



# Current State Of The CDN Market: DIY, Pricing Trends, Competitive Dynamics

[www.cdnpricing.com](http://www.cdnpricing.com)

[www.cdnlist.com](http://www.cdnlist.com)

[www.contentdeliveryblog.com](http://www.contentdeliveryblog.com)

Note: Data from these slides can be used by anyone but please credit Dan Rayburn at [cdnpricing.com](http://cdnpricing.com)

## Latest Market Trends

- Commodity CDN pricing stable: down 25% in 2014, down 20% in 2015 (down 45% for biggest customers). Lowest pricing I have seen is \$0.0025 per GB delivered.
- Customers seeing good volume growth, but no major catalyst
- Growth from OTT services is overrated. Sling TV, PlayStation Vue etc. not big drivers. Biggest OTT drivers are those who do mostly or all DIY.
- DIY CDN can only be done by a few, but one's with biggest traffic growth. By my estimates, Apple has now taken 75% of the traffic, by volume, in house.
- Software and large object downloads driving the growth in M&E vertical
- Impact of mobile devices not a major force, for video
- 4K and VR streaming won't impact CDNs for many years to come
- "If" Apple comes out with subscription service, growth to CDNs will be limited
- Many small vendors and startups only focusing on value add services, content/mobile acceleration: Fastly, Yottaa, Instart Logic, TwinPrime, Tensera etc.
- Delivering video isn't (very) profitable, unless you own the network
- Video takes up the largest % of traffic on a CDN, but contributes the least amount of profitable revenue
- Vendors have gotten extremely focused, realize that video/media/downloads is more of a check box for full-service CDNs
- QoE: "Finally" The Industry and CDNs Are Focusing On Measuring Quality
- Multi CDN strategy growing, even for smaller customers

## **Dispelling The 4K and OTT Myths**

- 4K streaming, also called Ultra HD, is NOT coming to the masses soon, or even in the next few years, in any significant volume. 4K streaming is more than a technology problem, it's a business problem.
  - The average Netflix stream across the top 10 ISPs in their ISP Speed Index rating, is delivered at 3.34Mbps, 4K is at 15Mbps.
  - Only “premium” content owners can afford to test the 4K waters. But even Netflix charges more for it. The majority of content owners will not be able to afford to offer content in 4K as the business models don't support it.
  - Everyone talks about the cost of delivering video in 4K, but no one mentions the added cost to the entire workflow. Shoot, edit, store, transcode in 4K. Encoding alone can take 6x longer to encode in 4K.
- Bottom line: 4K streaming is not going to drive revenue growth for any CDN. If they say otherwise, it's simply marketing.

## **Largest Growth In OTT Isn't Being Delivered By Third Party CDNs**

- OTT is growing, but the biggest growth is being seen by those who deliver the content themselves, like Netflix (100% themselves) and Amazon, (which delivers a lot, but not all of their own videos)
- OTT services from CBS (CBS All Access), Sling TV, PlayStation Vue etc. don't even have 1M subs. Very few OTT services have launched as stand-alone offerings and now, with Amazon's new program, many will turn to Amazon for distribution, cutting out the CDNs even more.
- Yes, all the CDNs say how excited they are for OTT etc. but that does not lead to any large growth overnight. The growth we see in the market is slow and steady, which is a good thing. There is no catalyst.

## Latest On Do It Yourself “Non-Commercial” CDNs

DIY is not a “trend”. Very few companies can do DIY, for audio/video. For most, it will never make sense from a CAPEX or OPEX perspective and they won’t see a good return on investment. Those that have done it are:

- Amazon
- Facebook
- Microsoft
- Pandora
- Twitch
- Valve
- Apple
- Google
- Netflix
- SKY (regional)
- Twitter

