

# Standards driven development:

How standards convergence and conformance is critical to the  
evolution of TV services

# Who am I?

- Architecture team lead for TV and mobile
- Author of BBC interactive specification
- Involved in BBC engagement for Chromecast launch
- Based @mediacityuk



# BBC Content Offerings

## ELIZABETH THE SECOND

by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Our other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith:

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING!

WHEREAS on the nineteenth day of December in the year of our Lord One thousand nine hundred and ninety-six the Letters under the Great Seal, Our Royal Proclamation His Majesty King George the Fifth granted unto the British Broadcasting Corporation (hereinafter called "the Corporation"), a Charter of Incorporation:

AND WHEREAS on thirteen days by Letters under the Great Seal, Her Majesty Queen Elizabeth the Second and Her Majesty Queen Elizabeth the Queen Mother have been granted unto the Corporation:

AND WHEREAS the period of incorporation of the Corporation will expire on the thirty-first day of July One thousand nine hundred and ninety-nine and it has been represented unto Us by Our right trusty and well beloved Counsellor William Stephen Sir Whitmore, Minister of Our Order of the Corporation of Honours, upon whom has been conferred the Decoration of the Military Cross, the Secretary of State for the Home Department, that it is expedient that the Corporation should be continued for the period ending on the thirty-first day of December One thousand nine hundred and ninety-nine:

AND WHEREAS in view of the widespread interest which is taken by Our People in broadcasting services and of the great value of such services as means of disseminating information, education and entertainment, We believe it to be

in the interests of Our People in Our United Kingdom and elsewhere within the Commonwealth that the Corporation should continue to provide broadcasting services pursuant to such licences and agreements as may befall in Our Secretary of State may from time to time grant to and make with the Corporation:

NOW KNOW YE that We by Our Proclamation Royal and of Our special grace, certain knowledge and mere motion do by this Our Charter the GA, Our Pleas and Statutes well, ordain and declare as follows:—

