

Exploring the cost of video on demand (very nerdy discussion, you've been warned)

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So for no other reason than for academic purposes, I decided to sit down and get an idea of what it would cost to run a streaming HD movie service. For the purposes of this exercise, I'm ignoring the obvious other costs of running a business (payroll, marketing, web design, etc). Additionally, it does not include any cost for licensing the content, because as far as I'm aware, that information is not available (and might not even be applicable, as video rental stores do not have to pay for licensing of renting movies that I'm aware of, but that's for another discussion).

So continuing on, this is going to be based around using Amazon's S3 CDN service. The idea is that the videos are stored on Amazon's CDN, delivered via a web browser, and played through something like the DivX Web Player, Adobe Flash Player, or Microsoft Silverlight Player. We'll also be assuming a file size of 4.5GB per movie (resolution of 720p, bitrate variable, obviously long movies will have a lower bitrate to fit into that file size, shorter movies will have less of a constraint). I'll show three different levels of service, because the cost drops pretty significantly with economies of scale. So let's take a look...

Level One: 1,000 Customers

- 1,000 customers
- Library of 2000 HD 720p titles
- 150GB per month (30 movies plus 15GB overhead)
- \$24.99 per month customer charge
- \$0.11 per GB per month (transfer)
- \$0.12 per GB per month (storage)
- 150 TB (150,000 GB) transfer per month = \$16,500
- 9TB (9,000 GB) storage per month = \$1,080
- Total cost per month = \$17,580
- Total income per month = \$24,990
- Total profit per month = \$7,410 (\$88,920 annual)

Level Two: 10,000 Customers

- 10,000 customers
- Library of 2000 HD 720p titles
- 150GB per month (30 movies plus 15GB overhead)
- \$24.99 per month customer charge
- \$0.11 per GB per month (transfer)
- \$0.12 per GB per month (storage)
- 1,500 TB (1,500,000 GB) transfer per month = \$165,000
- 9TB (9,000 GB) storage per month = \$1,080
- Total cost per month = \$166,080
- Total income per month = \$249,900
- Total profit per month = \$83,820 (\$1,005,840 annual)

Level Three: 100,000 Customers

- 100,000 customers
- Library of 2000 HD 720p titles
- 150GB per month (30 movies plus 15GB overhead)
- \$24.99 per month customer charge
- \$0.11 per GB per month (transfer)
- \$0.12 per GB per month (storage)
- 15,000 TB (15,000,000 GB) transfer per month = \$1,650,000
- 9TB (9,000 GB) storage per month = \$1,080
- Total cost per month = \$1,651,080
- Total income per month = \$2,499,000
- Total profit per month = \$847,920 (\$10,175,040 annual)

Not a bad business model, actually! Add in the cost of some web developers/designers, some marketing, HR, a few execs, and then probably outsource a support center, and you'll still be making a tidy profit. And that's with only 100,000 users, which is nowhere near the ceiling for this type of service, I would imagine. Scale that out to 1,000,000 or even 10,000,000 customers, and you can easily run with Netflix or something similar.