



Global Standards for Hybrid Radio

Broadcast

Reliable

Widespread Coverage

Free to receive

Scales very well

One way only

Internet

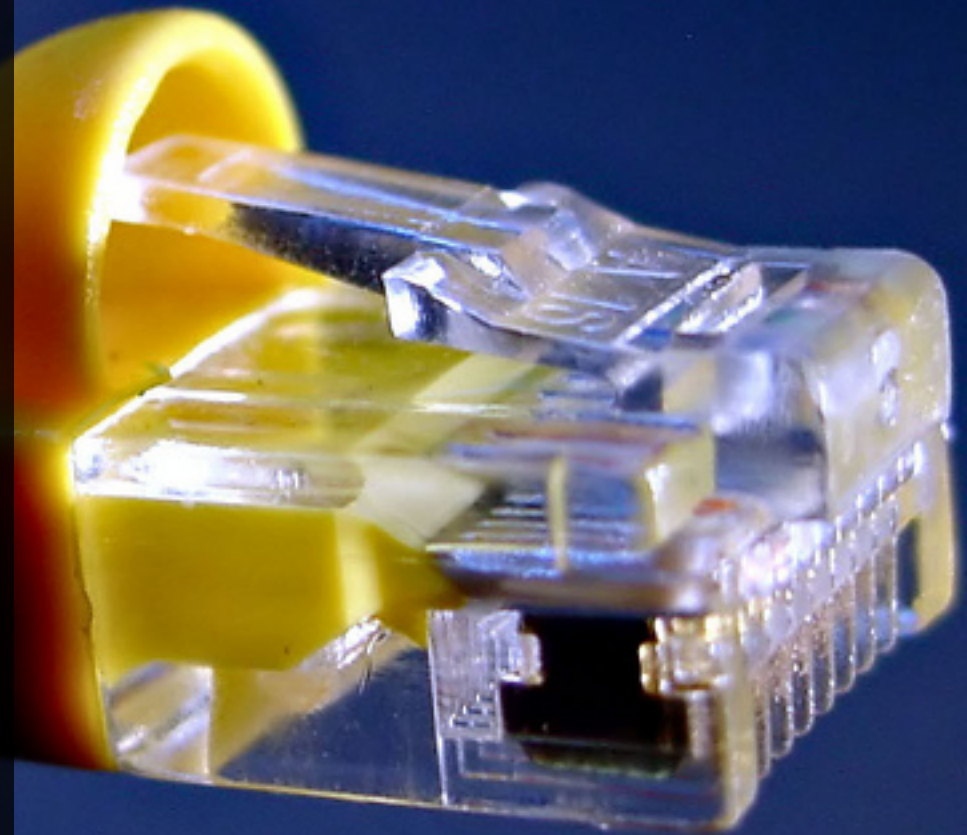
**Interactive
Personalised**

Scaling is expensive

Not free to use

Coverage varies

Speed varies



Broadcast or Internet?

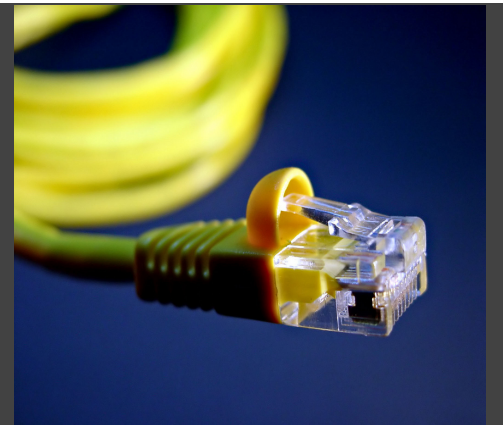
Broadcast and Internet

Hybrid Radio



Broadcast works for the mass market
Reliable, ubiquitous, free

The Internet adds additional value
Enhanced experience



About RadioDNS

- We **promote** Hybrid Radio
- We set **standards** for Hybrid Radio
- We run a **DNS** root server
- We're a **not-for-profit organisation**
- We have **members** globally
- We were **formed** in 2010



