



Curvature is an intuitive graphical user interface for OpenStack, designed to take advantage of the OpenStack Quantum SDN (Software Defined Networking) service to provide the user with a powerful visualisation tool for designing virtual application topologies. It is currently being developed at Cisco as a companion application for OpenStack to demonstrate what is made possible with OpenStack and Quantum.

Curvature is designed to be used as an alternative to the standard Horizon dashboard for a more network-centric approach to application design and management. The visual nature of the user interface encourages greater insight into the process of virtual network design.

You can find more information in the presentation given at the April 2013 OpenStack Developers Summit - video and slides located [here](#).

## Using the Curvature GUI

The first thing a user will see upon navigating their browser to Curvature is the login screen. Logins are handled via the OpenStack Keystone service, and support both administrators and normal users.

Upon successful login, the user will be presented with a graphical representation of their main project (a.k.a tenant). This graphical representation is built from data gathered from the OpenStack Nova and Quantum services, and is designed to communicate the logical network structure of the various Nova/Quantum components belonging to the project. The user is then able to create new Nova Servers, as well as Quantum Networks and Routers simply by dragging the desired nodes onto the graph. Components can then be networked together by drawing links between them using the link tool.

Curvature currently has support for most of the functions that are available in Horizon, and some that aren't (e.g. Quantum Routers). It has been designed primarily with end-users in mind, and so does not yet have support for some administrator-level functions.

## Extensibility

Curvature has been designed with extensibility in mind, and as such is intended to be modified for use with other OpenStack (and non-OpenStack) services. It will be released with in-built support for the [Donabe](#) recursive-container service for OpenStack, and guidance on how support can be added for similar services, such as [HEAT](#).

## Installation

Installation instructions will be made available once Curvature has been released to the public.