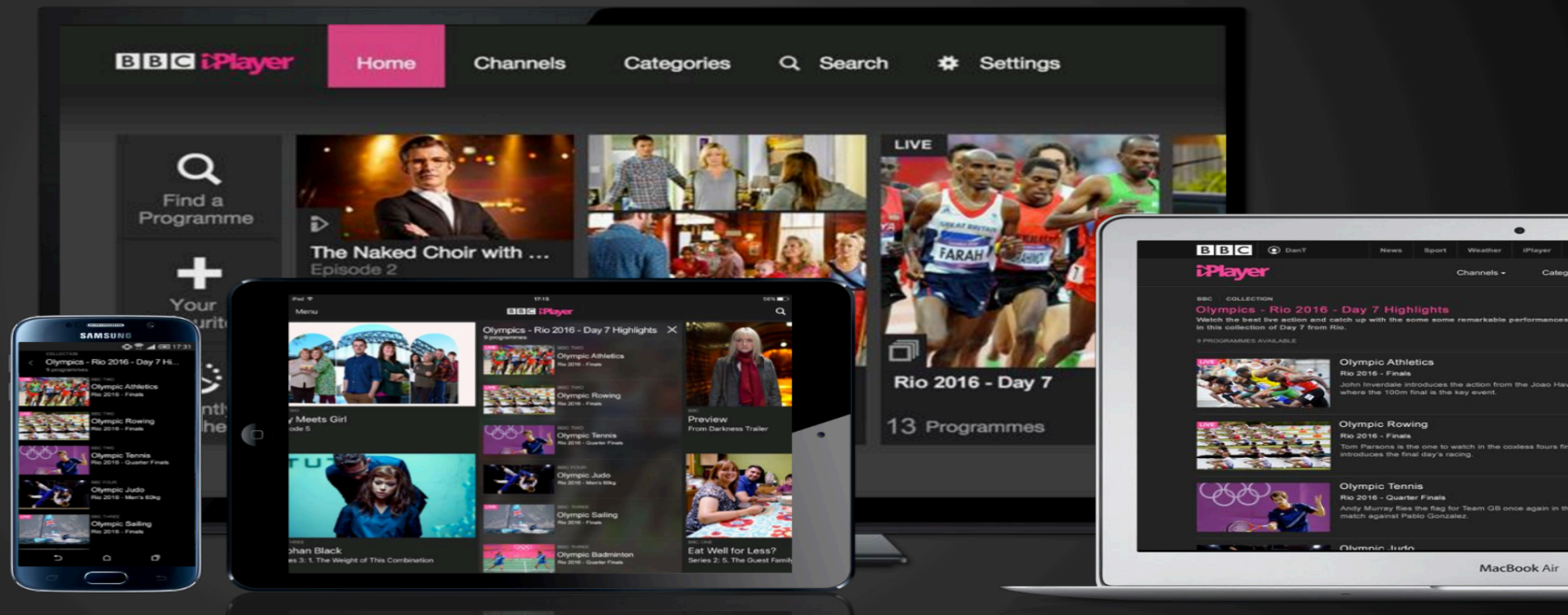
### INCORPORATION

1. The Corporation shall continue to be a body corporate by the name of The British Broadcasting Corporation with perpetual succession and a common seal with power to borrow, alien and receive the same as hereafter; willing and ordaining that the Corporation shall and may use and be used in all Courts and be capable to sue or take and hold real and personal property and the all interests and things incidental or pertaining to a body corporate. Notwithstanding the Corporation shall apply the whole of its income solely in pursuing its objects. The Governors of the Corporation shall be the members thereof.

### TERM OF CHARTER

2. This Our Charter shall come into operation on the first day of August One

# BBC Content Offerings



# BBC Content Offerings



# BBC Content Offerings

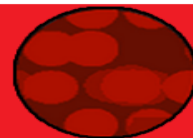


**BBC**

100

Friday 26 Sep

**Press SELECT for  
Rio 2016**



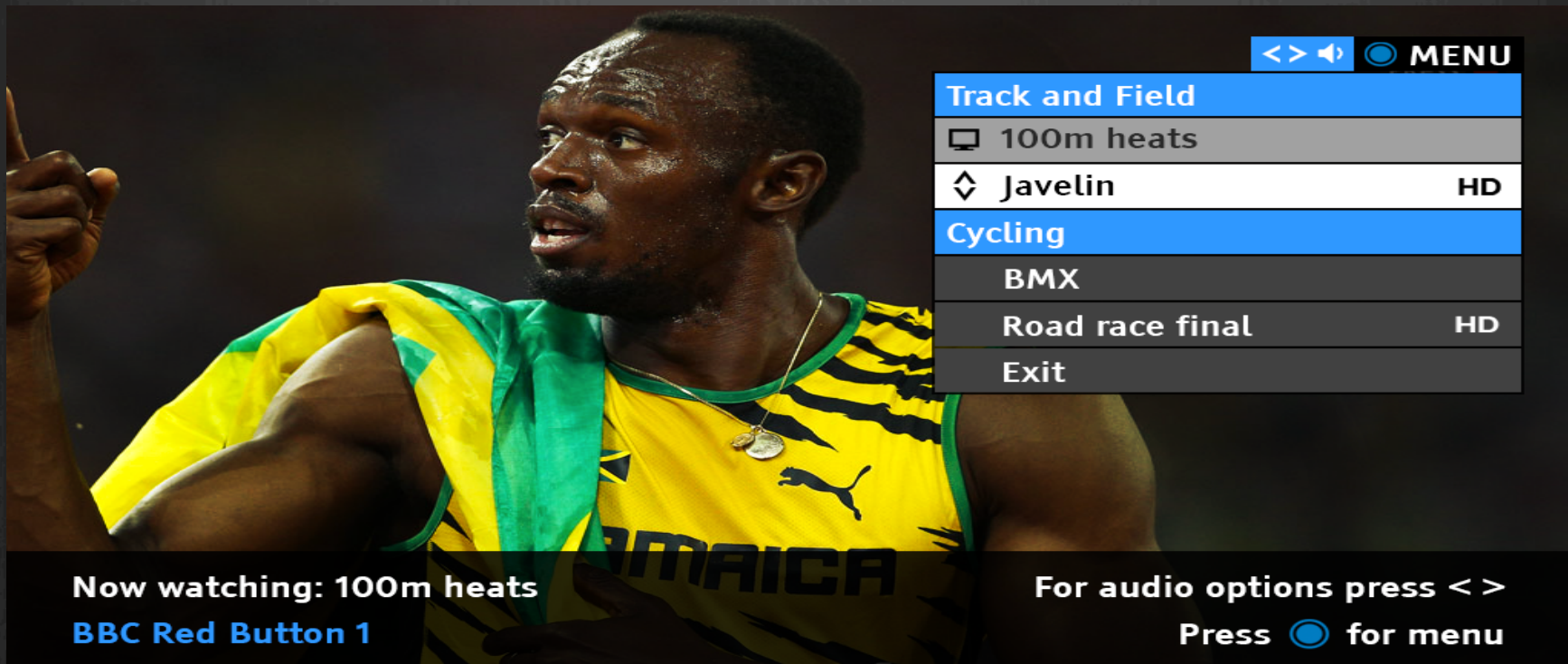
News Index	102
Sport Index	300
Weather	400
Lottery Results	555
Travel	430
INDEX	199

