Through the Looking Glass

Digital & Interactive Emergence
and BBC Interactive Services

by

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Through the Looking Glass

What's he gonna talk about?

•What does Digital TV really mean?

•A bright future - the new digital world

•Platform diversity, new opportunities

•The BBC audience & interactive services

•But first...

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What does Digital TV really mean?

- Scarcity to plenty - for audience and content provider
- 'D' stands for Difficult - 'D' stands for Delay
- Digital TV Development is Driven by E-Commerce
- Starting too early is painful BUT starting too late is suicide - strategists take the helm

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A bright future - the new digital World

- 95% of all digital content in USA will be viewed off-line in 5 years (Price Waterhouse)… By 2008, 80% of developed world will be using Personal Digital Recorder's (Forester)
- 900 million world wide mobile 'device' users by 2004 (Forester)
- By 2003, 7 mill in UK view Web & DVD from Games Consoles
- BUT viewers face confusion - bad interfaces & too much choice

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Too much - please stop!

Real interactive TV services UK and USA 1999
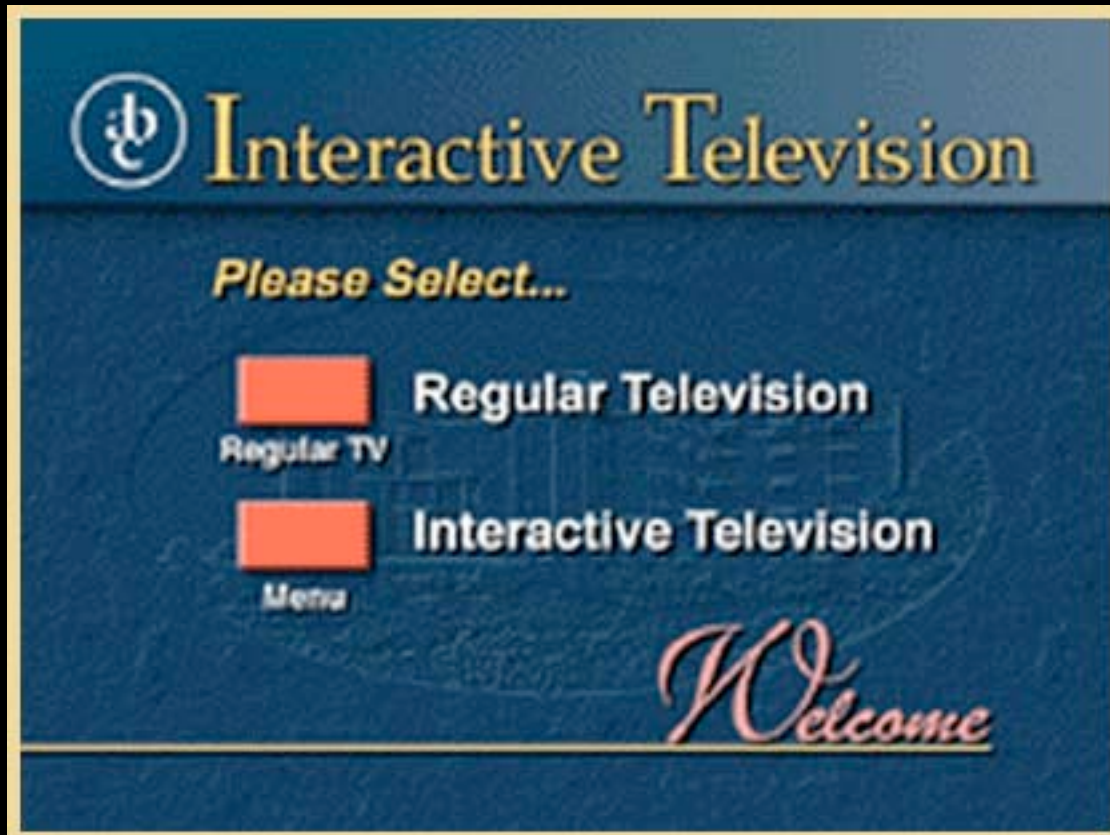
"…out of the chaos would come bliss

That then, is loveliness, we said,

Children in wonder watching the stars,

Is the aim and the end.

