

# *Radio*

Linking Broadcast & IP

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**Radio DNS Project**

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Radio UK



# Connected Radio Devices

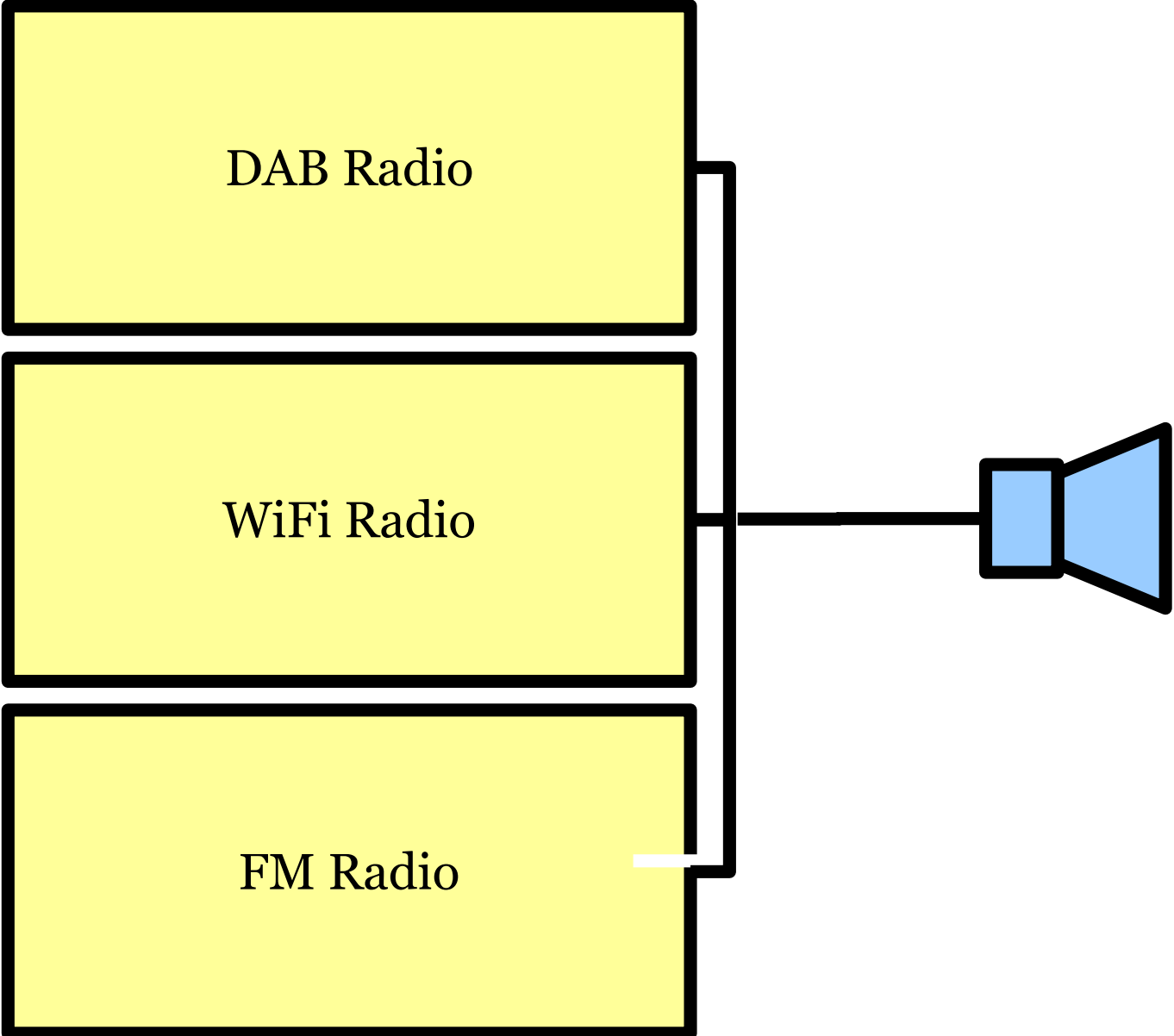


FM, DAB, HD Radio,  
Internet Streaming...

# DAB+FM+WiFi Together



# Three Radios, One Loudspeaker



# What Is Connected?

## Permanent

3G / UMTS / GPRS

Stationary WiFi

Wired / CAT 5

## Intermittent

Roaming WiFi

Docking with PC

# **Making the Connection**

## **How to make the link between**

The Radio Station's Broadcast Service

The Radio Station's IP / Webservices

Not necessarily the station's website, but  
web-services offered by that station

**Transmit a new meta-data field?**

# **New Meta-Data Field?**

## **Infrastructure Implications (UK)**

1,000+ of FM transmitters / RDS encoders

50+ DAB multiplexers

## **Standards Implications**

DAB, FM RDS, HD Radio, Internet Streaming...

