

# Volume Encryption Architecture

## Provides Encryption on OpenStack Block Storage Resources

**Goal:** Automatically encrypt VM volume.  
Encryption is transparent to VM, and is a similar concept to self-encrypting drives

### Steps for block encryption:

Preparatory Step: Cinder creates data volume

- 1) Nova API call
- 2) iSCSI volume appears as block device in compute host
- 3) Retrieve volume's encryption key
- 4) dm-crypt maps decrypted version of iSCSI volume
- 5) Decrypted iSCSI device passed to VM