**Beat the traffic  
queues: Travel p430**

**To exit press TEXT**



# BBC Content Offerings



< > 🔊 ☒ MENU

Track and Field	
📺 100m heats	
⬆️ Javelin	HD
Cycling	
BMX	
Road race final	HD
Exit	

Now watching: 100m heats  
BBC Red Button 1

For audio options press < >  
Press ☒ for menu

# BBC Content Offerings

**BBC** RED BUTTON

News

Sport

iPlayer

**Featured**

Weather

Lottery

Settings

● Close menu



Rio 2016  
Choose Event



Rio 2016  
Catch-Up



Frank Skinner  
With Ricky Wilson

# Audience impact

21m

One minute or more consumption of red button during the olympics

Source: BARB/TRP Research (1+ minute all digital homes)

# Audience impact

1.2m

Unique browsers for Red Button+ connected service during the olympics

Source: Comscore Digital Analytics



# Audience impact

150-200%

Uplift in unique browsers across a range of devices during the olympics

Source: Comscore Digital Analytics

# Audience impact

69.76m

Media plays on connected TV devices for iPlayer alone August

Source: Comscore Digital Analytics

# Audience impact

47%

Year-on-year increase in media plays for the same month (August)

Source: Comscore Digital Analytics

# Challenges for HbbTv

- What are the challenges HbbTv must overcome to be the king of the mountain market proposition?

# Challenges: Device Fragmentation



# Challenges: Standards conformance



Image: [https://www.eyeonspain.com/userfiles/image/mac75/castells\\_0015%20-%20Copy%201.jpg](https://www.eyeonspain.com/userfiles/image/mac75/castells_0015%20-%20Copy%201.jpg)



# Challenges: Streaming Media



Image: [https://c6.staticflickr.com/4/3135/2340993237\\_955c0ea11f\\_b.jpg](https://c6.staticflickr.com/4/3135/2340993237_955c0ea11f_b.jpg)

