Monthly Cost Analysis for a Roku Channel with 1000 Viewers and 100 Videos Hosted on Bunny Stream

To calculate the cost of running a Roku channel for 1000 viewers a month, where each viewer watches 1 hour on average, we will include the storage costs for 100 videos transcoded to HLS (renditions: SD, HD, and Full HD).

Assumptions:

1. HLS video renditions and sizes:
   - SD (480p): 1 GB per hour
   - HD (720p): 2 GB per hour
   - Full HD (1080p): 3 GB per hour
2. Each video is 1 hour long.
3. 100 videos stored with three renditions each (SD, HD, Full HD).

Calculations:

1. Storage Requirements:
   - Total storage for one rendition (per video):
     - SD: 1 GB
     - HD: 2 GB
     - Full HD: 3 GB
   - Total storage per video (all renditions): 1 + 2 + 3 = 6 GB
   - Total storage for 100 HLS videos: 100 * 6 GB = 600 GB
2. Storage Costs:
   - Storage cost per GB: $0.01
   - Total storage cost: 600 GB * $0.01 = $6
3. Total Bandwidth Consumption:
   - Each viewer watches 1 hour.
   - Assume an average viewer distribution across different qualities (balanced viewership across SD, HD, and Full HD):
     - SD: 1 GB per hour
     - HD: 2 GB per hour
     - Full HD: 3 GB per hour
   - Average bandwidth consumption per viewer per hour: (1 + 2 + 3) / 3 = 2 GB
   - Total bandwidth consumption per month: 1000 viewers * 2 GB = 2000 GB
4. CDN Costs:
   - CDN cost per GB: $0.005
   - Total CDN cost: 2000 GB * $0.005 = $10

Total Monthly Cost:

- CDN Cost: $10
- Storage Cost: $6
- Total Cost: $10 + $6 = $16