# Meta-Data Already Exists

**FM RDS :** (ECC) + PI + Frequency

**DAB :** SCIDs + SID + EID + ECC

**HD Radio :** “FCC Facility Code”

etc...

**Uniquely identifies the originating service**



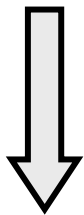
***Radio***  **DNS**

Standard

# Linking Broadcast to IP

Standardised methodology to map existing meta-data information to Internet Domain Names Format

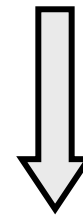
E1 C201 (97.9FM)



**BBC**  
RADIO



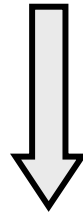
ce1 c185 c586 0



LONDON'S **NO.1** HIT MUSIC STATION

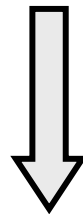
# RadioDNS

09790.c201.ce1.fm.radiodns.org



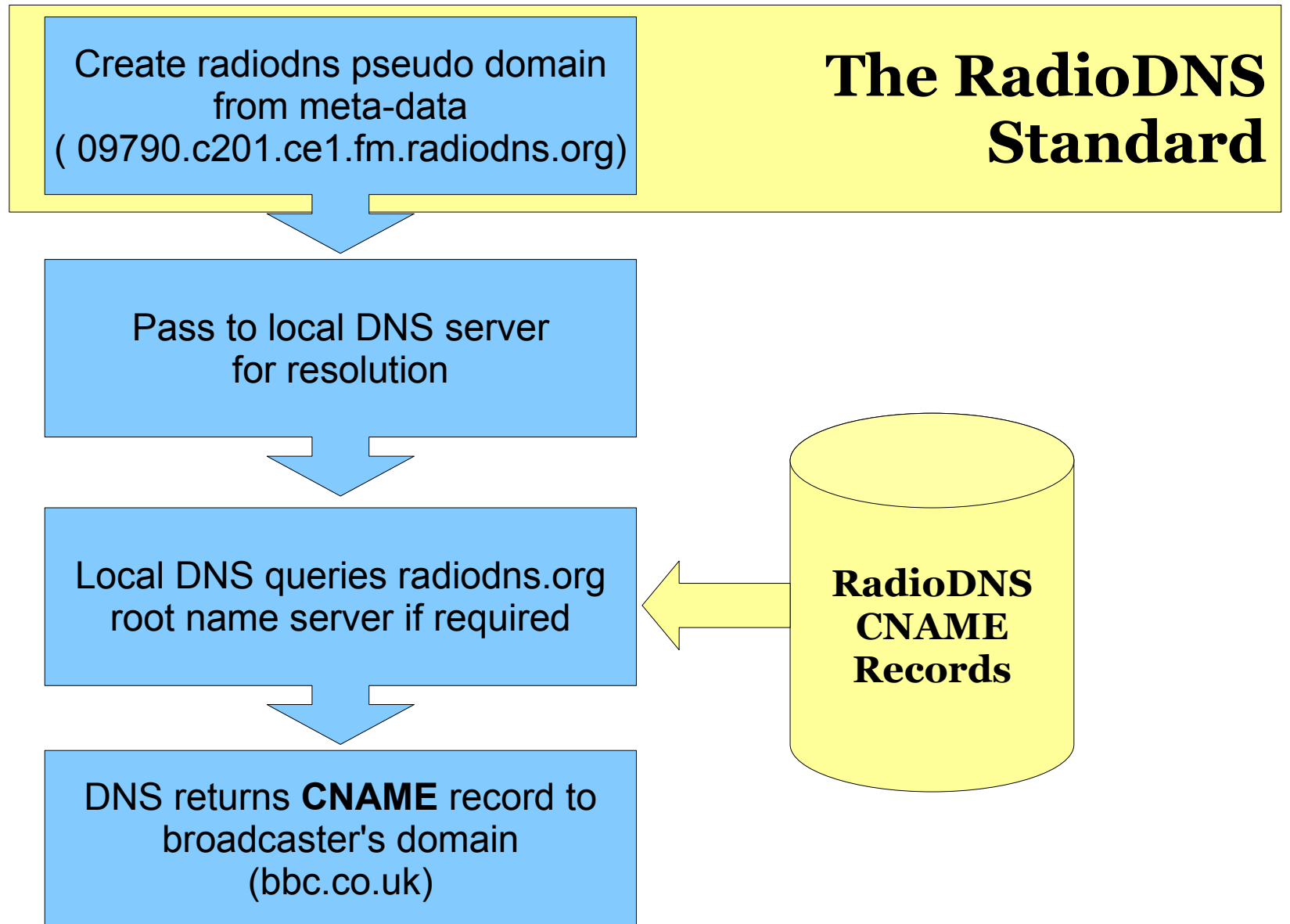
bbc.co.uk

0.c586.c158.ce1.dab.radiodns.org



capitalradio.com

# RadioDNS Process



# **What does RadioDNS enable?**

## **Standardised approach to linking broadcast to IP**

Only holds CNAME (“redirect”) records to your domain – all meaningful data is in your domain

