

P2P File Sharing - The Evolving Distribution Chain

Presentation by


David Ferguson

VP Engineering, CacheLogic Ltd.

P2P MEDIA SUMMIT WDC, June 22 2006



2006 Red Herring
100 Europe

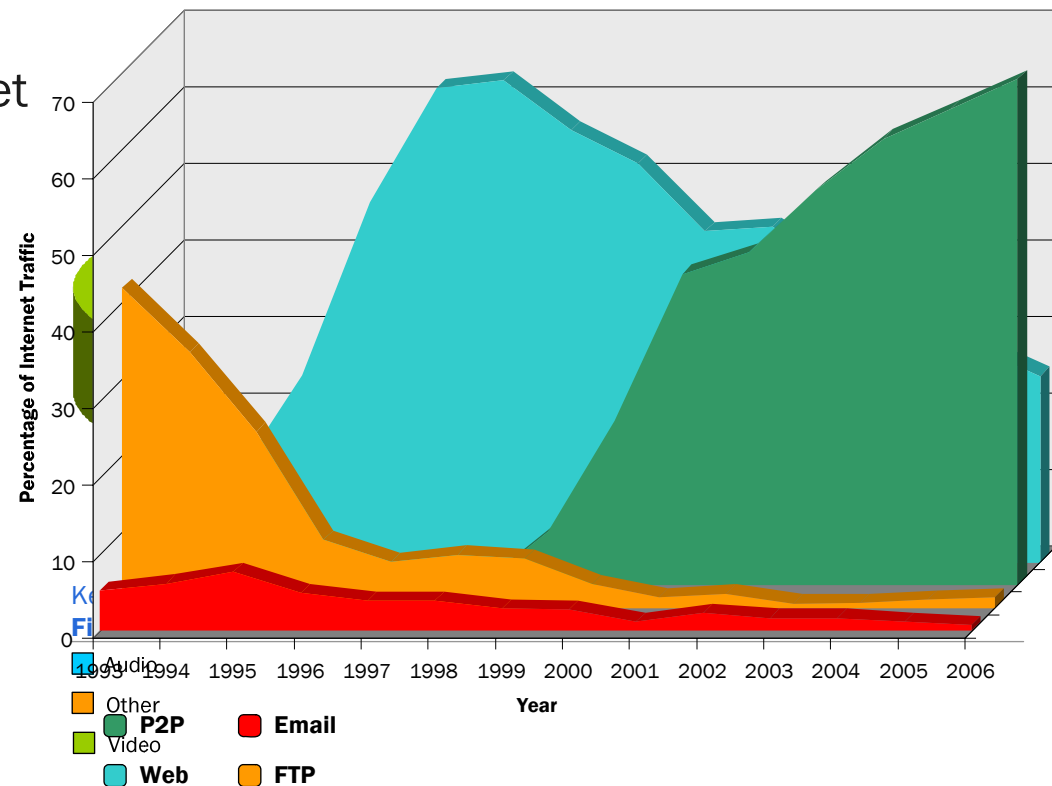


What is the current landscape for Internet-based content distribution and what role are file-sharing technologies playing now and in the future?

Peer-to-Peer Today

- In the last seven years P2P has grown to dominate Internet traffic
 - More than 60% of consumer Internet traffic is P2P
- P2P saturates ISP networks
 - Downstream: 50-65%
 - Upstream: 70-80%
- More than 60% of P2P is video
- P2P files are massive
 - Globally: >50% >1GB
 - Asia: >50% >2.5GB

CacheLogic Research
Internet Protocol Trends 1993 to 2006



Internet-Based Content Distribution is Evolving

2005

Commercial distribution of music over the Internet becomes mainstream

- By the beginning of 2005, UK online single sales overtook CD single sales(1)
- By the end of 2005, 20M tracks per week being bought online worldwide. And sales of MP3 players had overtaken that of CD players(2)
- US physical media sales fell by 8-10% on 2005, where as online sales grew by between 150-200%(3)

(1) <http://news.bbc.co.uk/1/hi/entertainment/music/4155385.stm>

(2) <http://news.bbc.co.uk/1/hi/entertainment/4595108.stm>

(3) Source: NPD group reported at :
<http://www.shreveporttimes.com/apps/pbcs.dll/article?AID=/20051215/NEWS05/512150308/1064>

2006

Consumer Produced Video

- Google
- Youtube

Portable Video

- iTunes

Commercial trials of Broadcast/DVD quality P2P video

- BBC iMP
- ntl
- Warner Bros

Initial commercial P2P video trials

- AOL
- Sky

2007

Rollout of commercial P2P broadcast quality video services

What are the Driving Forces?

