

Technology of Broadcast Radio

Nick Piggott,
Project Director, RadioDNS



A collection of colorful cubes, each featuring a different social media logo. The logos include WhatsApp (green), Twitter (blue), Snapchat (yellow), YouTube (white with red), Instagram (purple and orange), and Facebook (blue). The cubes are arranged in a cluster, with some overlapping. A semi-transparent grey rectangular box is overlaid on the center of the image, containing the text.

Can broadcast keep up with
changing listener expectations?

🏠 > News

Radio will never die as long as there are lazy listeners like me around

ELEANOR DOUGHTY

18 JUNE 2018 • 2:25PM





Theo31337 > Jason Torchinsky
2/12/18 5:23pm



39



“2500 miles on my new Jeep and it’s pretty much useless...”

Not having a few features doesn’t make the car useless. It’s ridiculous how people put more focus on the peripheral features of the car than the actual car itself.

↳ Reply



smmy15643 > Theo31337
2/12/18 5:25pm



60



It doesnt have a working radio... That would drive me insane I drive over an hour to work, and a car with no radio, thats useless to me.

↳ Reply

Device

**A listener's expectations are
shaped by the media
experiences around them**

Distribution

Experience

Isolated Markets, Little Media Choice



Connected Markets, Infinite Media Choice





AM

FM

DAB+



Big

Reliable

Cheap

**How does radio compete
with “infinite”?**



Digital Radio

Increases consumer **variety**

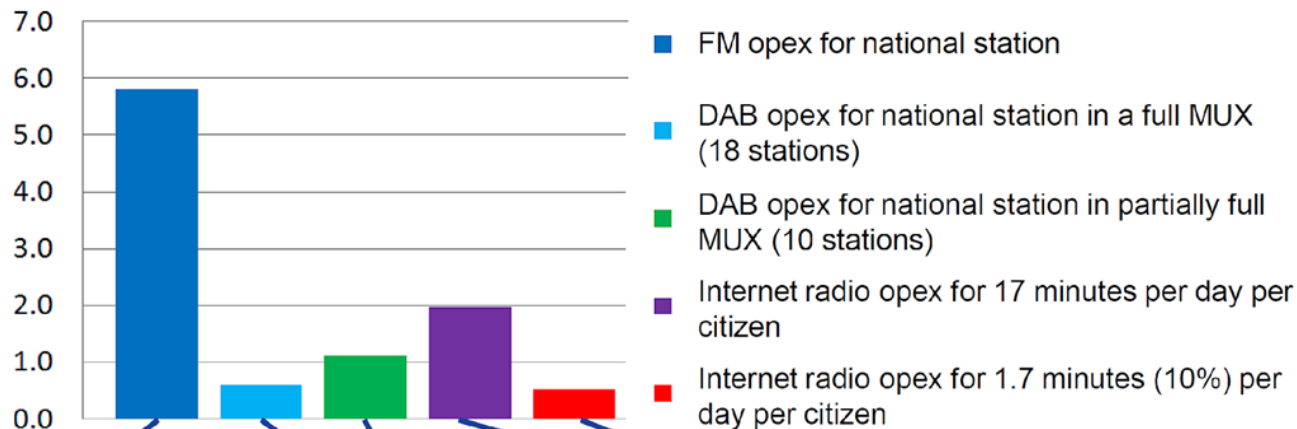
New stations \neq **More competition**

5x stations \neq **5x cost**

Costs $<$ **FM** and $<$ **Internet**

RADIO DISTRIBUTION COST ANALYSIS

OpEx comparison in M\$



FM is by far the most expensive distribution technology

Due to multiplex technology, DAB is inexpensive. In the best case it could be 10 times cheaper than FM

The expense for internet distribution is highly variable and can easily grow larger than DAB and similar to FM

