

# Graphic stack



## Deprecation warning

The page has been migrated to <https://docs.openindiana.org/dev/graphics-stack/> . Avoid touching this wiki page.

Like most UNIX/Linux operating systems, OpenIndiana's GUI environment is based on the X Window System bundled with libraries and applications developed by the [freedesktop.org](https://freedesktop.org) community.

Therefore the **Graphic Stack** is comprised of:

- the opensource X11 display server Xorg, client libraries and utilities developed by the [X.org Project](https://www.x.org/),
- an OpenGL implementation in the form of the opensource [Mesa](https://mesa.sourceforge.io/) library,
- and illumos kernel drivers for different graphics adapters provided by the [gfx-drm](https://www.gfx-drm.org/) gate,
- together with the [libdrm](https://www.libdrm.org/) implementing communication between kernel drivers and user-space components through the Direct Rendering Infrastructure (DRI) protocol.

All these components can be installed using the unified build system [oi-userland](https://www.openindiana.org/wiki/oi-userland) or simply installed from the package repositories.

Instructions for building and/or installing the different components are provided:

Component	Scope
<a href="#">Xorg</a>	Building the Xorg display server, protocol headers, client libraries and applications.
<a href="#">Mesa</a>	Building the Mesa library and testing OpenGL capabilities.
<a href="#">Fonts</a>	Packaging new fonts for OpenIndiana.
<b>Kernel drivers</b>	
<a href="#">Nvidia</a>	Installation of Nvidia's proprietary graphics driver for Solaris.
<a href="#">gfx-drm</a>	Building the illumos KMS drivers and libdrm from the gfx-drm gate.