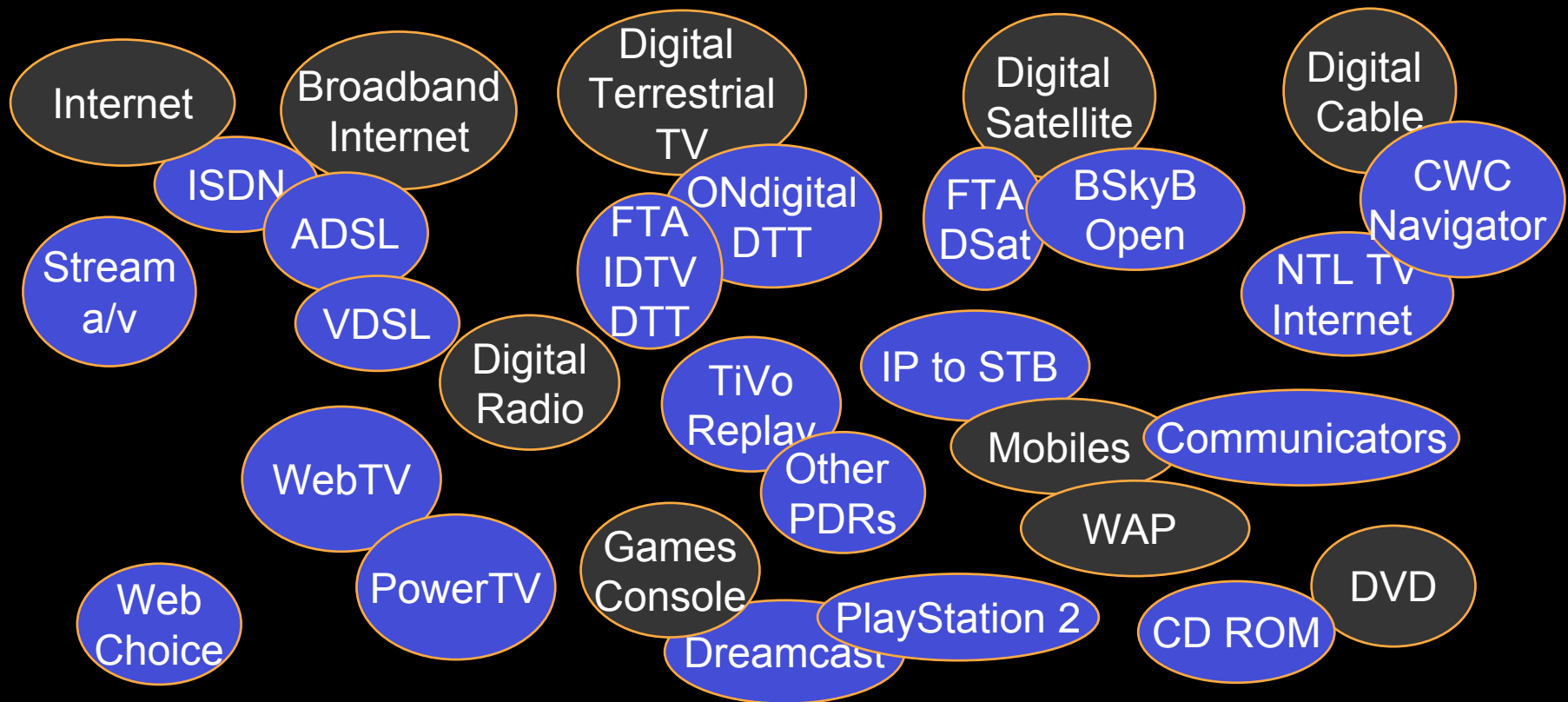Being but men, we walked into the trees"

Dylan Thomas

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Digital TV development - key issues