Low Cost Digital Radio

Open Digital Radio – Open Source

DAB transmission

www.opendigitalradio.org

Operating across Europe

Fully featured but low cost

UK trials leading to 100+ licences



The 80's

**Absolute
Radio**

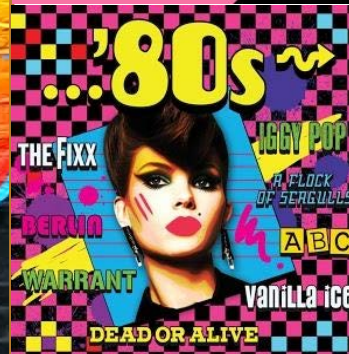


80s

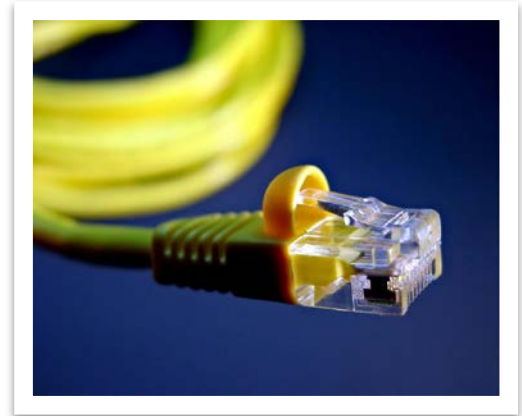
7.257m
hours

heart^{80s}

5.744m
hours



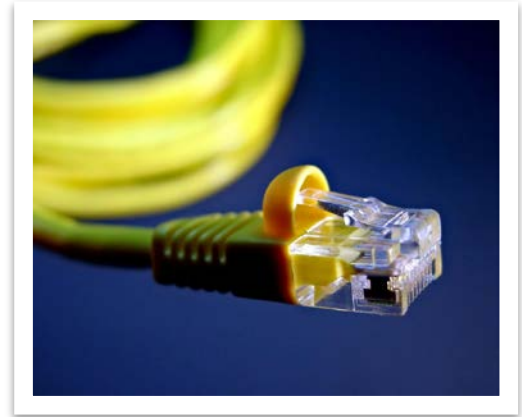
Targeted
Interactive
Valuable



Broadcast



or



Internet?

Broadcast and Internet!

Hybrid Radio



Deliver audio using broadcast
Reliable, ubiquitous, free, economic

Enhance radio using IP
Add content, metadata & interactivity





Improve the experience of radio



Improve the value of radio

Interactivity

Improve the variety of radio



Reduce distribution costs

Improve reception quality

Radio **DNS**®

HYBRID RADIO

The RadioDNS Ethos

Hybrid Radio that is as **open** as broadcast radio

Open Standards and Interoperability **protect**

broadcasters and manufacturers

Durable - our technology will last for ever

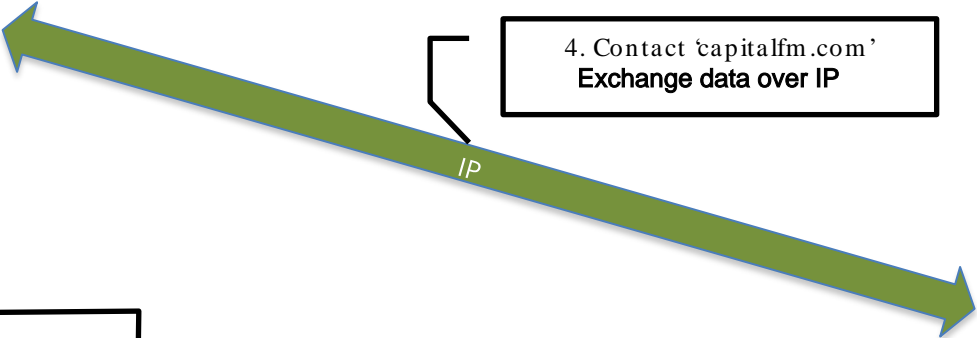
We are a **not -for -profit membership** organisation



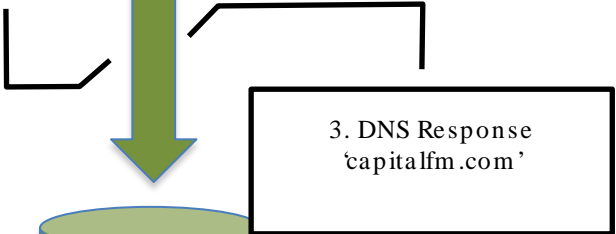
1. Existing Identifiers
(e.g. f=95.8MHz, PI=c479)