# Challenges: Service Migration

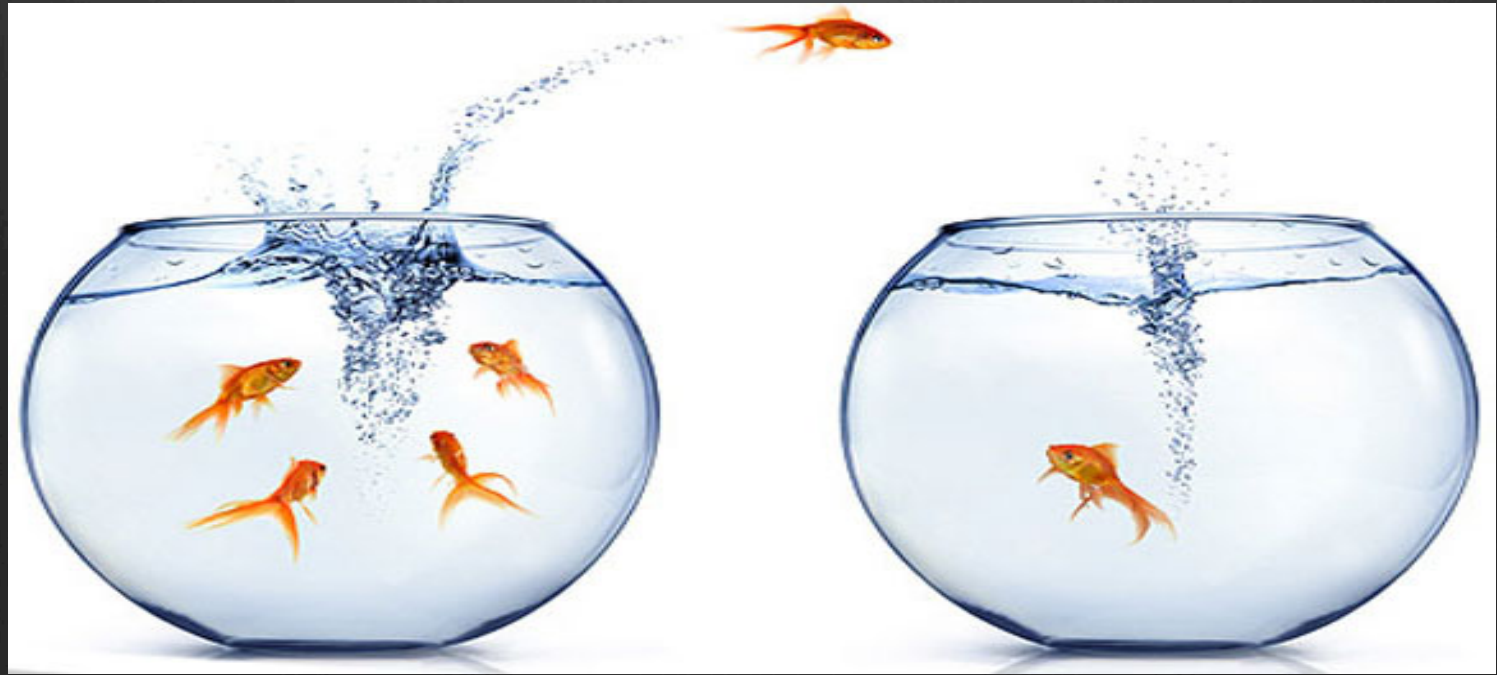


Image: <http://www.owletonline.com/images/services.jpg>



# Challenges: Development



# Challenges: Development



# Our Approach: A certification process

## BBC CATAL - 4.7.1 - lg-tv\_2016\_m2-precert

ABOUT

