

Ephemeral 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:**
- 1) Nova API call creates VM image with ephemeral storage specified
 - 2) Instantiate ephemeral storage with data path that includes transparent encryption
 - 3) Launch and run VM
 - 4) Ephemeral volume appears as unencrypted storage device
 - 5) Retrieve volume's encryption key
 - 6) Transparent encryption maps decrypted version of ephemeral volume
 - 7) Decrypted ephemeral device passed to VM