4. Contact 'capitalfm.com'
Exchange data over IP



2. DNS lookup
'09580.c479.ce1.fm.radiodns.org'



Capital FM
95.8MHz
DAB+
capitalfm.com



Works Best

Looks Worst

Presence

Prominence

MEDIA

RADIO

PHONE

NAVI

MUTE



VOL

Radio

USB Wi-Fi Mar-17-2013 15:01

FM-AST

◀ Preset 1 CAPITAL ▶
TP POP M

FM AST SCAN
AM PTY SETTING
RadioDNS HOME

95.8 MHz

98.8 MHz

93.1 MHz

97.4 MHz

100.4 MHz

102.4 MHz

AUDIO

▶/||

▶▶

◀◀

SET



TUNE

SD/MAP

MIC

Metadata over IP

Describing your **station** accurately

Name, description, logos, frequencies

Describing your **programmes** accurately

Names, times, presenters, synopsis, keywords

Live and On -Demand / Podcast

Makes radio **searchable**

Essential for accurate **voice control**

Station Logos



Switch Broadcast / Stream

Broadcast Radio

Audio



IP

Streaming
Audio



Visuals

Making radio look great on high quality screens

Screens - Getting Better

'Standard' Resolution (320px x 240px) is far **too small**

Dynamic Resolution is quite easy to achieve over IP

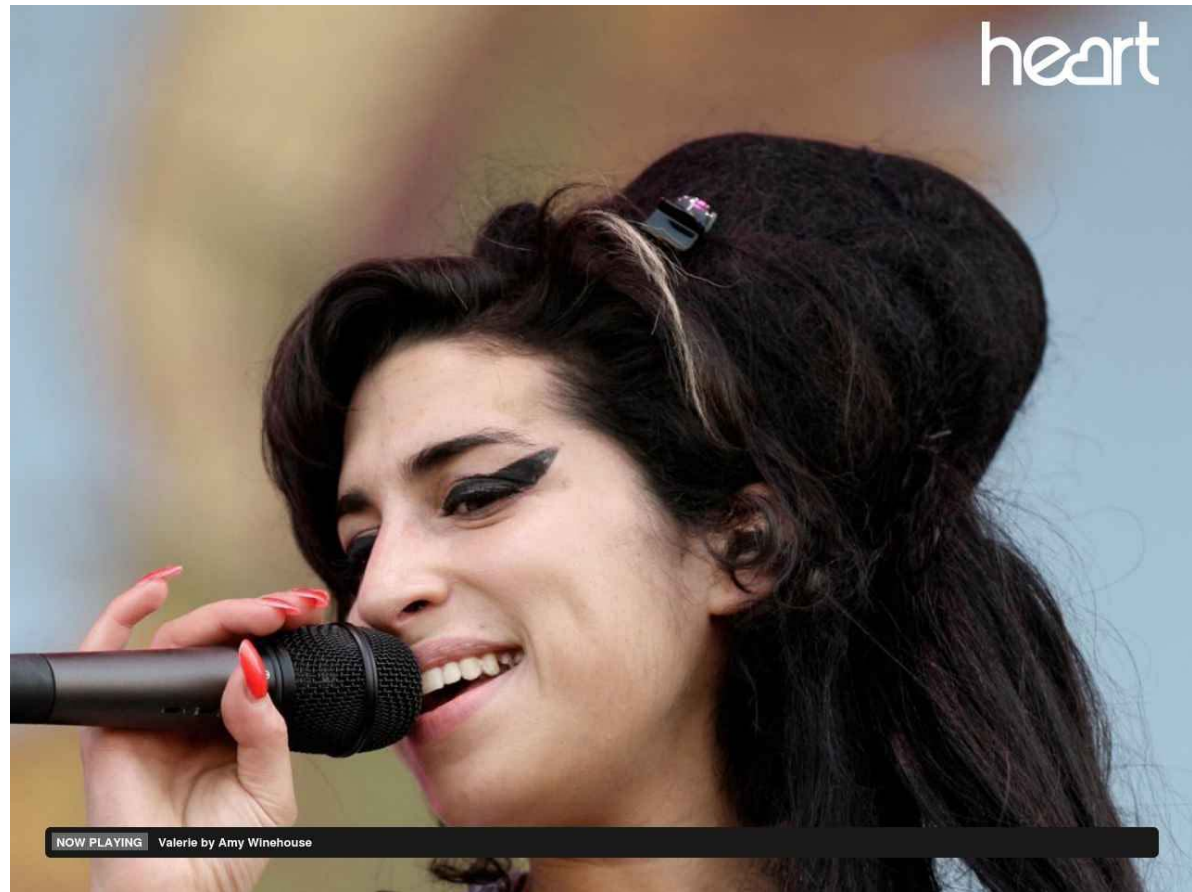
(e.g. HTML5 and phantom.js)