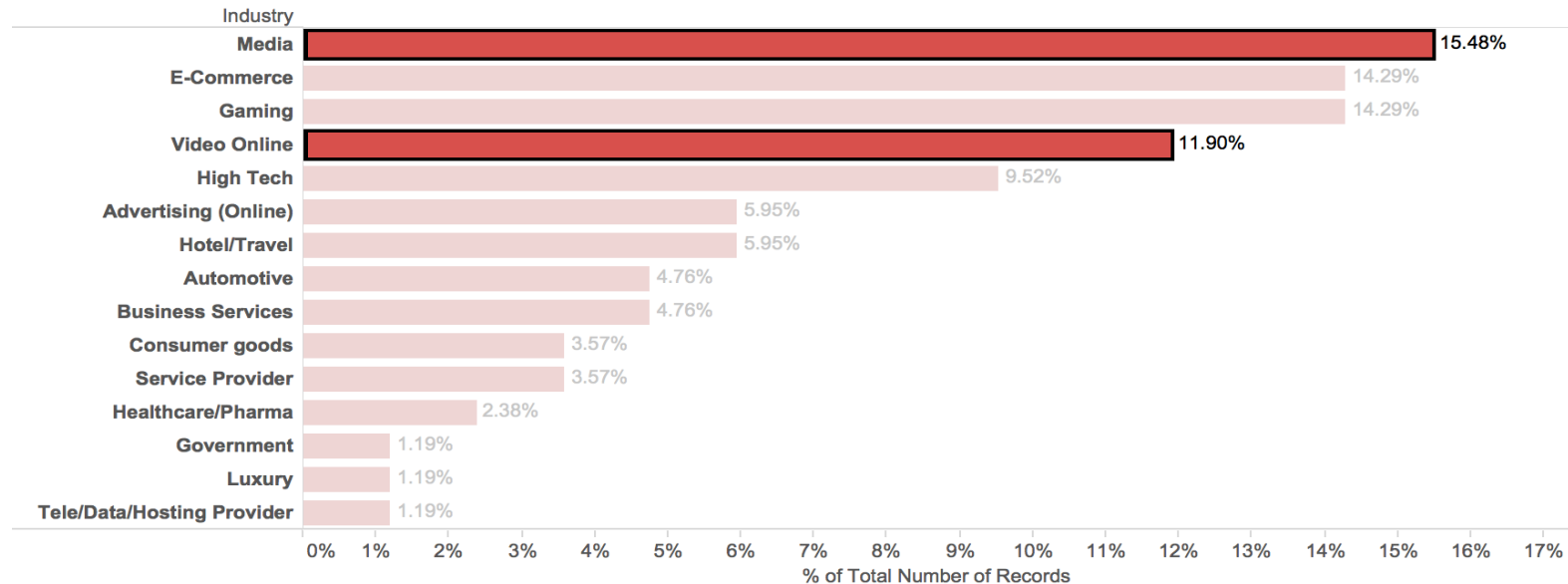
- Some of these companies have brought 100% of their CDN traffic in-house, (Netflix, Pandora), others ¾ of their traffic or more
- By my estimates, Apple has now taken 75% of their traffic, by volume, in-house
- For most, they will still use third-party CDNs for a small portion of delivery
- It is not hard or costly for any company on the list to build their own CDN with the same or better performance as a third-party CDN. Remember, they are building a “purpose built” CDN, much lower cost, much easier
- Which large CDN customer is going to build their own CDN next? None. Except, Amazon is bringing more AIV video over to CloudFront, which will impact Akamai. (My estimate: \$20M-\$25M in 2016 revenue to Akamai.)
- Even for Disney, MLBAM, Viacom, NFL etc. it does not make sense for them to build their own CDN.
- New Hulu live announcement, even they won’t do their own CDN. They use LLNW and Level 3. They accounted for 2.6% of downstream traffic, at peak, in Q4 2015.

## Multi-CDN Growth Even Amongst Smaller Customer Growing Fast

Over the past 12 months, more customers are using multiple CDNs, even for those that are smaller, \$100K spend per year. This took me by surprise, but this trend is accelerating. Multi-CDN platforms for switching traffic from Cedexis, Conviva, Nice People At Work (NPAW), etc. make it easy. Multi-CDN contracts impact Akamai the most, as they have the largest share. Get less exclusive contracts. But also impacts other CDNs as well.

