**atk-table-get-row-extent-at** (*self* <atk-table\*>) (*row* int) [Function]  
 (*column* int) ⇒ (*ret* int)

Gets the number of rows occupied by the accessible object at a specified *row* and *column* in the *table*.

*table* a GObject instance that implements AtkTableInterface  
*row* a <gint> representing a row in *table*  
*column* a <gint> representing a column in *table*

*ret* a gint representing the row extent at specified position, or 0 if value does not implement this interface.

**atk-table-get-caption** (*self* <atk-table\*>) ⇒ (*ret* <atk-object>) [Function]  
Gets the caption for the *table*.

*table* a GObject instance that implements AtkTableInterface

*ret* a AtkObject\* representing the table caption, or '#f' if value does not implement this interface.

**atk-table-get-column-description** (*self* <atk-table\*>) (*column* int) ⇒ (*ret* mchars) [Function]

Gets the description text of the specified *column* in the table

*table* a GObject instance that implements AtkTableIface

*column* a <gint> representing a column in *table*

*ret* a gchar\* representing the column description, or '#f' if value does not implement this interface.

**atk-table-get-row-description** (*self* <atk-table\*>) (*row* int) ⇒ (*ret* mchars) [Function]

Gets the description text of the specified row in the table

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in *table*

*ret* a gchar\* representing the row description, or '#f' if value does not implement this interface.

**atk-table-get-column-header** (*self* <atk-table\*>) (*column* int) ⇒ (*ret* <atk-object>) [Function]

Gets the column header of a specified column in an accessible table.

*table* a GObject instance that implements AtkTableIface

*column* a <gint> representing a column in the table

*ret* a AtkObject\* representing the specified column header, or '#f' if value does not implement this interface.

**atk-table-get-row-header** (*self* <atk-table\*>) (*row* int) ⇒ (*ret* <atk-object>) [Function]

Gets the row header of a specified row in an accessible table.

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in the table

*ret* a AtkObject\* representing the specified row header, or '#f' if value does not implement this interface.

- atk-table-get-summary** (*self* <atk-table\*>) ⇒ (*ret* <atk-object>) [Function]  
Gets the summary description of the table.
- table* a GObject instance that implements AtkTableIface
- ret* a AtkObject\* representing a summary description of the table, or zero if value does not implement this interface.
- atk-table-set-caption** (*self* <atk-table\*>) (*caption* <atk-object>) [Function]  
Sets the caption for the table.
- table* a GObject instance that implements AtkTableIface
- caption* a <atk-object> representing the caption to set for *table*
- atk-table-set-row-description** (*self* <atk-table\*>) (*row* int) (*description* mchars) [Function]  
Sets the description text for the specified *row* of *table*.
- table* a GObject instance that implements AtkTableIface
- row* a <gint> representing a row in *table*
- description* a <gchar> representing the description text to set for the specified *row* of *table*
- atk-table-set-column-description** (*self* <atk-table\*>) (*column* int) (*description* mchars) [Function]  
Sets the description text for the specified *column* of the *table*.
- table* a GObject instance that implements AtkTableIface
- column* a <gint> representing a column in *table*
- description* a <gchar> representing the description text to set for the specified *column* of the *table*
- atk-table-set-row-header** (*self* <atk-table\*>) (*row* int) (*header* <atk-object>) [Function]  
Sets the specified row header to *header*.
- table* a GObject instance that implements AtkTableIface
- row* a <gint> representing a row in *table*
- header* an <atk-table>
- atk-table-set-column-header** (*self* <atk-table\*>) (*column* int) (*header* <atk-object>) [Function]  
Sets the specified column header to *header*.
- table* a GObject instance that implements AtkTableIface
- column* a <gint> representing a column in *table*
- header* an <atk-table>

`atk-table-set-summary` (*self* <atk-table\*>) (*accessible* <atk-object>) [Function]

Sets the summary description of the table.

*table* a GObject instance that implements AtkTableIface

*accessible* an <atk-object> representing the summary description to set for *table*

`atk-table-is-column-selected` (*self* <atk-table\*>) (*column* int) ⇒ (*ret* bool) [Function]

Gets a boolean value indicating whether the specified *column* is selected

*table* a GObject instance that implements AtkTableIface

*column* a <gint> representing a column in *table*

*ret* a gboolean representing if the column is selected, or 0 if value does not implement this interface.