- Access
 - Broadband adoption is at a level which represents a real market
 - Bandwidth access speeds have significantly increased to end-users, 8Mbps and upwards is now standard in Europe
- Consumption
 - Proliferation of media devices flooding all areas of the market



Consumer spending on Entertainment/Lifestyles content reached \$413.5 million in 2004, surpassing Business/Investment content to rank second among all paid content categories

Entertainment/Lifestyles also registered the largest year-over-year growth (90%), fuelled by growth in online music sales

2005 Online Publishers Association 2 Online Paid Content U.S. Market Spending Report, Full Year 2004

Why is P2P so important?

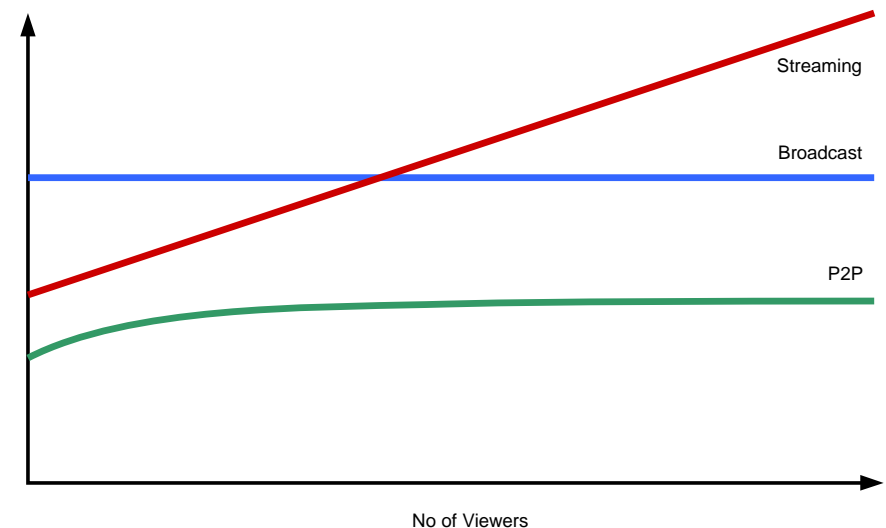
Value/Data Density

| | |
|---------------------------------|--------------------------------|
| MP3 Single (e.g. iTunes) | |
| Typical MP3 file size | 5MB |
| Commercial value | \$1.00 |
| Value/data density | \$0.20 per MB/ \$200 per GB |
| DVD - 5Mbps x 90 minutes | |
| | 3.5GB |
| Rental Model: | |
| Commercial value | ~ \$3.50 |
| Value/data density | \$1 per GB |
| Purchase Model: | |
| Commercial value: | \$16.00 |
| Value/data density | \$4.57 per GB |

- Audio bits up to **200 times** more valuable than video bits
- HD content is even more expensive

Scalability

- Existing distribution and streaming technologies penalise content owners for success!



- The economics of P2P delivery are much closer to broadcast economics

The Future of P2P

- P2P to become the **de facto** medium for large file distribution
 - Even without the benefit of peer delivery, P2P protocols and clients guarantee content integrity and avoid reliance on a single TCP connection to a single server
- P2P to open **new routes to market**
 - The lower costs associated with P2P distribution will draw content owners currently not using digital distribution to market
- P2P to **dominate** Internet traffic
 - **Milestone:** National broadcasters put recent and archive material online
 - **Milestone:** Availability of P2P PVRs
 - **Milestone:** DVD rental services migrate to online distribution
- Content owners to **pay for quality** P2P distribution
 - Success will depend on all parties gaining leverage from the P2P distribution chain

Thank you

Presentation by

David Ferguson

VP Engineering, CacheLogic Ltd.



Copyright and Confidentiality

Copyright Statement

Copyright © CacheLogic, 2006, all rights reserved.

No part of this documentation may be reproduced in any form or by any means or be used to make any derivative work (including translation, transformation or adaptation) without explicit written consent of CacheLogic.

CacheLogic, Cachepliance, Cacheswitch and Streamsight are registered trademarks of CacheLogic Limited.

Registered office: 326 Cambridge Science Park, Milton Road, Cambridge, CB4 0WG, United Kingdom

Confidentiality Statement

All information contained in this document is provided in commercial confidence for the sole purpose of adjudication, by CacheLogic. The pages of this document shall not be copied published or disclosed wholly or in part to any party without CacheLogic prior permission in writing, and shall be held in safe custody. These obligations shall not apply to information which is published or becomes known legitimately from some source other than CacheLogic.