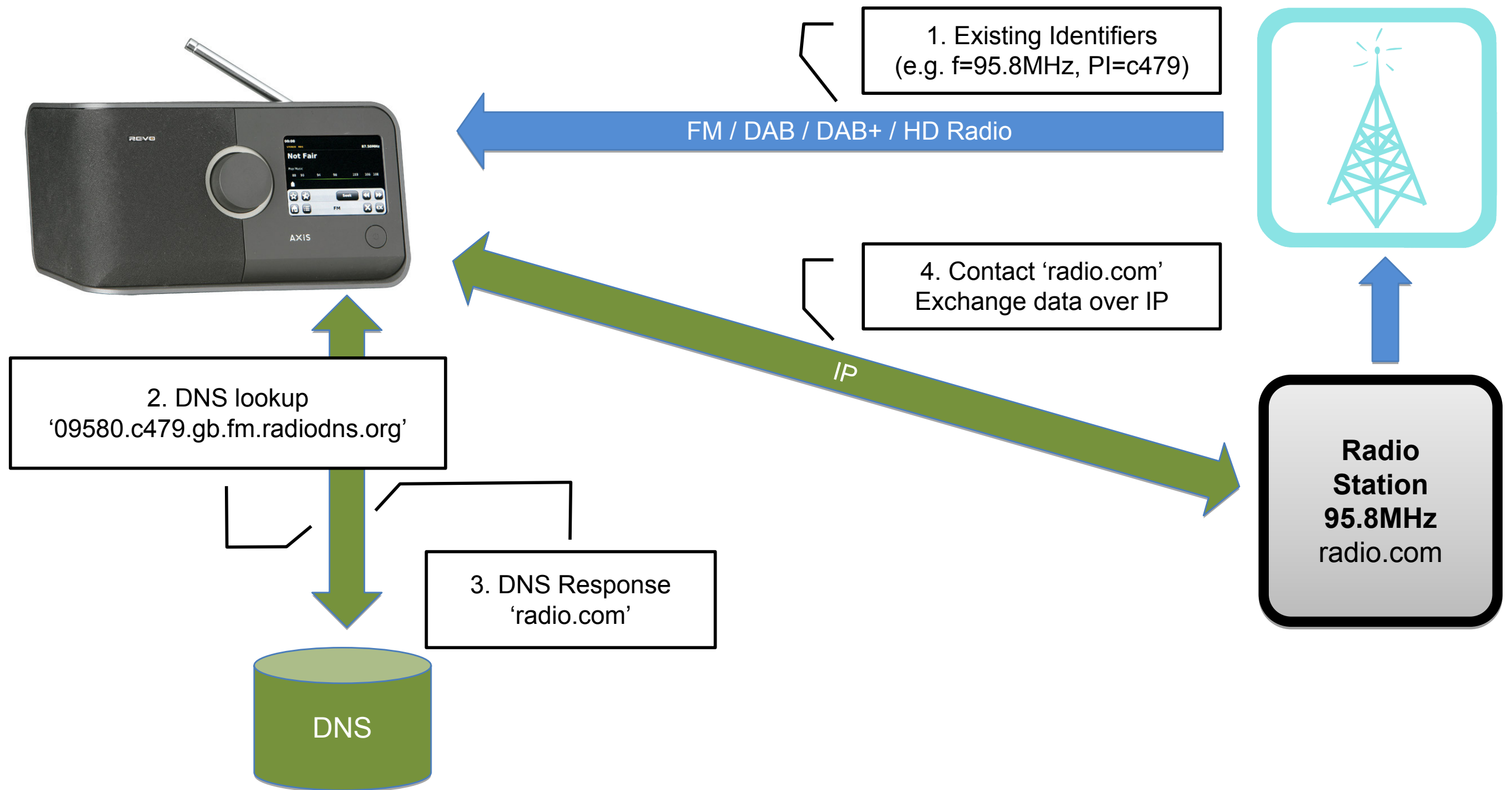
Open Standards for Hybrid Radio

The RadioDNS Approach

- **Simple** technology standards
 - Re-purposing what already exists
- One **global** standard
 - Works with FM, DAB, DAB+, HD Radio
- Based on **DNS** lookups
 - Reliable, scalable
- **Direct** connections to radio stations
 - Nothing passes through RadioDNS