`atk-table-is-row-selected` (*self* <atk-table\*>) (*row* int) ⇒ (*ret* bool) [Function]

Gets a boolean value indicating whether the specified *row* is selected

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in *table*

*ret* a gboolean representing if the row is selected, or 0 if value does not implement this interface.

`atk-table-is-selected` (*self* <atk-table\*>) (*row* int) (*column* int) ⇒ (*ret* bool) [Function]

Gets a boolean value indicating whether the accessible object at the specified *row* and *column* is selected

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in *table*

*column* a <gint> representing a column in *table*

*ret* a gboolean representing if the cell is selected, or 0 if value does not implement this interface.

`atk-table-add-column-selection` (*self* <atk-table\*>) (*column* int) ⇒ (*ret* bool) [Function]

Adds the specified *column* to the selection.

*table* a GObject instance that implements AtkTableIface

*column* a <gint> representing a column in *table*

*ret* a gboolean representing if the column was successfully added to the selection, or 0 if value does not implement this interface.



`atk-table-add-row-selection` (*self* <atk-table\*>) (*row* int) ⇒ (*ret* [Function] bool)

Adds the specified *row* to the selection.

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in *table*

*ret* a gboolean representing if row was successfully added to selection, or 0 if value does not implement this interface.

`atk-table-remove-column-selection` (*self* <atk-table\*>) (*column* int) ⇒ (*ret* bool) [Function]

Adds the specified *column* to the selection.

*table* a GObject instance that implements AtkTableIface

*column* a <gint> representing a column in *table*

*ret* a gboolean representing if the column was successfully removed from the selection, or 0 if value does not implement this interface.

`atk-table-remove-row-selection` (*self* <atk-table\*>) (*row* int) ⇒ (*ret* bool) [Function]

Removes the specified *row* from the selection.

*table* a GObject instance that implements AtkTableIface

*row* a <gint> representing a row in *table*

*ret* a gboolean representing if the row was successfully removed from the selection, or 0 if value does not implement this interface.

## 23 AtkText

The ATK interface implemented by components with text content.

### 23.1 Overview

<atk-text> should be implemented by <atk-objects> on behalf of widgets that have text content which is either attributed or otherwise non-trivial. <atk-objects> whose text content is simple, unattributed, and very brief may expose that content via <atk-object-get-name> instead; however if the text is editable, multi-line, typically longer than three or four words, attributed, selectable, or if the object already uses the 'name' ATK property for other information, the <atk-text> interface should be used to expose the text content. In the case of editable text content, <atk-editable-text> (a subtype of the <atk-text> interface) should be implemented instead.

<atk-text> provides not only traversal facilities and change notification for text content, but also caret tracking and glyph bounding box calculations. Note that the text strings are exposed as UTF-8, and are therefore potentially multi-byte, and caret-to-byte offset mapping makes no assumptions about the character length; also bounding box glyph-to-offset mapping may be complex for languages which use ligatures.

### 23.2 Usage

`atk-text-get-text` (*self* <atk-text\*>) (*start\_offset* int) (*end\_offset* int) ⇒ (*ret* mchars) [Function]

Gets the specified text.

*text* an <atk-text>

*start\_offset* start position

*end\_offset* end position

*ret* the text from *start\_offset* up to, but not including *end\_offset*.

`atk-text-get-character-at-offset` (*self* <atk-text\*>) (*offset* int) ⇒ (*ret* unsigned-int32) [Function]

Gets the specified text.

*text* an <atk-text>

*offset* position

*ret* the character at *offset*.

`atk-text-get-text-after-offset` (*self* <atk-text\*>) (*offset* int) (*boundary\_type* <atk-text-boundary>) ⇒ (*ret* mchars) (*start\_offset* int) (*end\_offset* int) [Function]

Gets the specified text.

If the *boundary\_type* is ATK\_TEXT\_BOUNDARY\_CHAR the character after the offset is returned.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_START` the returned string is from the word start after the offset to the next word start.

The returned string will contain the word after the offset if the offset is inside a word or if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_END` the returned string is from the word end at or after the offset to the next work end.

The returned string will contain the word after the offset if the offset is inside a word and will contain the word after the word after the offset if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_START` the returned string is from the sentence start after the offset to the next sentence start.

The returned string will contain the sentence after the offset if the offset is inside a sentence or if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_END` the returned string is from the sentence end at or after the offset to the next sentence end.

