UKNOF4
BBC Multicast Progress and Experiences

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Research and Development

BBC

Progress: Launched

- Formal launch was 2006-02-23

- http://www.bbc.co.uk/multicast/

- Other broadcasters joining in too

- Not quite 'production' service - but not disappearing - BBC has made a commitment to broadband.

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So what's new?

- High quality streams of all the channels. Encoded from SDI to WM/Real 365Kbps. 1.25Mbps H264. 6Mbps MPEG-2 (from DTT). 20-30Mbps HDTV.

- Technical trail while we're still learning

- New section on main BBC website - http://www.bbc.co.uk/multicast/

- - with links to ISP participants

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Whats available

- BBC One / Two / Three / Four / News 24 in Real / WMV / H264 / MPEG2

- ITV 1 / 2 / 3 / 4 / Local in WMV

- Radio 1 / 2 / 3 / 4 /5 / 6music / bbc7/ World service (various). Real & AAC

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Problems learnt from

- Just about anything that can go wrong, at layer2 and layer3, will. (RPF, no PIM, etc)

- Cisco - IGMP snooping enabled by default gotcha, and IGMP snooping rx only mcast port 5min timeout.

- Extreme - PIM on two BD8800 switches with a trunked connection, goes rather barny. (due to be patched within a month)

- Non real & wmv suffers lots under packet loss.

- How much do we trust things like PIM snooping?

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Avoiding shared peering subnets (and using PtP VLAN/PI)

- Security (rights): Traffic needs containing to UK, shared peering LANs make it too easy to 'leak'.

- Debugging: Router state is per interface, not per peer.

- Monitoring: Traffic stats per peer, can see when its being used / when it broke.

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Want to join in?

- Particularly would like to hear from broadband ISPs who are able to spend time on this, and plan to deploy to their customer base. (not just their NOC, not just one NAS in telehouse, etc).

- Come talk to us - howto's are in progress as we collect info, but for now open a discussion, and we can advise the best way to proceed.

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Peering with us

- http://support.bbc.co.uk/multicast/peering/

- AS31459 UK, AS34158 International - later, this is UK only for now

- UK only routes as per BBCi Broadband.

- Don't leak the multicast traffic outside the UK

- All welcome multicast-tech@bbc.co.uk

Very Basics

- MBGP - Multicast NLRI routes - where to send your joins for a source.

- MSDP - Source discovery protocol - where the sources are

- PIM-SM - The protocol by which the joins are sent

- IGMP - On the last hop, how the hosts request the multicast.

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Questions

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