

WELCOME

From the people who brought us
classics like RFC822 and RFC2616



In a World of Open Standards
Rough Consensus and Running Code
Stands the IETF

Opens March 10, 2013

Glenn Reitmeier

NBCUniversal

IETF PRESENTS IN ASSOCIATION WITH Comcast AND NBCUniversal



I E T F



COMCAST

NBCUniversal

This meeting is
not yet rated

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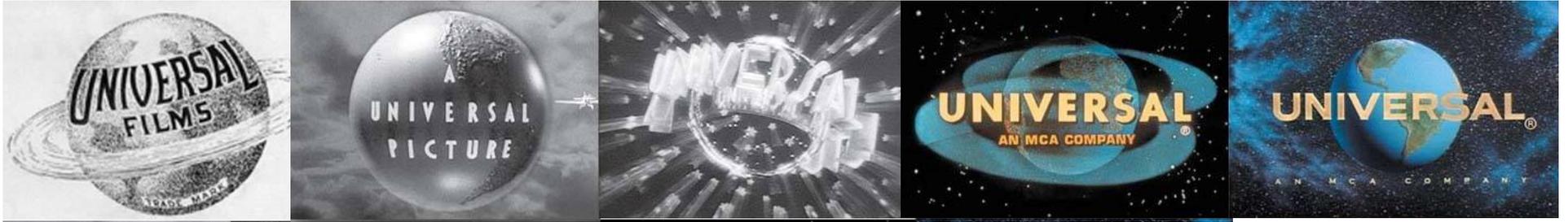
Agenda Available at
datatracker.ietf.org/meeting/86/agenda.html



A Media and Technology Company

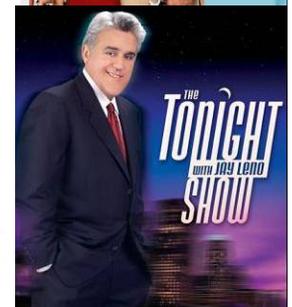
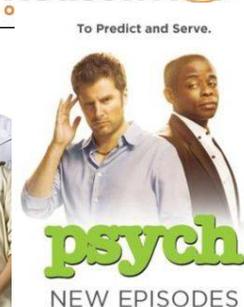
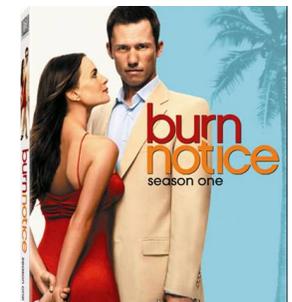
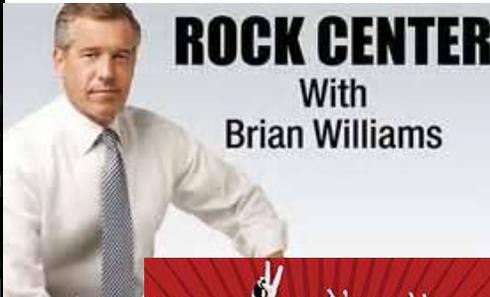
Movies ... Television ... Cable ... Internet

Technical Standards Are The Foundation



Digital
Cinema









NBCOlympics.com (BETA) EXCLUSIVE VIDEO in partnership with msn Video



Track the Sport **gymnastics**

Explore Gymnastics
Go inside gymnastics to learn about the new scoring system and follow the competition format from qualifying rounds to the medal podiums. Plus, check out all the past medalists in every event and relive memorable moments such as Nadia Comaneci's perfection in Montreal and Paul Hamm's controversial all-around title four years ago in Athens.

Related Video **gymnastics**

Begin: Men's Team Preview
A preview of the men's team competition in Beijing.

Power and grace
Bela Karolyi's take on Shawn Johnson and Nastia Liukin.

Practice at Nationals
U.S. gymnasts prepare for the Beijing Olympics.

Games of the XXX Olympiad: July 27 - August 12, 2012

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WATCH: FLASHBACK: BEIJING OPENING CEREMONY

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TOP HEADLINES **RECOMMENDED**