RadioDNS Lookup



Visualised Radio

Dynamic text and images for radio



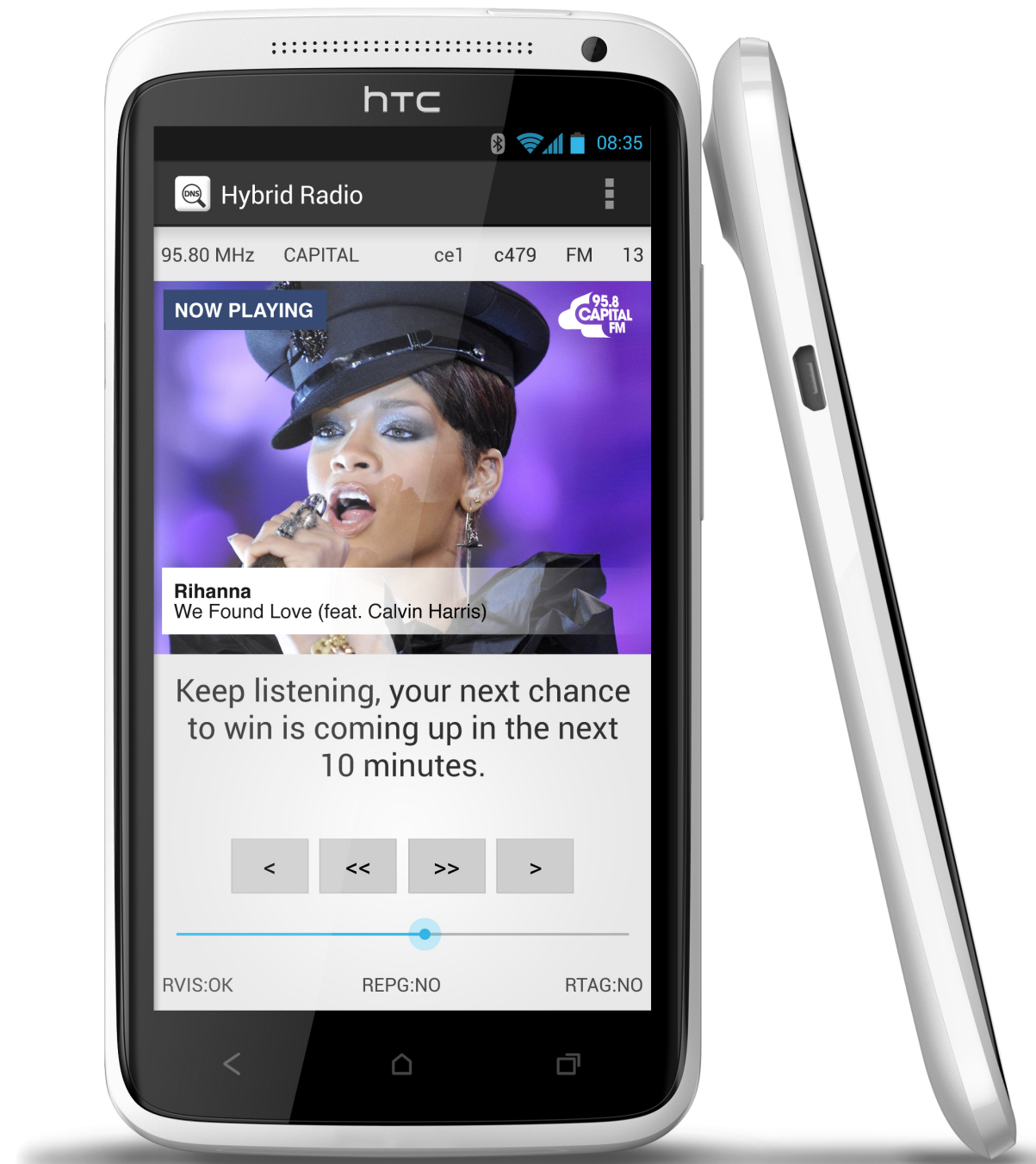


SAMSUNG GALAXY
S5670 FIT WHITE



Visual & Interactive

- Information on music, news, weather, travel
- Images (and text) delivered over IP
- Click-through URL
- Broadcast radio that 'looks like an app'