VIDEO

AUDIO

BROADCAST

NETWORKING

ANALYTICS

STORAGE

RENDERING

ANIMATION

KEYMAPPING

NAVIGATION

EXITING

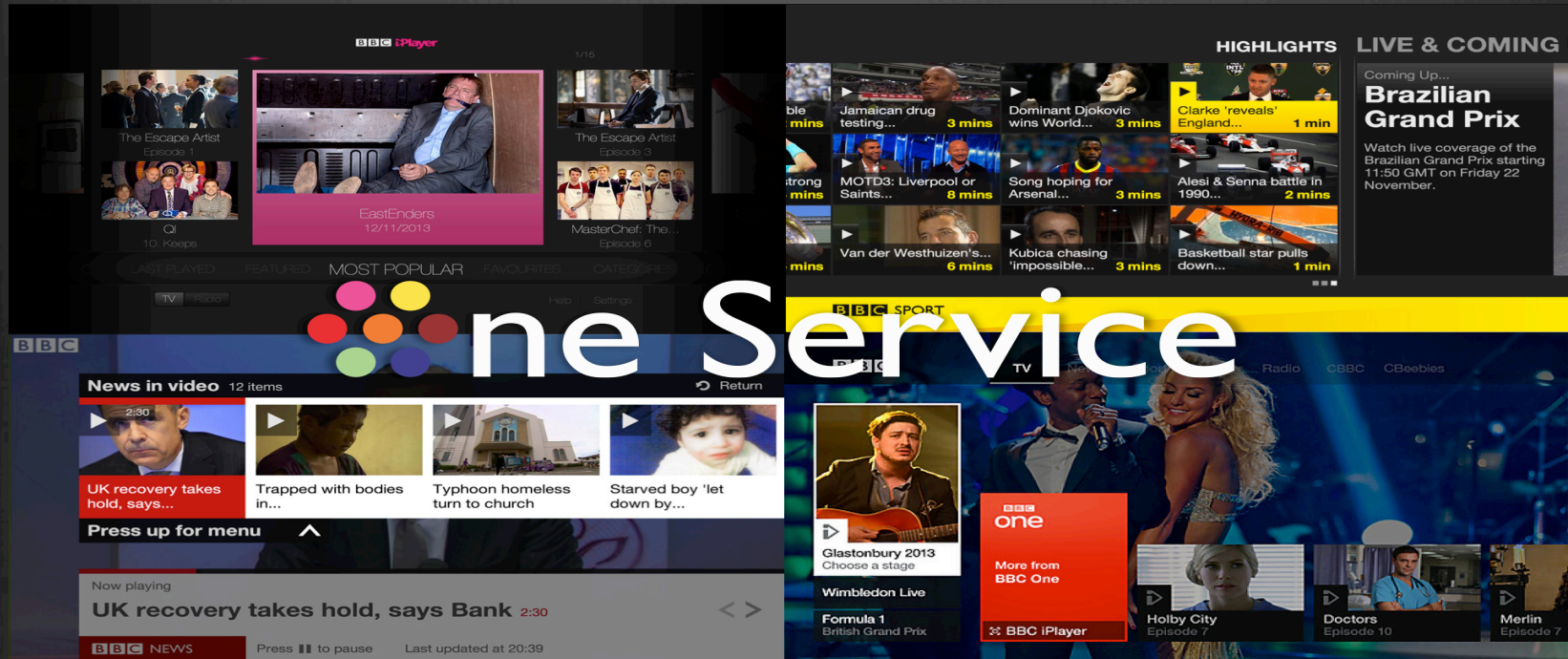
PRODUCT LINKING

EXPERIMENTAL

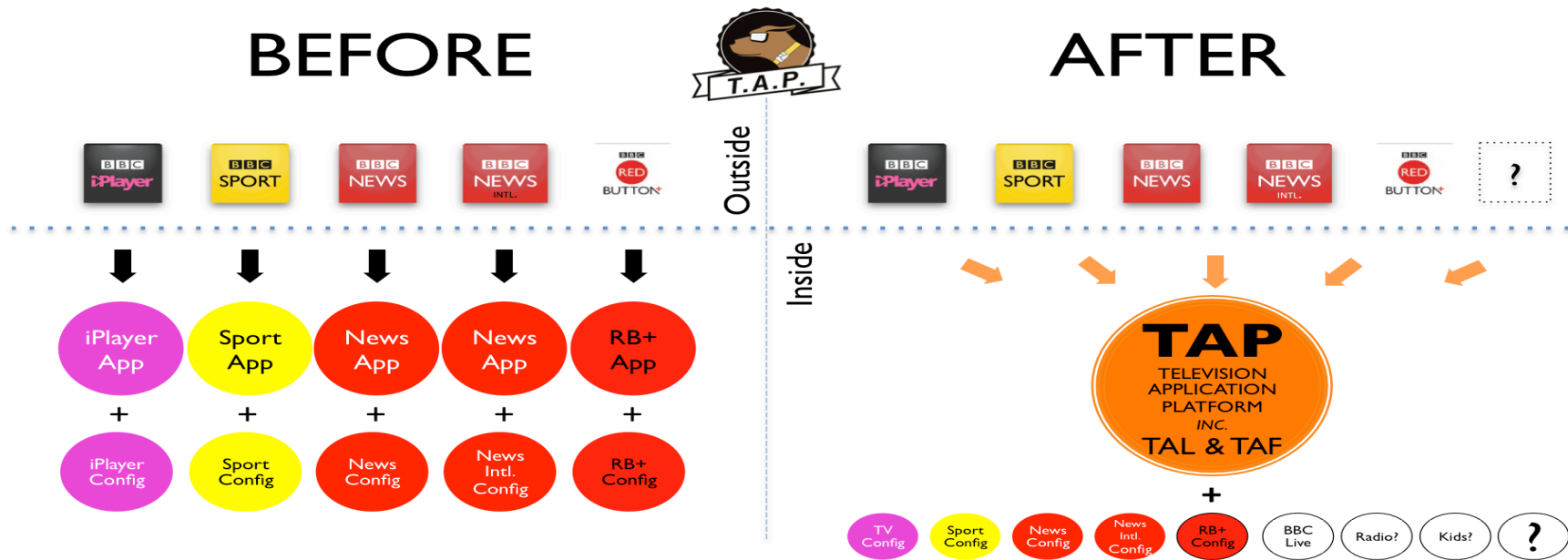
Query string: brand=lg&model=tv\_2016\_m2&config=precert