The returned string will contain the sentence after the offset if the offset is inside a sentence and will contain the sentence after the sentence after the offset if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_START` the returned string is from the line start after the offset to the next line start.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_END` the returned string is from the line end at or after the offset to the next line start.

*text*            an `<atk-text>`

*offset*            position

*boundary-type*  
                  An `<atk-text-boundary>`

*start-offset*  
                  the start offset of the returned string

*end-offset*    the offset of the first character after the returned substring

*ret*             the text after *offset* bounded by the specified *boundary-type*.

```
atk-text-get-text-at-offset (self <atk-text*>) (offset int)            [Function]
                              (boundary_type <atk-text-boundary>) ⇒ (ret mchars) (start_offset int)
                              (end_offset int)
```

Gets the specified text.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_CHAR` the character at the offset is returned.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_START` the returned string is from the word start at or before the offset to the word start after the offset.

The returned string will contain the word at the offset if the offset is inside a word and will contain the word before the offset if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_END` the returned string is from the word end before the offset to the word end at or after the offset.

The returned string will contain the word at the offset if the offset is inside a word and will contain the word after to the offset if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_START` the returned string is from the sentence start at or before the offset to the sentence start after the offset.

The returned string will contain the sentence at the offset if the offset is inside a sentence and will contain the sentence before the offset if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_END` the returned string is from the sentence end before the offset to the sentence end at or after the offset.

The returned string will contain the sentence at the offset if the offset is inside a sentence and will contain the sentence after the offset if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_START` the returned string is from the line start at or before the offset to the line start after the offset.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_END` the returned string is from the line end before the offset to the line end at or after the offset.

*text*            an `<atk-text>`

*offset*         position

*boundary-type*  
                 An `<atk-text-boundary>`

*start-offset*  
                 the start offset of the returned string

*end-offset*    the offset of the first character after the returned substring

*ret*            the text at *offset* bounded by the specified *boundary-type*.

```
atk-text-get-text-before-offset (self <atk-text*>) (offset int)        [Function]
                 (boundary_type <atk-text-boundary>) ⇒ (ret mchars) (start_offset int)
                 (end_offset int)
```

Gets the specified text.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_CHAR` the character before the offset is returned.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_START` the returned string is from the word start before the word start before the offset to the word start before the offset.

The returned string will contain the word before the offset if the offset is inside a word and will contain the word before the word before the offset if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_WORD_END` the returned string is from the word end before the word end at or before the offset to the word end at or before the offset.

The returned string will contain the word before the offset if the offset is inside a word or if the offset is not inside a word.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_START` the returned string is from the sentence start before the sentence start before the offset to the sentence start before the offset.

The returned string will contain the sentence before the offset if the offset is inside a sentence and will contain the sentence before the sentence before the offset if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_SENTENCE_END` the returned string is from the sentence end before the sentence end at or before the offset to the sentence end at or before the offset.

The returned string will contain the sentence before the offset if the offset is inside a sentence or if the offset is not inside a sentence.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_START` the returned string is from the line start before the line start at or before the offset to the line start at or before the offset.

If the `boundary_type` is `ATK_TEXT_BOUNDARY_LINE_END` the returned string is from the line end before the line end before the offset to the line end before the offset.

*text*            an `<atk-text>`

*offset*            position

*boundary-type*  
                  An `<atk-text-boundary>`

*start-offset*  
                  the start offset of the returned string

*end-offset*    the offset of the first character after the returned substring

*ret*             the text before *offset* bounded by the specified *boundary-type*.

**atk-text-get-caret-offset** (*self* `<atk-text*>`)  $\Rightarrow$  (*ret* `int`)            [Function]  
Gets the offset position of the caret (cursor).

*text*            an `<atk-text>`

*ret*             the offset position of the caret (cursor).

**atk-text-get-character-extents** (*self* `<atk-text*>`) (*offset* `int`)            [Function]  
                  (*coords* `<atk-coord-type>`)  $\Rightarrow$  (*x* `int`) (*y* `int`) (*width* `int`) (*height* `int`)

Get the bounding box containing the glyph representing the character at a particular text offset.

