Operator CDNs to Enhance the Customer Experience

Frank Childs
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Operator CDN Business Cases

Multi-screen Video
- Consumer Services
- Linear & On-demand
- Support IP-Devices
- TV Everywhere

Commercial CDN
- Media CDN Services
- Enterprise Services
- Value Added Services
- Bundle with Network, Hosting & Cloud

Network Offload
- Single HTTP Caching Infrastructure
- Transparent Caching
- Control OTT Traffic
- Faster Internet to Users

Consumer Experience
- User Experience
- New Service Bundles
- Reduce Churn
- Migrate to IP-Video
- Lower Cost Delivery

Enterprise Revenues
- Increase Revenues
- Differentiate Services
- New Cloud Offerings

Network Savings
- Lower Network Costs
- Network Efficiency
- Network Performance
- Reduce Churn
Why Multi-screen Matters?

28% of home networks stream to their TV (19% in 2012)
- additional 22% plan to stream video

32.6M OTT Video Households with 42.7M subscriptions
- 24.7m in 2012; 32% increase

25% of Pay-TV Households also subscriber to OTT Video

Multi-screen is an incremental opportunity

Source: IDC Research 2013
### Supporting Device Adoption is Key

Device ownership of those who stream video

<table>
<thead>
<tr>
<th>Device</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDTV</td>
<td>90%</td>
</tr>
<tr>
<td>Smartphone</td>
<td>75%</td>
</tr>
<tr>
<td>Video Game Console</td>
<td>69%</td>
</tr>
<tr>
<td>Tablet</td>
<td>59%</td>
</tr>
<tr>
<td>Blu-Ray Player</td>
<td>41%</td>
</tr>
<tr>
<td>Smart TV</td>
<td>39%</td>
</tr>
</tbody>
</table>
| Digital Media Adapter           | 23%       | (Apple TV, Roku, etc.)

Source: IDC Research 2013
Multi-screen Opportunity for Operators

- **Customer Experience and Revenues**
  - Reduce Churn & Create New Service Bundles

- **Leverage Operator Assets**
  - Network, Billing Relationship, Content Libraries

- **Content Programmers prioritize Multi-channel Operators**
Deploying an Operator CDN to Enhance Customer Experience

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May 20, 2013
The Options

- Build it (open platform)
- Buy it (proprietary)
- Buy open platform with support

**Objective:** a solution that is highly scalable, reliable and cost efficient
The Importance of a Standard-based Approach

- **Commodity Hardware** (COTS Servers with 10 gig)
- **Open Source Software** (OpenStack, Puppet, LXC, Nginx)
- **Standard Protocols** (DNS, HTTP, WebDav)

**No Proprietary Appliances/ Black boxes**
What does that look like?
Placement of Caches

- At backbone and regional core interconnects
- Near drain and peering locations
- Located near our major markets
Akamai CDN Components

HyperCache (HPC): Local storage and delivery for a variety of HTTP workloads

Platform & Management: Centralized CDN installation, provisioning and monitoring

Object Store: HTTP accessible object store for content origination

Request Router: Highly scalable request router that maps user requests to the best able CDN node

Analytics: Suite of analysis tools for traffic monitoring and visualization
Overall Network Design

Mngt/Analytics

Origin

Request Router

Request Router

WI-SHE

GA-SHE

KMAs

WI

CA

IL

TX

MA

OR

NV

MI

MN

SC

GA

LA

CA

IL

TX

MA

OR

NV

MI

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GA

LA
Thank You

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