NAME

xil_create – create an image

SYNOPSIS

#include <xil/xil.h>

XilImage xil_create (XilSystemState *State***,**
unsigned int *width***,**
unsigned int *height***,**
unsigned int *nbands***,**
XilDataType *datatype***);**

DESCRIPTION

This routine creates an image with the specified dimensions and data type. *width* is the width (extent in *x*) of the image. *height* is the height (extent in *y*) of the image. *nbands* is the number of bands in the image. *datatype* is the data type of the image, which can be one of the following enumeration constants of type XilDataType:

XIL_BIT	1-bit
XIL_BYTE	unsigned 8-bit
XIL_SHORT	signed 16-bit

If the function is successful, a handle to the image is returned. This is not the same as a pointer to the data, which is only available when the image is exported.

ROI Behavior

The default ROI is NULL. If an ROI is NULL, operations are performed on the entire image.

XIL Images

The primary objects in the XIL world are images. Each dimension of an image - width, height, or number of bands - may be as great as 65535 (a limitation of the XIL library), except that the overall size of an image is limited by available resources.

Three data precisions are supported: 1-bit, 8-bit unsigned, and 16-bit signed per data element.

The exposed attributes associated with images are *height, width, nbands* (number of bands -- number of distinct data elements per pixel), *datatype* (sample type -- precision of a single data element), color space, and image origin. You can get *height, nbands,* and *datatype* with **xil_get_info**(3) amd **xil_get_origin**(3). Note that the origin at creation time is the upper left corner of the image. Also note that an image's color space is NULL upon creation.

The XIL library currently has no provision for direct operation on images with bands of different data types or different dimensions. This implies no direct support for 4:1:1 or 4:2:2 data.

ERRORS

For a complete list of XIL error messages by number, consult Appendix B of the *XIL Programmer's Guide.*

EXAMPLES

Create a 480x640 8-bit image with 3 bands, which can contain 8-bit unsigned data:

```
XilSystemState State;
XilImage image;
image = xil_create(State, 480, 640, 3, XIL_BYTE);
```

NOTES

The data associated with the image is not automatically zeroed. Use **xil_set_value**(3) to do this.

SEE ALSO

xil_create_child(3), **xil_create_copy**(3), **xil_create_from_device**(3), **xil_create_from_type**(3), **xil_create_from_window**(3), **xil_destroy**(3), **xil_set_roi**(3), **xil_get_roi**(3), **xil_get_info**(3), **xil_set_value**(3), **xil_get_origin**(3), **xil_set_colorspace**(3).