*text*            an `<atk-text>`

<i>offset</i>	The offset of the text character for which bounding information is required.
<i>x</i>	Pointer for the x coordinate of the bounding box
<i>y</i>	Pointer for the y coordinate of the bounding box
<i>width</i>	Pointer for the width of the bounding box
<i>height</i>	Pointer for the height of the bounding box
<i>coords</i>	specify whether coordinates are relative to the screen or widget window

**atk-text-get-run-attributes** (*self* <atk-text\*>) (*offset* int) ⇒ [Function]  
 (*ret* <atk-attribute-set\*>) (*start\_offset* int) (*end\_offset* int)

Creates an <atk-attribute-set> which consists of the attributes explicitly set at the position *offset* in the text. *start\_offset* and *end\_offset* are set to the start and end of the range around *offset* where the attributes are invariant. Note that *end\_offset* is the offset of the first character after the range. See the enum AtkTextAttribute for types of text attributes that can be returned. Note that other attributes may also be returned.

<i>text</i>	an <atk-text>
<i>offset</i>	the offset at which to get the attributes
<i>start_offset</i>	the address to put the start offset of the range
<i>end_offset</i>	the address to put the end offset of the range
<i>ret</i>	an <atk-attribute-set> which contains the attributes explicitly set at <i>offset</i> . This <atk-attribute-set> should be freed by a call to <b>atk-attribute-set-free</b> .

**atk-text-get-default-attributes** (*self* <atk-text\*>) ⇒ (*ret* [Function]  
 <atk-attribute-set\*>)

Creates an <atk-attribute-set> which consists of the default values of attributes for the text. See the enum AtkTextAttribute for types of text attributes that can be returned. Note that other attributes may also be returned.

<i>text</i>	an <atk-text>
<i>ret</i>	an <atk-attribute-set> which contains the default values of attributes. at <i>offset</i> . This <atk-attribute-set> should be freed by a call to <b>atk-attribute-set-free</b> .

**atk-text-get-character-count** (*self* <atk-text\*>) ⇒ (*ret* int) [Function]  
 Gets the character count.

<i>text</i>	an <atk-text>
<i>ret</i>	the number of characters.

**atk-text-get-offset-at-point** (*self* <atk-text\*>) (*x* int) (*y* int) [Function]  
 (*coords* <atk-coord-type>) ⇒ (*ret* int)

Gets the offset of the character located at coordinates *x* and *y*. *x* and *y* are interpreted as being relative to the screen or this widget's window depending on *coords*.

*text* an <atk-text>  
*x* screen x-position of character  
*y* screen y-position of character  
*coords* specify whether coordinates are relative to the screen or widget window  
*ret* the offset to the character which is located at the specified *x* and *y* coordinates.

**atk-text-get-bounded-ranges** (*self* <atk-text\*>) (*rect* [Function]  
 <atk-text-rectangle\*>) (*coord\_type* <atk-coord-type>) (*x\_clip\_type*  
 <atk-text-clip-type>) (*y\_clip\_type* <atk-text-clip-type>) ⇒ (*ret*  
 <atk-text-range\*\*>)

Get the ranges of text in the specified bounding box.

Returns:

*text* an <atk-text>  
*rect* An AtkTextRectangle giving the dimensions of the bounding box.  
*coord-type* Specify whether coordinates are relative to the screen or widget window.  
*x-clip-type* Specify the horizontal clip type.  
*y-clip-type* Specify the vertical clip type.  
*ret* Array of AtkTextRange. The last element of the array returned by this function will be NULL.

Since ATK 1.3

**atk-text-get-range-extents** (*self* <atk-text\*>) (*start\_offset* int) [Function]  
 (*end\_offset* int) (*coord\_type* <atk-coord-type>) (*rect*  
 <atk-text-rectangle\*>)

Get the bounding box for text within the specified range.

*text* an <atk-text>  
*start-offset* The offset of the first text character for which boundary information is required.  
*end-offset* The offset of the text character after the last character for which boundary information is required.  
*coord-type* Specify whether coordinates are relative to the screen or widget window.

*rect* A pointer to a `AtkTextRectangle` which is filled in by this function.

Since ATK 1.3

`atk-text-free-ranges` (*ranges* <atk-text-range\*\*>) [Function]

Frees the memory associated with an array of `AtkTextRange`. It is assumed that the array was returned by the function `atk_text_get_bounded_ranges` and is NULL terminated.

*ranges* A pointer to an array of <atk-text-range> which is to be freed.

