NAME

xgl_inquire – inquires the acceleration features underlying a window

SYNOPSIS

#include <xgl/xgl.h>

```
Xgl_inquire*   xgl_inquire (
                    Xgl_sys_state   sys_state,
                    Xgl_obj_desc    *desc );
```

DESCRIPTION

Purpose

This operator inquires into the acceleration features underlying a particular window. XGL accelerates a primitive if some portion of the geometry that defines the primitive is processed by accelerating hardware. Acceleration includes geometric transformations and clipping as well as actual rendering. The **xgl_open**(3) operator must be called prior to calling this operator.

Parameters

sys_state
The handle to system state information for this XGL session. Use the value returned by the call to **xgl_open**(3)**.**

For more detailed information about this value, see **XGL_SYS_STATE**(3) and its corresponding man pages.

desc The application must fill in this parameter with the appropriate window information before calling this function.

Returned Information

The function returns a pointer to a structure of type Xgl_inquire, allocated by XGL. It is the responsibility of the application program to free the memory allocated by this function call when the returned information is no longer needed. The structure returned contains, in the following fields, information about the frame buffer underlying the window:

name The XGL name of the frame buffer underlying the window.

dga_flag (direct graphics access)
If this field is TRUE, XGL does direct graphics access to render pixels into the frame buffer underlying the window. If it is FALSE, XGL uses either the PEX or Xlib protocol to render pixels.

color_type
A structure with 2 bit fields that specify the color type accelerated by the frame buffer underlying the window. If *index* is TRUE, the frame buffer accelerates the XGL_COLOR_INDEX color model. If *rgb* is TRUE, the frame buffer accelerates the XGL_COLOR_RGB color model.

depth The depth of the frame buffer underlying the window.

width and height
The width and height of the frame buffer in pixel coordinates.

maximum_buffer
The maximum number of buffers available from the frame buffer underlying the window. A value of 2 means the application might be able to do

double buffering.

db_buffer_is_copy
If this field is TRUE, the underlying hardware device performs double buffering by copying pixels from the draw (hidden) buffer to the display buffer.

pt_type A structure of bit fields whose values are the pt_types supported by the frame buffer. The bit fields are:
pt_dim_2d, if TRUE means the frame buffer can accelerate 2D coordinates
pt_dim_3d, if TRUE means the frame buffer can accelerate 3D coordinates
pt_type_int, if TRUE means the frame buffer can accelerate integer coordinates
pt_type_float, if TRUE means the frame buffer can accelerate float coordinates point types.

hlhsr_mode
Indicates whether the frame buffer underlying the window directly supports a *z*-buffer and *z*-buffer rendering. If this value is XGL_HLHSR_Z_BUFFER, the frame buffer accelerates *z*-buffer rendering. If this value is XGL_HLHSR_NONE, the frame buffer does not support accelerated *z*-buffer rendering, and the *z*-buffer is supported in the host.

picking
double_buffer
indexed_color
true_color
depth_cueing
lighting
shading
hlhsr
antialiasing

Depending on the underlying hardware accelerator, if any, these fields will be set to XGL_INQ_NOT_SUPPORTED if the functionality is not supported, XGL_INQ_SOFTWARE if the support is done through software emulation, and XGL_INQ_HARDWARE if hardware acceleration is provided.

stereo This boolean indicates whether or not the device underlying the window has hardware support for stereo. Please refer to **XGL_WIN_RAS_STEREO_MODE**(3) for more information on hardware stereo support.

extns This bitmask indicates the extensions supported by the frame buffer underlying the window. Currently, only the ability to query for multibuffer extension to X(MBX) is provided. The logical AND of this field with bitmask XGL_INQ_MULTI_BUFFERING determines whether MBX is supported. If the result is non-zero, the frame buffer supports MBX.

SEE ALSO

xgl_object_create(3)
xgl_open(3)

XGL_3D_CTX_HLHSR_MODE(3)
XGL_SYS_STATE(3)
XGL_WIN_RAS_BUFFERS_ALLOCATED(3)
XGL_WIN_RAS_BUFFERS_REQUESTED(3)
XGL_WIN_RAS_STEREO_MODE(3)