## **Device applications that can automatically seek out IP back-channels**

## **Devices that can be agile between broadcast and IP streaming**

# *Radio* DNS

Applications

# **RadioDNS Applications**

**RadioDNS only specifies HOW to locate webservices**

**RadioDNS enabled applications**

RadioVIS – adding visuals

RadioEPG – adding EPG and bearer agility

RadioTAG – adding simple interactivity

**Other apps could be defined**

**Participation in apps is voluntary**

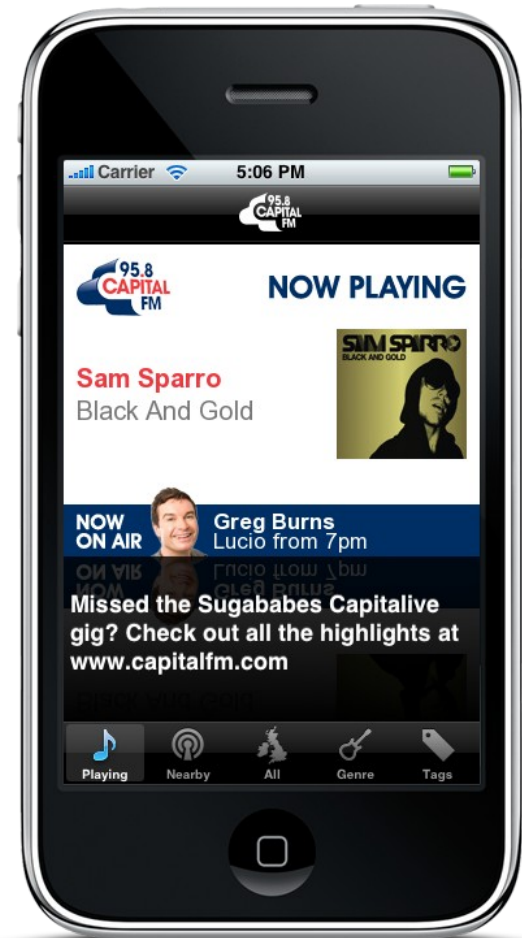
# RadioVIS

**Delivers synchronised  
images and text**

**STOMP messages, HTTP  
retrieval**

**Used by Global's mobile  
apps (iPhone, Symbian)**

Located with a `_radiovis._tcp`  
SRV record on your domain





# RadioEPG

## EPG data for broadcasts

Inspired by TV Anytime / DAB EPG XML

## Multi-bearer

Swap between FM, DAB and Streaming

## “Universal Preset”

Located with a `_radioepg._tcp` SRV record on your domain

# RadioTAG

**Relays a time-stamp event to the broadcaster**

**Broadcaster converts this to meta-data, returned on IP**

**No “over-the-air” meta-data transmitted**

Located with a `_radiotag._tcp` SRV record on your domain



# *Radio* DNS

Project

# What is RadioDNS?

**Community / not for profit project**

**No proprietary standards, no IPR\***

**Run by broadcasters, for broadcasters**

**Equitable (but verified) access to add stations to the RadioDNS database**

**117 companies on our announce list**

Broadcaster, Manufacturers, Technologists

\* no contributing organisation has declared IPR interests, and the RadioDNS project is not aware of any existing IPR in this area, but this is not a definitive statement.

# **Status of RadioDNS**

## **Limited coverage alpha operating now**

Resolves (nearly) all UK broadcasters – FM & DAB

## **Implementations by broadcasters**

Global & BBC RAD have trialled publicly

## **Implementations by manufacturers**

Device launch this year using RadioDNS

## **All documents for review on the website**

# **RadioDNS Developments**

## **Formalisation of the project during this summer (2009)**

Announcements will be made shortly

Creation of a Steering Board & Structure

Process for adding new services to RadioDNS

## **Inviting broadcasters to submit more entries to the trial database**

CSV file submission

# Join RadioDNS

Find out more about RadioDNS

[www.radiodns.org](http://www.radiodns.org)

**“announce” list**

information about the formalisation of the structure  
announcements about RadioDNS developments