Since ATK 1.3

`atk-text-get-n-selections` (*self* <atk-text\*>) ⇒ (*ret* int) [Function]

Gets the number of selected regions.

*text* an <atk-text>

*ret* The number of selected regions, or -1 if a failure occurred.

`atk-text-get-selection` (*self* <atk-text\*>) (*selection\_num* int) ⇒ [Function]  
(*ret* mchars) (*start\_offset* int) (*end\_offset* int)

Gets the text from the specified selection.

*text* an <atk-text>

*selection\_num*

The selection number. The selected regions are assigned numbers that correspond to how far the region is from the start of the text. The selected region closest to the beginning of the text region is assigned the number 0, etc. Note that adding, moving or deleting a selected region can change the numbering.

*start\_offset*

passes back the start position of the selected region

*end\_offset* passes back the end position of (e.g. offset immediately past) the selected region

*ret* the selected text.

`atk-text-add-selection` (*self* <atk-text\*>) (*start\_offset* int) [Function]  
(*end\_offset* int) ⇒ (*ret* bool)

Adds a selection bounded by the specified offsets.

*text* an <atk-text>

*start\_offset*

the start position of the selected region

*end\_offset* the offset of the first character after the selected region.

*ret* '#t' if success, '#f' otherwise



**atk-text-remove-selection** (*self* <atk-text\*>) (*selection\_num* int) [Function]  
 ⇒ (*ret* bool)

Removes the specified selection.

*text* an <atk-text>

*selection-num*

The selection number. The selected regions are assigned numbers that correspond to how far the region is from the start of the text. The selected region closest to the beginning of the text region is assigned the number 0, etc. Note that adding, moving or deleting a selected region can change the numbering.

*ret* ‘#t’ if success, ‘#f’ otherwise

**atk-text-set-selection** (*self* <atk-text\*>) (*selection\_num* int) [Function]  
 (*start\_offset* int) (*end\_offset* int) ⇒ (*ret* bool)

Changes the start and end offset of the specified selection.

*text* an <atk-text>

*selection-num*

The selection number. The selected regions are assigned numbers that correspond to how far the region is from the start of the text. The selected region closest to the beginning of the text region is assigned the number 0, etc. Note that adding, moving or deleting a selected region can change the numbering.

*start-offset*

the new start position of the selection

*end-offset* the new end position of (e.g. offset immediately past) the selection

*ret* ‘#t’ if success, ‘#f’ otherwise

**atk-text-set-caret-offset** (*self* <atk-text\*>) (*offset* int) ⇒ (*ret* [Function]  
 bool)

Sets the caret (cursor) position to the specified *offset*.

*text* an <atk-text>

*offset* position

*ret* ‘#t’ if success, ‘#f’ otherwise.

**atk-text-attribute-get-name** (*attr* <atk-text-attribute>) ⇒ (*ret* [Function]  
 mchars)

Gets the name corresponding to the <atk-text-attribute>

*attr* The <atk-text-attribute> whose name is required

*ret* a string containing the name; this string should not be freed

**atk-text-attribute-for-name** (*name* mchars) ⇒ (*ret* [Function]  
 <atk-text-attribute>)

Get the <atk-text-attribute> type corresponding to a text attribute name.

*name* a string which is the (non-localized) name of an ATK text attribute.

*ret* the `<atk-text-attribute>` enumerated type corresponding to the specified name, or `<atk-text-attribute-invalid>` if no matching text attribute is found.

`atk-text-attribute-get-value` (*attr* `<atk-text-attribute>`) [Function]  
(*index\_* `int`)  $\Rightarrow$  (*ret* `mchars`)

Gets the value for the index of the `<atk-text-attribute>`

*attr* The `<atk-text-attribute>` for which a value is required

*index* The index of the required value

*ret* a string containing the value; this string should not be freed; NULL is returned if there are no values maintained for the *attr* value.

## 24 AtkUtil

A set of ATK utility functions for event and toolkit support.

### 24.1 Overview

A set of ATK utility functions which are used to support event registration of various types, and obtaining the 'root' accessible of a process and information about the current ATK implementation and toolkit version.

### 24.2 Usage

**atk-add-focus-tracker** (*focus\_tracker* <atk-event-listener>) ⇒ [Function]  
(*ret* unsigned-int)

Adds the specified function to the list of functions to be called when an object receives focus.