Station Information

Accurate meta-data for radio



Without Meta-Data



Radio



Capital

Now: The Bassman

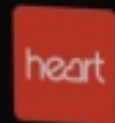
Next: Greg Burns



Classic fm

Now: Jamie Crick

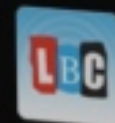
Next: Classic fm Drive



Heart

Now: Nick Snaith

Next: Tim Lichfield

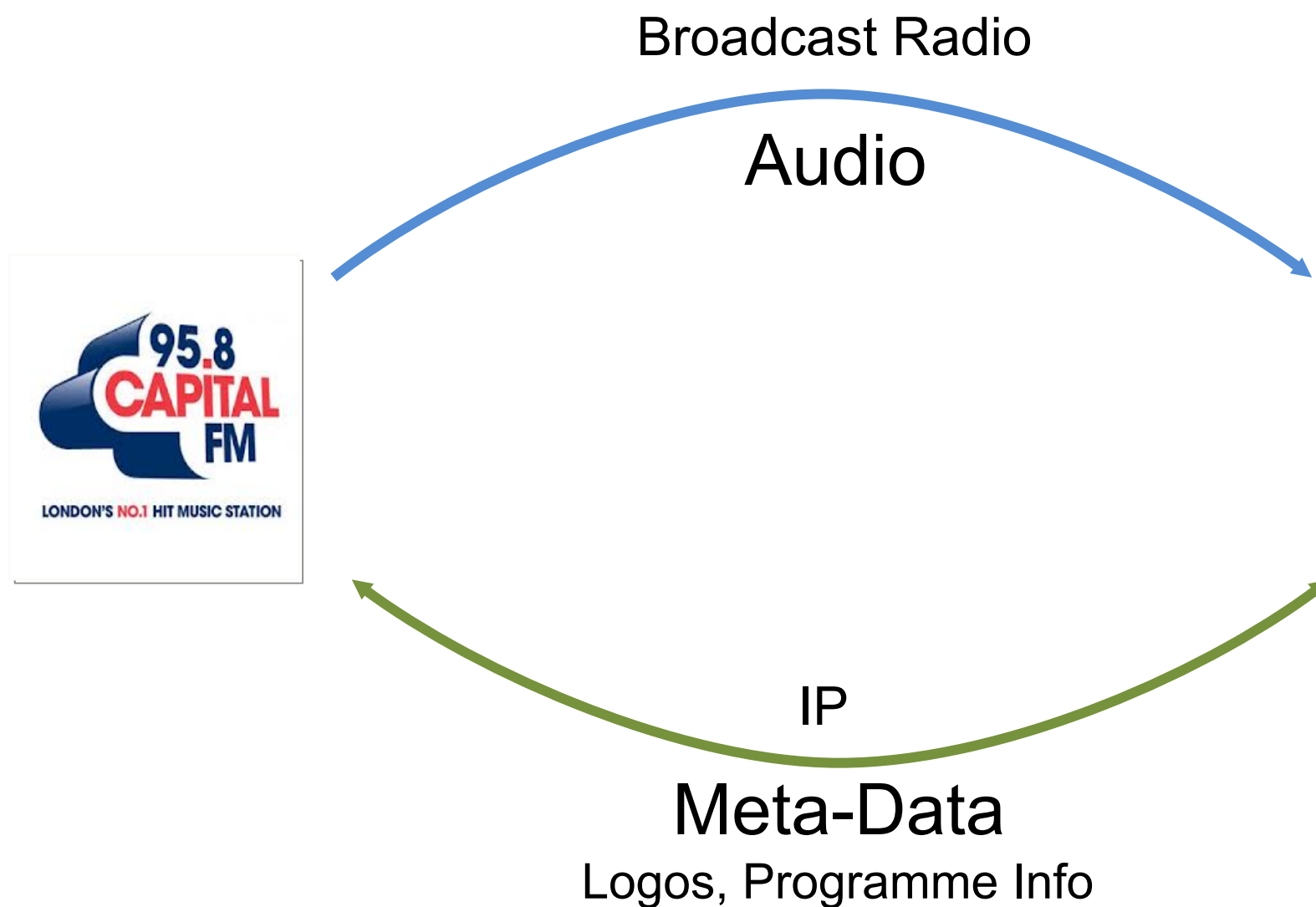


LBC

Now: Julia Hartley-Brewer

Next: James Whale

Station Information