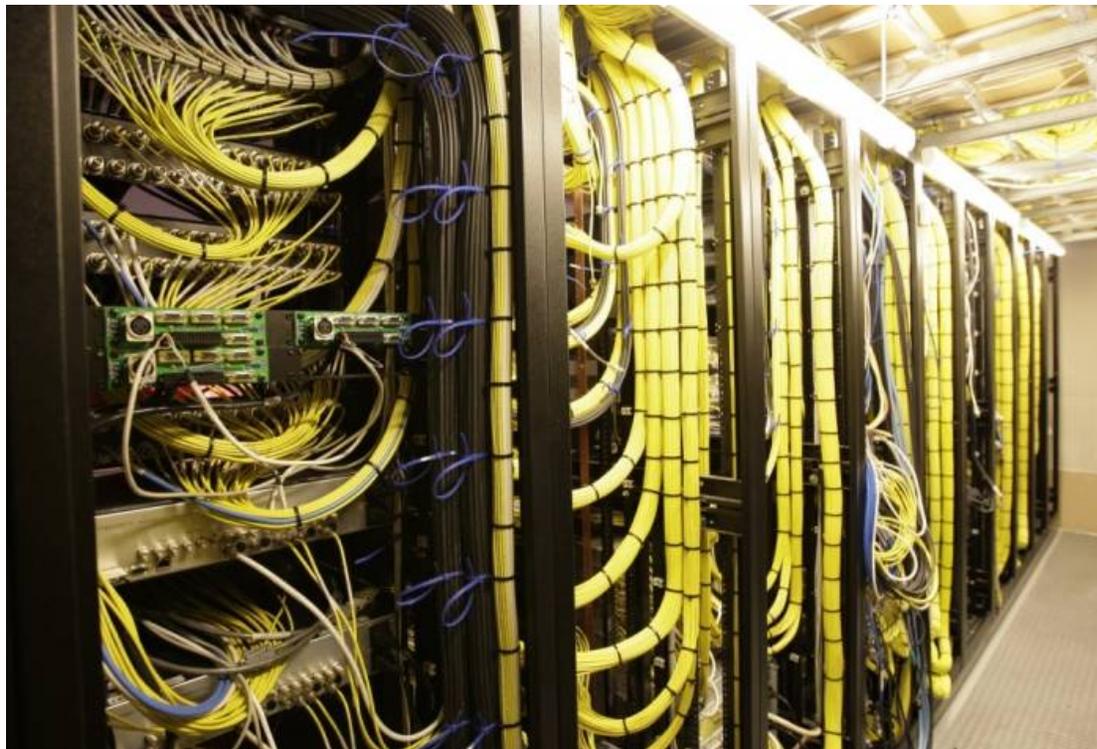
- Beckham will have role in Opening Ceremony
- Sprinter: Don't bet against Bolt | Profile
- Who will carry the U.S. flag? | The list
- U.S. women's soccer to skip Opening Ceremony
- Big Ben will ring out to start Olympics
- U.S. hoops: 'big one' in Barcelona | Photos
- Rider Kessler wins warmup in France

The Young Royals Take London

Wondering where to catch the young Royals in London this Summer? We have a short list of the events and venues they're most likely to be seen, including checking out some Brazilian beach volleyballers.

RELATED: PHOTOS: Kate Middleton | British royals are golden | Royal couple welcome Flame

VIEW MORE: NEWS VIDEO SLIDESHOWS



London Olympics – TV and Online Viewing

TV Networks

- 5,535 hours of coverage
NBC, MSNBC, CNBC, Bravo, Telemundo
- 219M viewers in US
 - Average >31M viewers per night over 17 days
 - most-watched US TV event in history



Online

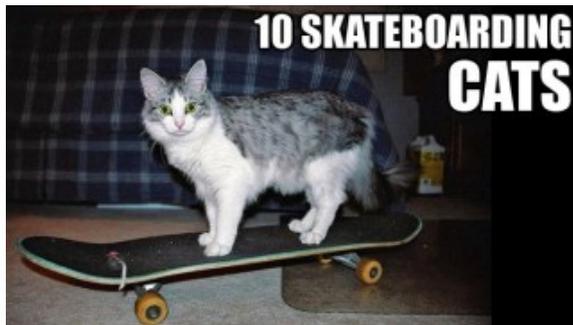
- Events Streamed Live
- 57M unique visitors
 - 10M on mobile devices
- 20M hours of video watched
 - Live Video
 - 64M live video streams
 - 13.6M hours
 - On Demand
 - 94M streams
 - 6.7M hours

Multi-Platform Availability Increased Viewing

Challenges For The Future

NBCUniversal

Content Drives Internet Use and Growth



Everyone is a Consumer and Creator of Content

The Scale of Television is Staggering

Today - NetFlix is 54% of US nighttime Internet

- 33M subscribers, over 1B hours / month (38 hours/sub)

Future - mainstream TV over internet?