# Challenges: Multiple products



# Our Approach: A platform product





# Our Approach: A platform product

BBC RED BUTTON+

News

Sport

iPlayer

Featured

Weather

Lottery

Settings

● Close menu



Rio 2016  
Choose Event



Rio 2016  
Catch-Up



Frank Skinner  
With Ricky Wilson

# Our Approach: A platform product

BBC iPlayer

Home

Channels

Categories

Search

Settings



Find a  
Programme



Your  
Favourites



Recently  
Watched

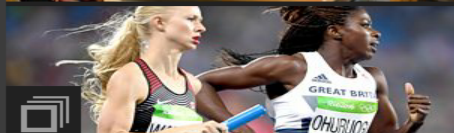
NEW SERIES



People Just Do Nothing  
Series 3: 1. Dubplate



Match of the Day  
2016/2017: 20/08/2016



Most Popular

40 Programmes



Newsbeat Documentar...  
Brought up on Porn



Robot Wars  
Episode 5

Open menu

# Our Approach: A platform product

**BBC** SPORT

⚙ Settings

nd

England

Other Sports

Rio 2016

Home

Football

Formula 1

Cricket



Catch Up  
46 Events



Coming Up  
1 Event



Today's Live  
6 Events



Olympics Playlist: Catch up on Joyce going for...



Japan PM as Super Mario - closing...



Read the latest headlines  
11 Articles



# Our Approach: A platform product

BBC NEWS

Settings

gy

Entertainment & Arts

EU Referendum

< Home >

World

UK

England

Scotland



▶ Watch magnificent Mo do 'double double'



▶ Read the latest headlines

10 Articles



▶ Rooney 'angrier' after seeing BBC relay video



▶ 26 miles, a slip, then a few press-ups



▶ Sussex school fire 'challenging'



▶ The gig that broke Canadian hearts



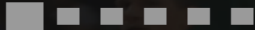
▶ CHTE SPEAKS OUT AFTER RIO SCANDAL  
Lochte: 'It was my fault'

● Open menu

# Our Approach: A platform product

Basketball: Men's final - United States win gold

SILVER - Boxing: GB's Joyce beaten by France's Yoka in super heavyweight final



Men's Final - USA v Serbia

Full coverage. America looks good for a third gold in a row having seen off old rivals Spain. But challenges Serbia...  
⌚ Duration: 153 mins

● Open menu

Future: Beyond MHEG





# Future: Audience expectations



# Future: Audience expectations



# Future: Cross device integration



# Summary

- HbbTv with its linear broadcast integration is a compelling offering
  - Standards and adherence to them are vital for a vibrant ecosystem
  - People expect a broadcast quality experience from a TV
- Content producers have to think multi-platform