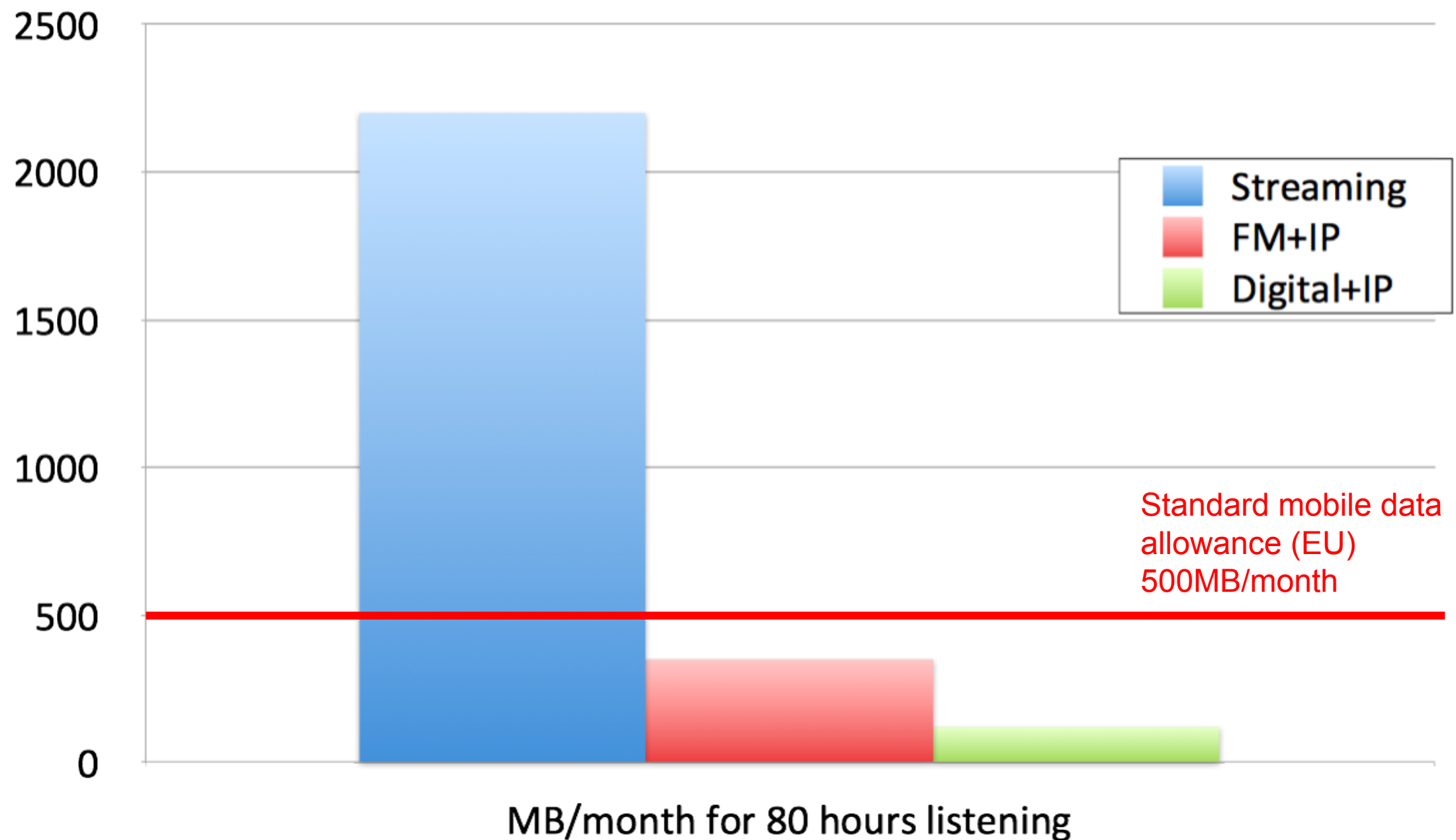


Direct from the radio station to the radio receiver over IP

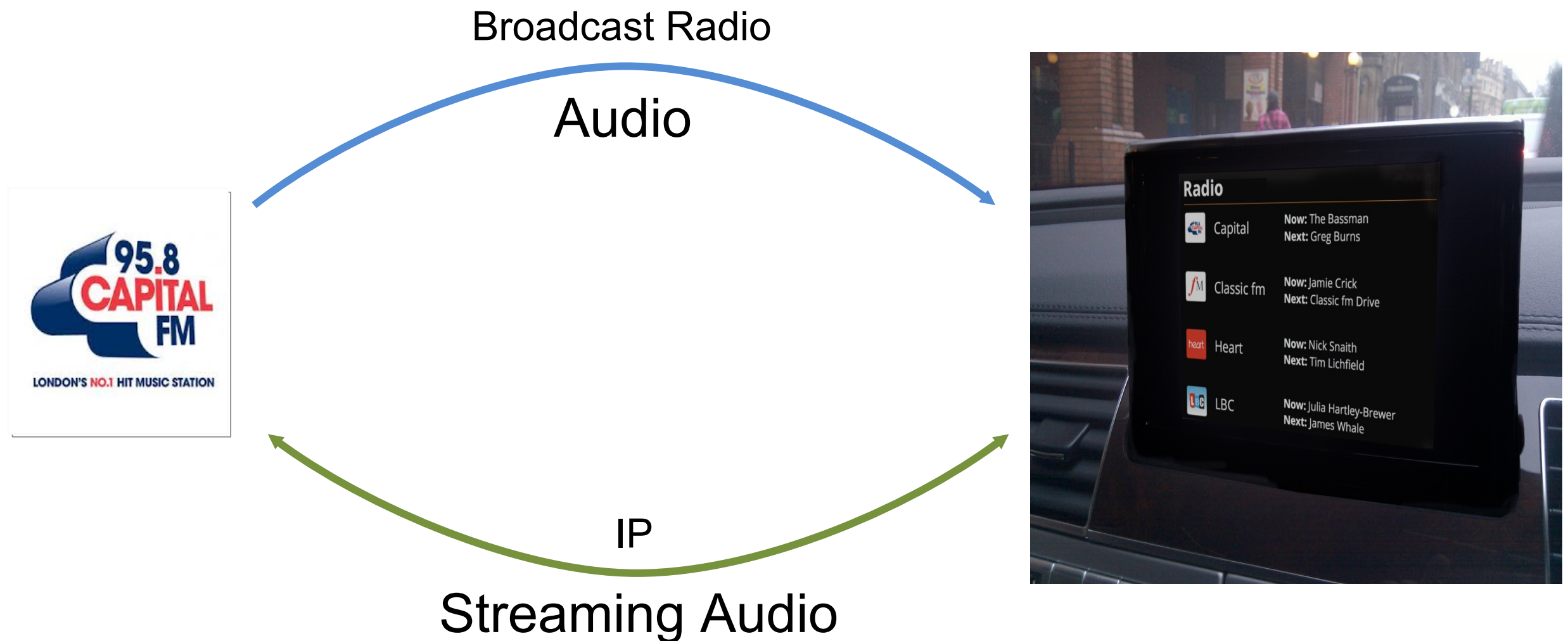
Service Following

Switching automatically between
broadcast radio & IP streaming

Streaming v Broadcast



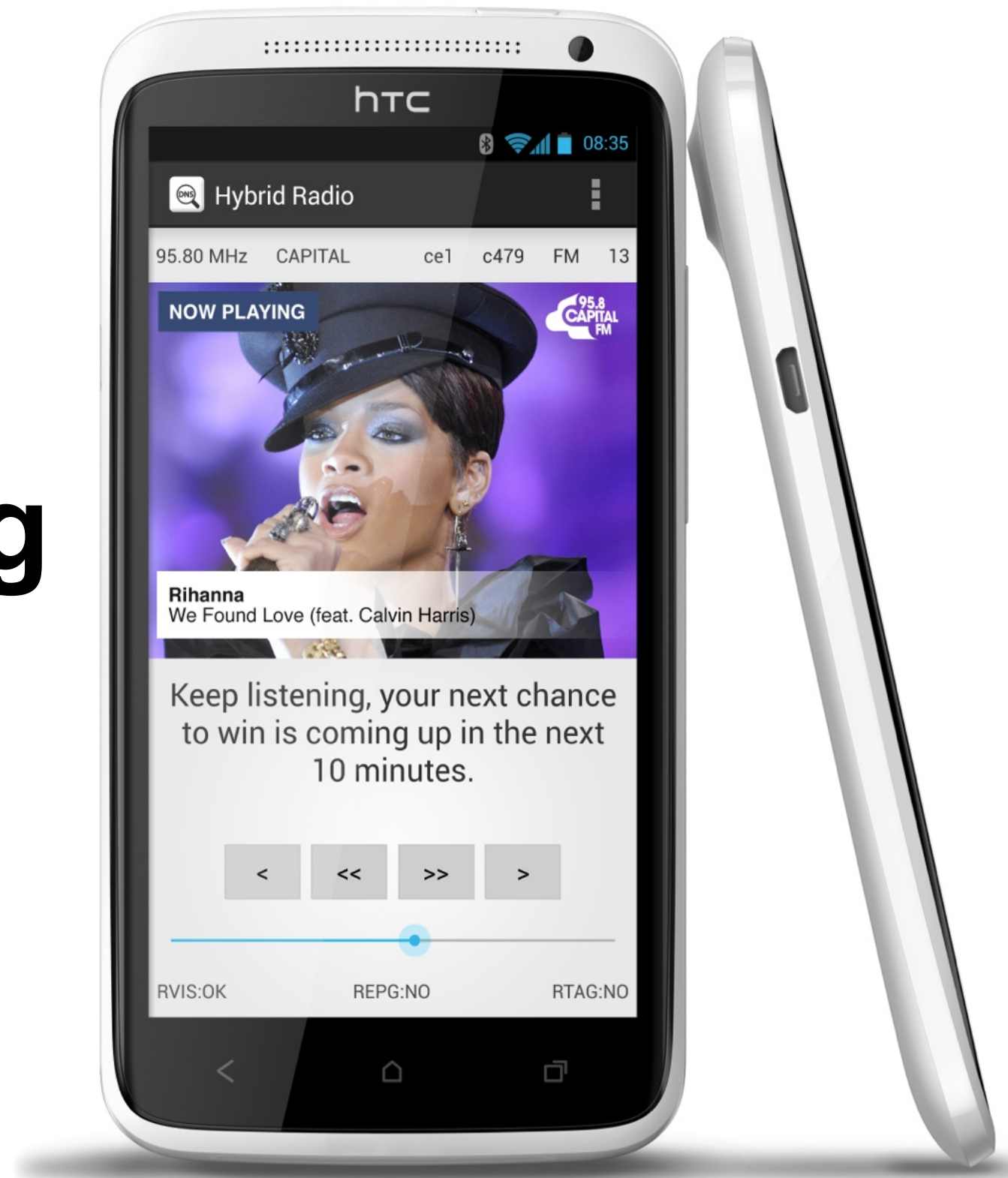
Automatic Switching



Only use streaming when the broadcast signal is weak

FM-IP Switching

Demo Video



RadioEPG Information

```
<?xml version="1.0" encoding="UTF-8"?>
<serviceInformation
  xmlns="http://schemas.radiodns.org/epg/10"
  xmlns:epg="http://www.worlddab.org/schemas/epgDataTypes/14"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://schemas.radiodns.org/epg/10 http://schemas.radiodns.org/epg/10 /radioepg_xsi_10.xsd"
  creationTime="2013-01-21T10:23:00"
  originator="Clear Channel Media and Entertainment"
  serviceProvider="Clear Channel Media and Entertainment" xml:lang="en">
```