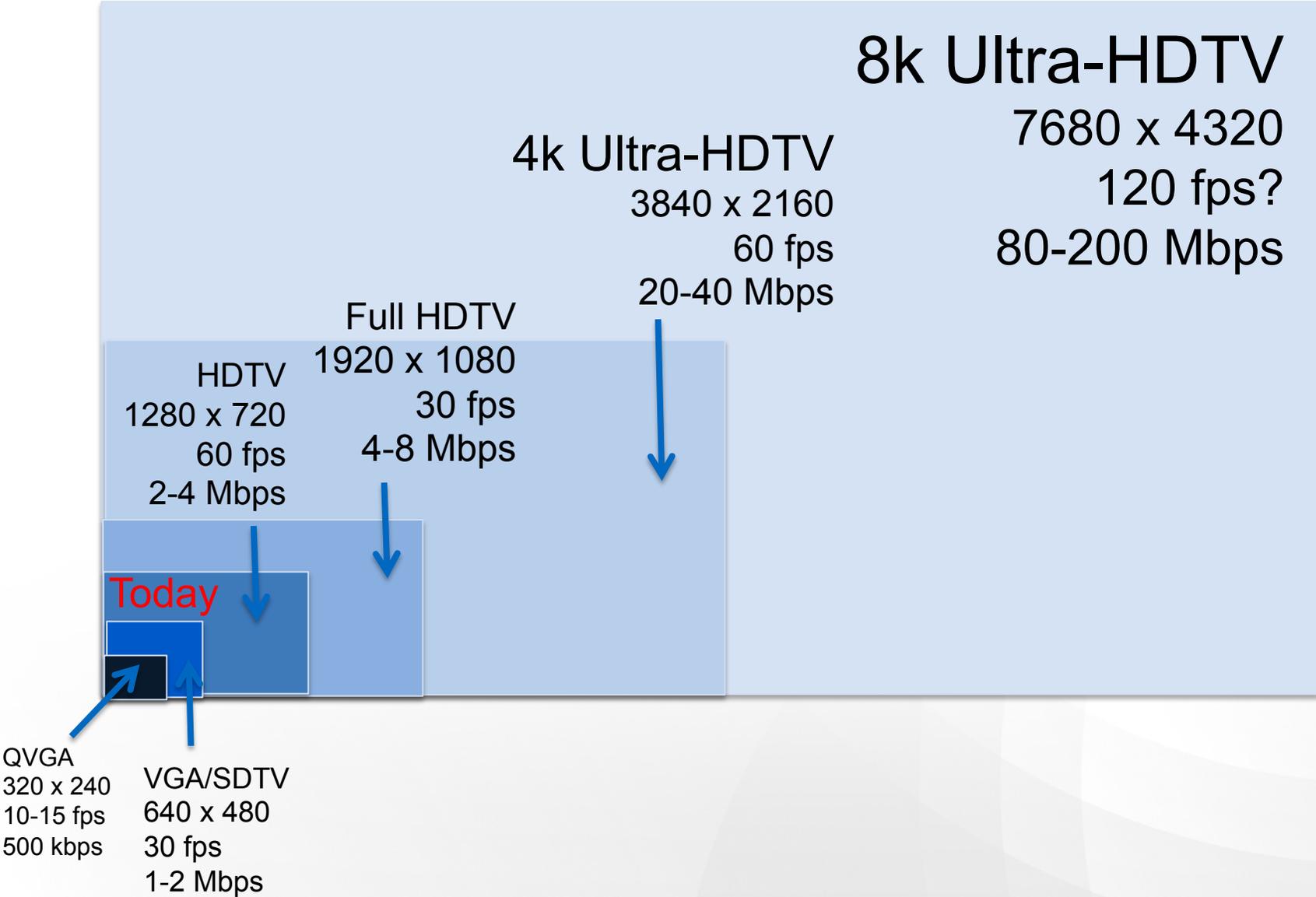
- 864M (and growing) pay-TV homes ... “TV Everywhere”
- Proliferation of SmartTVs, Tablets and Smartphones
- Average US HH views >4 hours/day of linear TV

London Olympics Example (using HDTV @ 8 Mbps)

- Online – 20M hours = 72 PetaBytes
- TV – 33M homes x 4 hours x 17 days = 7.6 ExaBytes
 - 33M homes = 248 Petabps

Advances in speed and compression alone won't keep up...

Video's Future Challenge



Scalability Challenges Compounded

Explosion of Connected Devices:
PCs, TVs, Phones, Tablets

Entertainment Television:
“TV Everywhere”

Future Video
Beyond HD

User Generated Content:
Everyone a content creator

Explosion of Connected Users: 2B ... 7B



IETF/IRTF Initiatives ... Scalable, Safe, Secure

Content-Agnostic

Content-Appropriate, Content-Aware

IPv6



Device Domains ... Wireless Display Links
Best Available Screen ... Best Available Connection

CDNI
ICN



Smart Content Discovery ... Distribution
Best Available Copy ... Nearest Available Copy
Smart Network & Device Resource
Management, Routing, Caching

DNSSEC
OAUTH



Trust of Content, Devices, Users, Groups
while maintaining privacy

Technical Standards Create The Future

Thank you

