Migration Controls

Router

Rethink

DB

Excalibur

Virtue

Valor

Virtue

Gaius

Virtue

Valor

Virtue

Gaius

Virtue

EFS

## Migration Components

**Excalibur** – Excalibur will expose an interface for VirtUE administrators to manually trigger migration of a virtue. This will handle openLDAP database updates of Virtue information.

**RethinkDB** - RethinkDB is a database that can efficiently notify clients of changes to its data. In conjunction with its sensing and logging control, RethinkDB will also receive migration requests from Excalibur and pass migration notifications to the appropriate Valor containing the Virtue that needs to be migrated. RethinkDB will also contain routing information between the Router, Valors, and Virtues

**Gaius** – Gaius acts as the healer in the migration controls system. It is the component located in each Valor instance that receives a migration notification from RethinkDB and performs migration prep, migration, and migration cleanup.

**Valor** – Valor contains Gaius and multiple Virtue guest domains. It relies on the Router for managing network traffic between Virtues and receives updates to its environment through Gaius.

**Router** – The Router manages traffic between Virtues hosted on a Valor and allows for continued network connectivity during migration between Valors.

**EFS** – AWS’s Elastic File System acts as an NFS server storing Virtue disk images made accessible to Virtue guest domains for creation and migration.

## Migration Process

Excalibur pushes an update to RethinkDB requesting migration of a Virtue. A migration notification containing information of a Virtue and its Valor destination is sent to its source Valor. Gaius on the source Valor receives the migration notification, prepares the Virtue, and executes migration to the destination. The destination Gaius instance will monitor for the incoming Virtue and send a response to RethinkDB once migration is complete.