Visuals can also be used on **other platforms**

(e.g. Apps, On-line, Connected TVs)



320px x 240px



1280px x 960px



Interactivity

Capturing interest in radio

Interactivity over IP

Radio generates **peaks of interest**

Capture , measure and respond to listeners' interests

Physical button – **push when you hear something**

Speech command - “OK Car, this is **interesting** ”

Insight to share with programmers and advertisers.

Audi A8

RadioDNS[®]
HYBRID RADIO

The Future of Radio in
Connected Cars



Coverage



Gatekeepers

READ ▾

JOBS

PODCAST

ADVISORY BOARD

ABOUT ▾

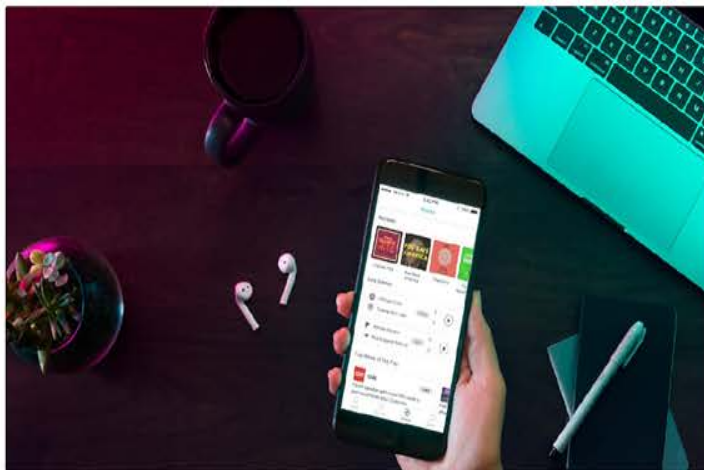
STREAMING AUDIO SERVICE TUNEIN MULLS SALE

30
SHARES



USA JUNE 21, 2018

BY RHIAN JONES



Online radio service TuneIn is exploring a possible sale after enlisting global investment firm Liontree Advisors to help it explore strategic options.

The firm was valued at \$500 million after raising \$50m last year to fund programming

LATEST MUSIC BUSINESS JOBS



CALIFORNIA, UNITED STATES |
FACEBOOK
FACEBOOK – LABEL MUSIC BUSINESS
DEVELOPMENT MANAGER (US)



LOS ANGELES, UNITED STATES | HIGH
TIME
HIGH TIME – CREATIVE SYNC
LICENSING MANAGER (US)



NEW YORK, UNITED STATES | AUDIO
NETWORK
AUDIO NETWORK – MANAGER, MUSIC
LICENSING (US)



LOS ANGELES, UNITED STATES |
KOBALT
KOBALT – RECRUITER, MUSIC &
SHARED SERVICES (CONTRACT ROLE,
US)



NEW YORK, UNITED STATES | KOBALT
KOBALT – RECRUITER, MUSIC AND
SHARED SERVICES (US)

Summary

Summary

Broadcast is a **relevant** , scalable, technology

Reduces risks of costs and **Internet gatekeepers**

Digital radio delivers **variety** that reduces the draw to streaming

Cost of digital radio are **plummeting**

Hybrid Radio is a **complimentary** , powerful, addition to broadcast

Technology of Broadcast Radio

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radiodns.org // [@RadioDNS](https://twitter.com/RadioDNS)