**Over 26% of Cedexis customer base using Multi-CDN is either Media or Online Video**

### Cedexis Multi-CDN customers by Industry



## **Competitive Landscape**

- Akamai: growth will be tempered this year, due to DIY, competitive pricing, multi-CDN contracts, pricing declines. CDN business project by wall street to be down 3-6% YOY.
- Amazon: still growing in the market and working to push pricing down. More value add services coming to their portfolio. AWS on track to grow from \$7B in 2015 to \$10B in 2016.
- Comcast: Started winning big deals in Q4 of last year. Only CDN to own the last mile. Has a platform, for live and on-demand, due to thePlatform acquisition. Unique sales proposition. Takes time for traffic to ramp so revenue recognition in 2016 will lag behind the pace of sales.
- Google Cloud: just getting started, no substantial CDN revenue, in 2016. But keep an eye on them.
- Level 3: rate of rev growth slowed in 2015, but company owns the network and has a much more profitable CDN business than anyone else. Security business alone will be \$100M this year.
- Limelight: invested a lot in their network, added more traffic from some big customers, but at very low price point. Too early to know how it will pay off. They are betting on volume to make it work.
- Verizon: Still in all RFPs, still has big customers, made another acquisition (Volicon) to continue to build out their platform.
- Fastly: Annoying Akamai to the point of where Akamai offered months of free service to get customers to switch. Will double revenue to \$100M+ this year. Very focused. Video a big push for them in second half of 2016.
- IBM: Many don't think of them as a CDN, but they are, due to the Ustream acquisition. They will become a serious player in the market, for the entire platform, of which CDN will be a piece.

## **It's all about the platform!**

- CDN is a check box. It's a platform play now. Amazon acquired Elemental. Level 3 acquired Servecast. Limelight acquired Delve. Verizon acquired Uplynk and Volicon. Comcast acquired thePlatform. IBM acquired Ustream and Clearleap. Live linear platforms, holistic video ecosystem – that's the future.

**CDN Vendor Revenue:** CDN Service Providers Generated **\$3.15B** In Revenue From Media & Software Delivery in 2015

Edgecast \$100M in 2013 (company #)  
Verizon \$130M in 2014 (company #)  
Verizon \$190M in 2015 (my estimate)  
Verizon \$220M in 2016 (my estimate)  
2015 CDN Revenue: \$125M (70% of VDMS total revenue)

Level 3 \$130M in 2013  
Level 3 \$146M in 2014 (not \$180M)  
Level 3 \$138M in 2015 (not \$235M)  
Level 3 \$170M in 2016 (company estimate)  
2015 CDN Revenue: \$138M (2% of network services revenue)

Limelight \$173M in 2013  
Limelight \$162M in 2014  
Limelight \$174M in 2015  
Limelight \$190M in 2016 (company estimate)  
2015 CDN Revenue: \$120M (75% of total revenue)

Fastly \$5M in 2013  
Fastly \$15M in 2014  
Fastly \$60M in 2015 (company #)  
Fastly \$100M in 2016 (my estimate)  
2015 CDN Revenue: \$9M (15% of total revenue)

Akamai \$757M in 2013  
Akamai \$912M in 2014  
Akamai \$869M in 2015  
Akamai \$847M in 2016 (wall street estimate)  
2015 CDN Revenue: \$869M (40% of total revenue)

Amazon \$4.5B in 2014 (total revenue)  
Amazon \$1.5B in 2015 (my estimate, total revenue \$6B)  
Amazon \$1.8B in 2016 (my estimate, total revenue \$10B)  
2015 CDN Revenue: \$1.5B in 2015 (25% of total revenue) but big storage %

Highwinds \$100M in 2013  
Highwinds \$120M in 2014  
Highwinds \$135M in 2015 (company #)  
Highwinds \$150M in 2016 (my estimate)  
2015 CDN Revenue: \$95M (70% of total revenue)

ChinaCache \$182M in 2013  
ChinaCache \$223M in 2014  
ChinaCache \$209M in 2015  
ChinaCache \$220M in 2016 (my estimate)  
2015 CDN Revenue: \$51M (24% of total revenue)

Notes: These numbers do not include revenue from App acceleration, DSA, Security, Licensed/Managed CDN, OVP, Private CDN, Transit, Co-lo etc. Rest of smaller and regional CDNs (CDNetworks, Tata, MaxCDN, CDN77, Hola CDN, Mirror Image etc.) \$250M combined in 2015.