XML Document Preamble

Includes boilerplate information about the document and the Provider of the document (in this case, Clear Channel).

```
<services>
  <service>
```

```
    <epg:shortName xml:lang="en">KSNE</epg:shortName>
    <epg:mediumName xml:lang="en">Sunny 106.5</epg:mediumName>
    <epg:longName xml:lang="en">Sunny 106.5</epg:longName>
    <mediaDescription>
      <epg:shortDescription xml:lang="en">
        Sunny 106.5 Las Vegas The Best Variety of Yesterday and Today
      </epg:shortDescription>
    </mediaDescription>
    <mediaDescription>
      <epg:multimedia url="http://www.ksne.com/template/masthead/sunny-106-51.jpg"
        type="logo_unrestricted"
        width="180" height="138" />
    </mediaDescription>
```

Descriptive Elements

Station names, descriptions (in different lengths).

Logos in different sizes and image formats.

```
    <epg:genre href="urn:tva:metadata:cs:ContentCS:2004:3.6.4.5">
      <epg:name>Classic/Dance/Pop-rock</epg:name>
    </epg:genre>
    <epg:genre href="urn:tva:metadata:cs:ContentCS:2004:3.1.1.11">
```

Station Genre

List of genre for this station

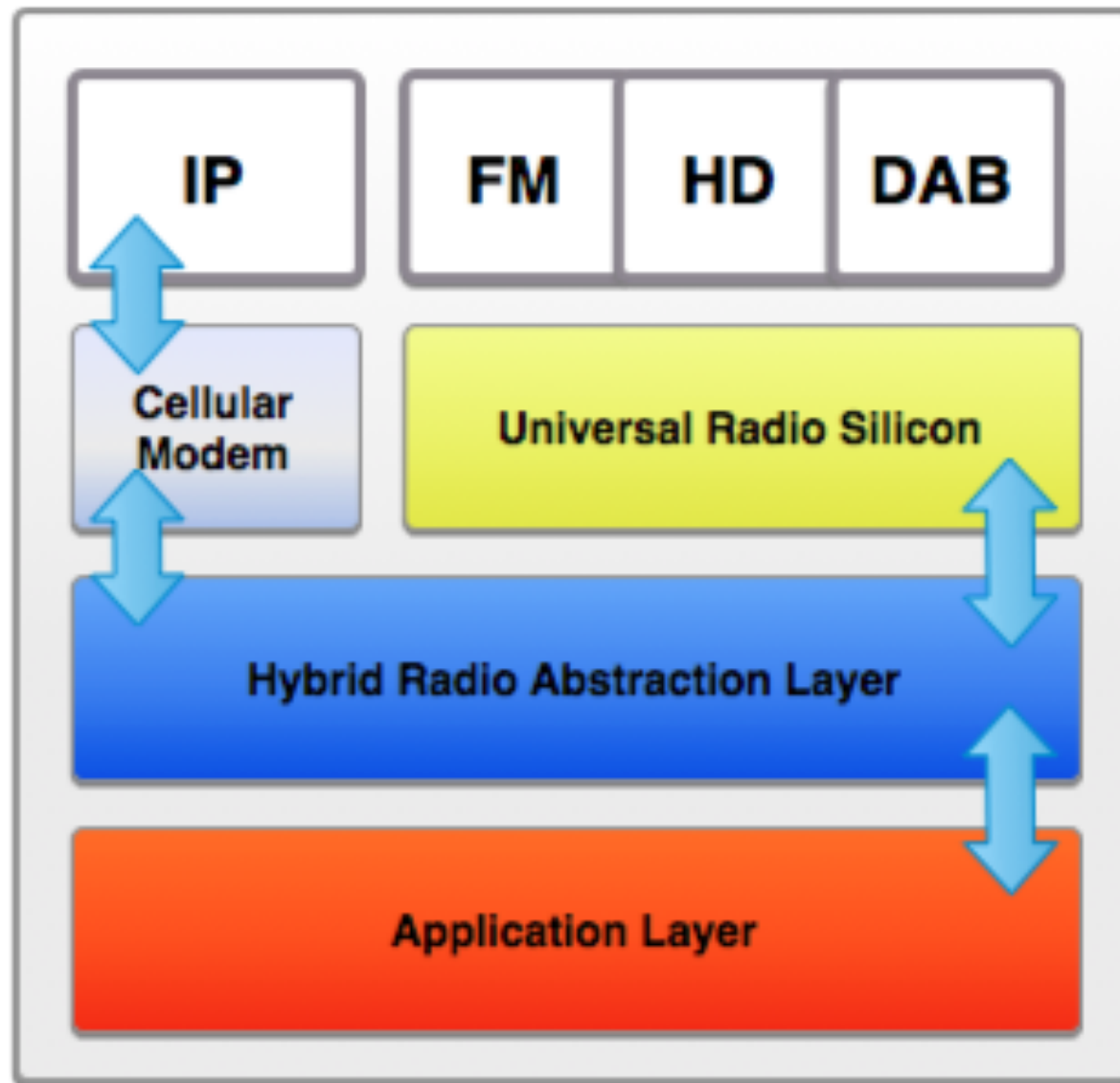
RadioDNS Applications

- Other applications being developed
- Interactivity and Tagging



- On-Demand Content
- Single Sign On / Authentication

Hybrid Architecture



- Abstracted APIs
- App-friendly
- Scan
- Services List
- Event Information

Summary

- Hybrid Radio **combines** broadcast radio and IP seamlessly
- Deliver **audio over broadcast**
- Deliver **some** meta-data over broadcast
 - RT, DLS, Slideshow, Artist Experience etc.
- Deliver **more** meta-data over over IP

RadioDNS in Europe

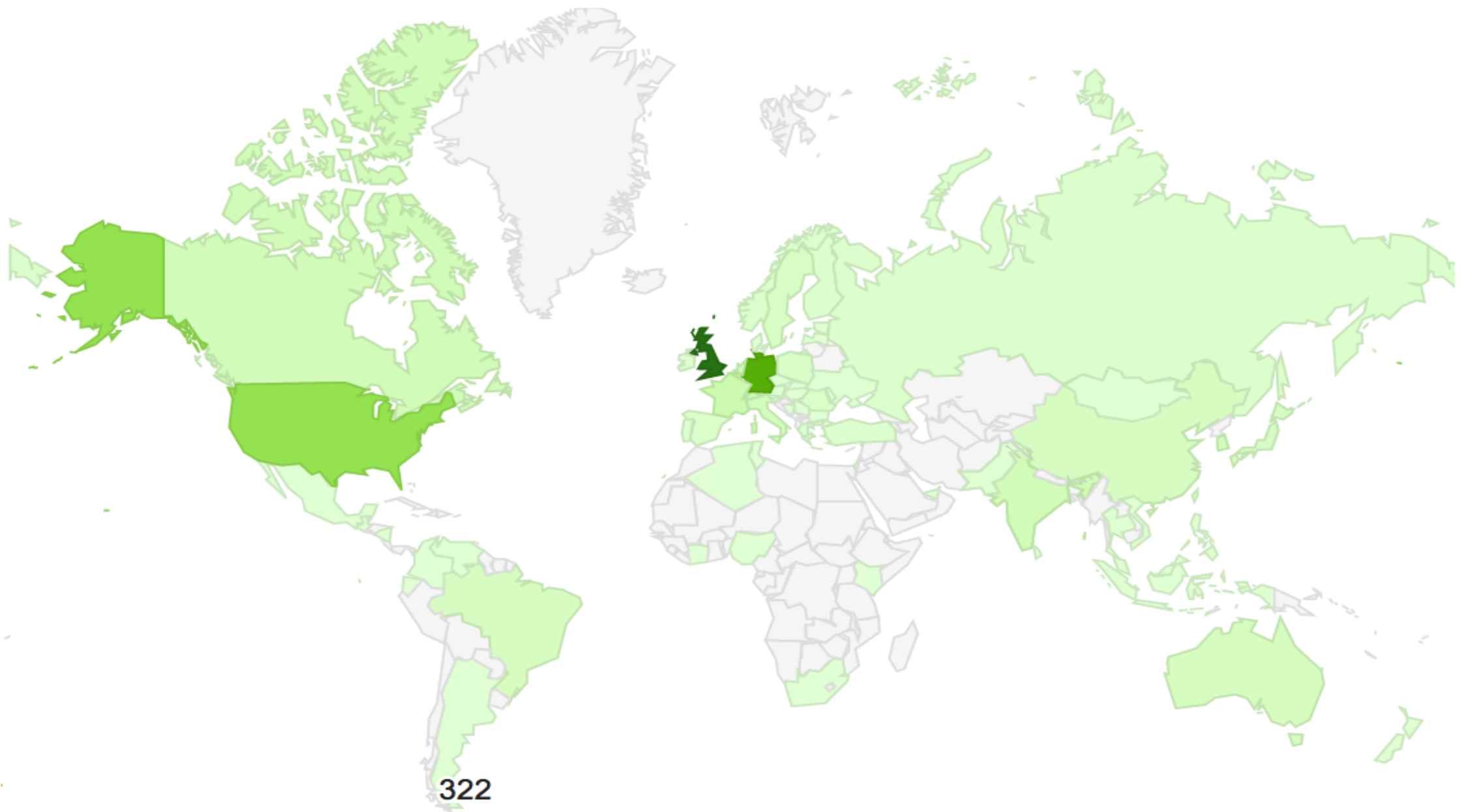


ARD

143m Population
70m Listeners



Global Interest



RadioDNS Members





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