*focus-tracker*

Function to be added to the list of functions to be called when an object receives focus.

*ret* added focus tracker id, or 0 on failure.

**atk-remove-focus-tracker** (*tracker\_id* unsigned-int) [Function]

Removes the specified focus tracker from the list of functions to be called when any object receives focus.

*tracker-id* the id of the focus tracker to remove

**atk-focus-tracker-init** (*init* <atk-event-listener-init>) [Function]

Specifies the function to be called for focus tracker initialization. This function should be called by an implementation of the ATK interface if any specific work needs to be done to enable focus tracking.

*init* Function to be called for focus tracker initialization

**atk-focus-tracker-notify** (*object* <atk-object>) [Function]

Cause the focus tracker functions which have been specified to be executed for the object.

*object* an <atk-object>

**atk-add-global-event-listener** (*listener* [Function]  
<g-signal-emission-hook>) (*event\_type* mchars) ⇒ (*ret* unsigned-int)

Adds the specified function to the list of functions to be called when an event of type *event\_type* occurs.

*listener* the listener to notify

*event-type* the type of event for which notification is requested

*ret* added event listener id, or 0 on failure.

- atk-remove-global-event-listener** (*listener\_id* unsigned-int) [Function]  
Removes the specified event listener  
*listener\_id* the id of the event listener to remove
- atk-remove-key-event-listener** (*listener\_id* unsigned-int) [Function]  
Removes the specified event listener  
*listener\_id* the id of the event listener to remove
- atk-get-root** ⇒ (*ret* <atk-object>) [Function]  
Gets the root accessible container for the current application.  
*ret* the root accessible container for the current application
- atk-get-focus-object** ⇒ (*ret* <atk-object>) [Function]  
Gets the currently focused object.  
Returns:  
*ret* the currently focused object for the current application  
Since ATK 1.6
- atk-get-toolkit-name** ⇒ (*ret* mchars) [Function]  
Gets name string for the GUI toolkit implementing ATK for this application.  
*ret* name string for the GUI toolkit implementing ATK for this application
- atk-get-toolkit-version** ⇒ (*ret* mchars) [Function]  
Gets version string for the GUI toolkit implementing ATK for this application.  
*ret* version string for the GUI toolkit implementing ATK for this application

## 25 AtkValue

The ATK interface implemented by valuator and components which display or select a value from a bounded range of values.

### 25.1 Overview

`<atk-value>` should be implemented for components which either display a value from a bounded range, or which allow the user to specify a value from a bounded range, or both. For instance, most sliders and range controls, as well as dials, should have `<atk-object>` representations which implement `<atk-value>` on the component's behalf. `<at-kvalues>` may be read-only, in which case attempts to alter the value return `FALSE` to indicate failure.

### 25.2 Usage

`atk-value-get-current-value` (*self* `<atk-value*>`) (*value* `<gvalue>`) [Function]

Gets the value of this object.

*obj* a GObject instance that implements `AtkValueIface`  
*value* a `<gvalue>` representing the current accessible value

`atk-value-get-maximum-value` (*self* `<atk-value*>`) (*value* `<gvalue>`) [Function]

Gets the maximum value of this object.

*obj* a GObject instance that implements `AtkValueIface`  
*value* a `<gvalue>` representing the maximum accessible value

`atk-value-get-minimum-value` (*self* `<atk-value*>`) (*value* `<gvalue>`) [Function]

Gets the minimum value of this object.

*obj* a GObject instance that implements `AtkValueIface`  
*value* a `<gvalue>` representing the minimum accessible value

`atk-value-set-current-value` (*self* `<atk-value*>`) (*value* `<gvalue>`)  $\Rightarrow$  (*ret* `bool`) [Function]

Sets the value of this object.

*obj* a GObject instance that implements `AtkValueIface`  
*value* a `<gvalue>` which is the desired new accessible value.  
*ret* `'#t'` if new value is successfully set, `'#f'` otherwise.

`atk-value-get-minimum-increment` (*self* `<atk-value*>`) (*value* `<gvalue>`) [Function]

Gets the minimum increment by which the value of this object may be changed. If zero, the minimum increment is undefined, which may mean that it is limited only by the floating point precision of the platform.

*obj* a GObject instance that implements AtkValueIface

*value* a <gvalue> representing the minimum increment by which the accessible value may be changed

Since ATK 1.12

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(Index is nonexistent)

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