## 2016 Estimated Vendor Revenue From Media CDN Delivery

- Verizon \$154M in 2016 (my estimate)
  - Level 3 \$170M in 2016 (company estimate)
  - Limelight \$143M in 2016 (company estimate)
  - Fastly \$18M in 2016 (my estimate)
  - Akamai \$847M in 2016 (wall street estimate)
  - Amazon \$1.8B in 2016 (my estimate)
  - Highwinds \$105M in 2016 (my estimate)
  - ChinaCache \$52M in 2016 (my estimate)
  - Comcast \$25M in 2016 (my estimate)
  - Google Cloud \$0 in 2016 (still in beta)
  - IBM \$50M in 2016 (my estimate)
  - Rest of smaller and regional CDNs (CDNetworks, Tata, MaxCDN, CDN77, Hola CDN, Mirror Image etc.) \$250M combined.
- Note: We don't know what % of CDN's revenue is attributed to storage as they don't break that out.
- **TOTAL CDN INDUSTRY FORECAST FOR 2016: \$3.61B (14% YOY growth, 2015 \$3.15B, 2014 \$2.78B)**
  - The \$4B number I gave out last year was too aggressive. Akamai, Limelight, Level 3, ChinaCache all grew at a slower pace or had YOY declines in CDN revenue.

### Notes

- Numbers do not include revenue from hosting providers or carrier revenue from MCDN/LCDN, but does include re-sellers, i.e.: AT&T re-selling Akamai



## The Latest On Video CDN Pricing

- For 2015, pricing down 20% on average
- Pricing decline for all of 2016 expected to be 20-25% (no YOY change)
- Major pricing decline not coming soon, traffic growth drives pricing declines
- Mobile (tablets) are not a big driver of video traffic (1/4 the number of bits)
- Majority of video to mobile is still WiFi, not 3G/4G
- Traffic, specifically for video, is growing, but small % of content owners make up the largest % of traffic growth

## March/April 2016 Pricing Survey

- Just over 816 “qualified” surveys completed in the month of Feb/March
- All questions specific to video delivery pricing from major commercial CDNs
- 20 questions covered pricing, volume, contract length, vendors used, traffic growth
- Data broken out by size of customer, based on contract value

**THERE ARE A LOT OF VARIABLES! - THIS IS ONLY AN ESTIMATE.**

## **Customers spending more than \$1M per year**

### **2016**

- on average, pricing expected to be down 34% this year (not realistic)
- on average, customers expect traffic to grow 162% this year
- on average, customers doing 20PB a month, paying low of \$0.005 per GB, high \$0.008 per GB
- per Mbps pricing, customers doing over 700 Mbps, paying a low of \$0.80 per Mbps, high of \$1.10 per Mbps

### **2015**

- on average, pricing down 31%
- on average, customers expect traffic to grow 164%
- on average, customers doing 10PB a month, paying low of \$0.006 per GB, high \$0.01 per GB
- per Mbps pricing, customers doing over 900 Mbps, paying a low of less than \$1 per Mbps, high of \$1.40 per Mbps

## Customers spending \$500K-\$1M per year

### 2016

- on average, pricing down 29% this year
- on average, customers expect traffic to grow 85% this year
- on average, customers doing 4-8PB a month, paying low of \$0.007 per GB, high \$0.012 per GB
- per Mbps pricing, don't have enough data, too few contracts priced on per Mbps

### 2015

- on average, pricing down 22%
- on average, customers expect traffic to grow 83%
- on average, customers doing 2-4PB a month, paying low of \$0.008 per GB, high \$0.015 per GB
- per Mbps pricing, don't have enough data, too few contracts priced on per Mbps

## **I Know About The CDN Market Because Of People Smarter Than Me**

Read post: <http://bit.ly/1tARhUT>

“I’ve spent the last seventeen years tracking the CDN market, talking to vendors, customers, policy makers, telcos, carries, MSOs and Wall Street money managers. But I want to point out that I don’t know everything there is to know about the CDN market and CDN related technology.”

“I get to speak to the smartest people who are building, running and using the largest private and public CDN related networks around. One’s self-importance is not based on what they know, but what they can share with others, which is my only goal.”

My job, as I see it, is to:

*INFORM – EDUCATE – EMPOWER*

**Thank you to all the customers & vendors who trust me with their data**

## Questions and Additional Resources

Latest CDN pricing can always be found at [www.cdnpricing.com](http://www.cdnpricing.com)

For a list of CDN vendors see [www.cdnlist.com](http://www.cdnlist.com)

To find all posts on my blog on the topic of CDN,  
go to [www.contentdeliveryblog.com](http://www.contentdeliveryblog.com)