- Vertical platform developers become portal owners - who regulates access
- Personal digital recorders - the end of scheduled broadcast?
- Large return paths and domestic networks mean viewers become collaborators and creators - consumers are producers
- Niche begins - 'Fremantle Wool Stores Cam' competes with SBS
- Write once use many times - the race to build infrastructures
- Uncertainty - who & what will win?
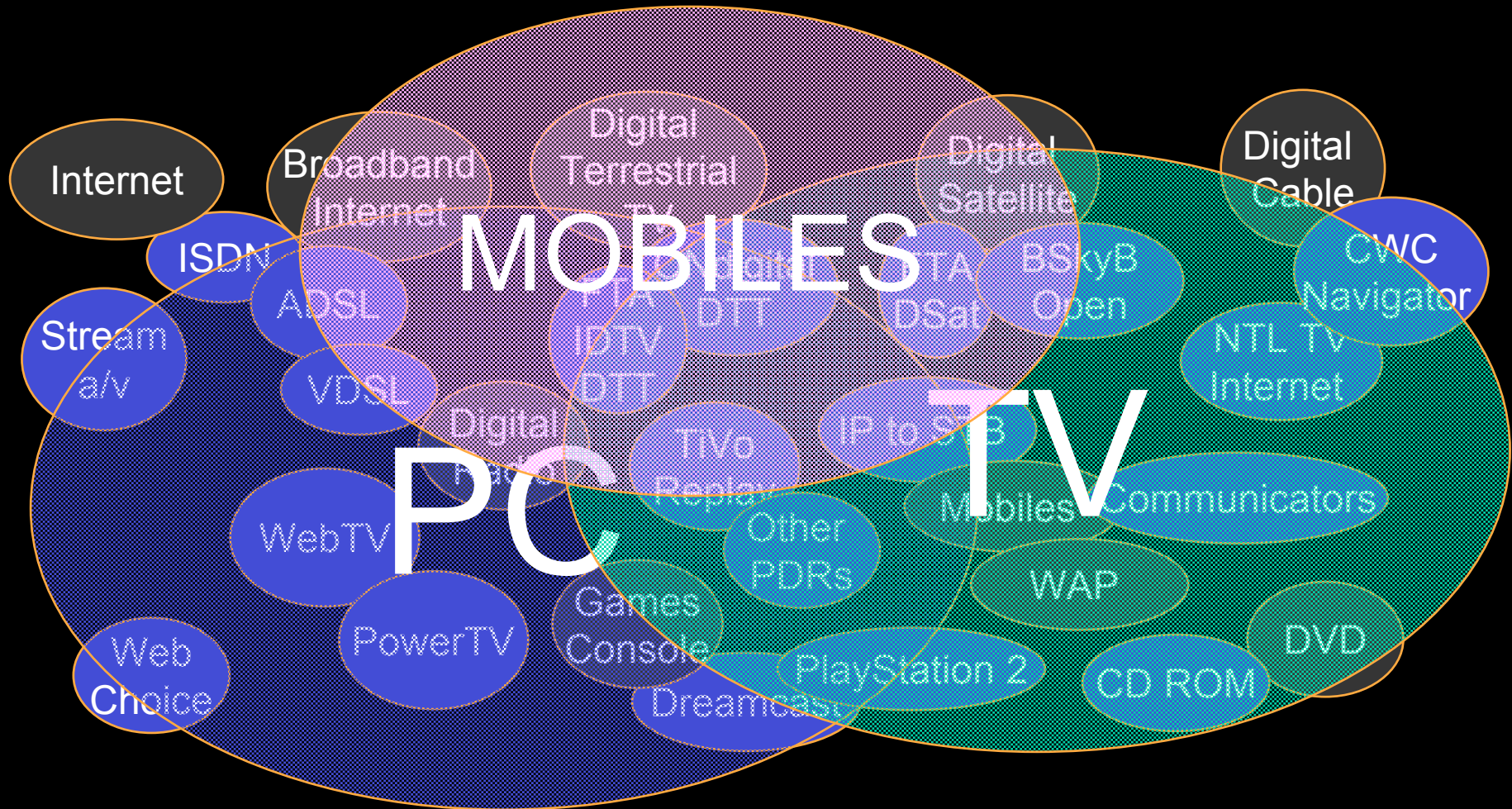- Current platform diversity - deterrent or opportunity?

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What screen will they view it on?

MOBILES
TV
PC

Internet
Broadband Internet
Digital Terrestrial
Digital Satellite
Digital Cable
ISDN
ADSL
DTT
BSkyB Open
CWC Navigator
Stream a/v
VDSL
IPTV DTT
DSat
NTL TV Internet
Digital
TiVo
IP to STB
WebTV
Replay
Other PDRs
Mobiles
Communicators
PowerTV
Games Console
WAP
DVD
Web Choice
PlayStation 2
CD ROM
Dreamcast

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At the end of the day...

CONTENT IS WHAT MATTERS

Internet · Digital · Broadband Internet · ISDN · ADSL · Stream a/v · VDS · WebTV · Web Choice · Digital Cable · CWC Navigator · NTL Tv Internet · Sky Open · DSat · FTA · DTT · IPTV · PC · Replay · Other · Mobiles · Communicators · Games Console · Dreamcast · DVD · ROM

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UK Digital 'Interactive' - diverse environment

Platform	Audience '99	Audience '00
Internet on PC	2.5 mill	3.8 mill
Digital Terrestrial TV	550 000	1.2 mill
Digital Satellite TV	1.8 mill	4.6 mill
Digital Cable	100 000	2.1 mill
DSL services (e.g.:ADSL)	100 000	1.1 mill
Games Consoles	(6 mill)	4 mill (net access)
Mobile 'Assistants'	25 mill	10 mill (data access)

Estimates aggregated over several UK research companies

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Projected UK Digital TV take-up

% of Households in the UK

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

1997 US multi-channel penetration[1]

Possible Announcement of timetable for Analogue switch

Interactive services available

Asat

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008

FTA ATT   **25%**

FTA DTT   **18%**

Pay DTT

12%

Dcab   **24%**

Dsat   **21%**

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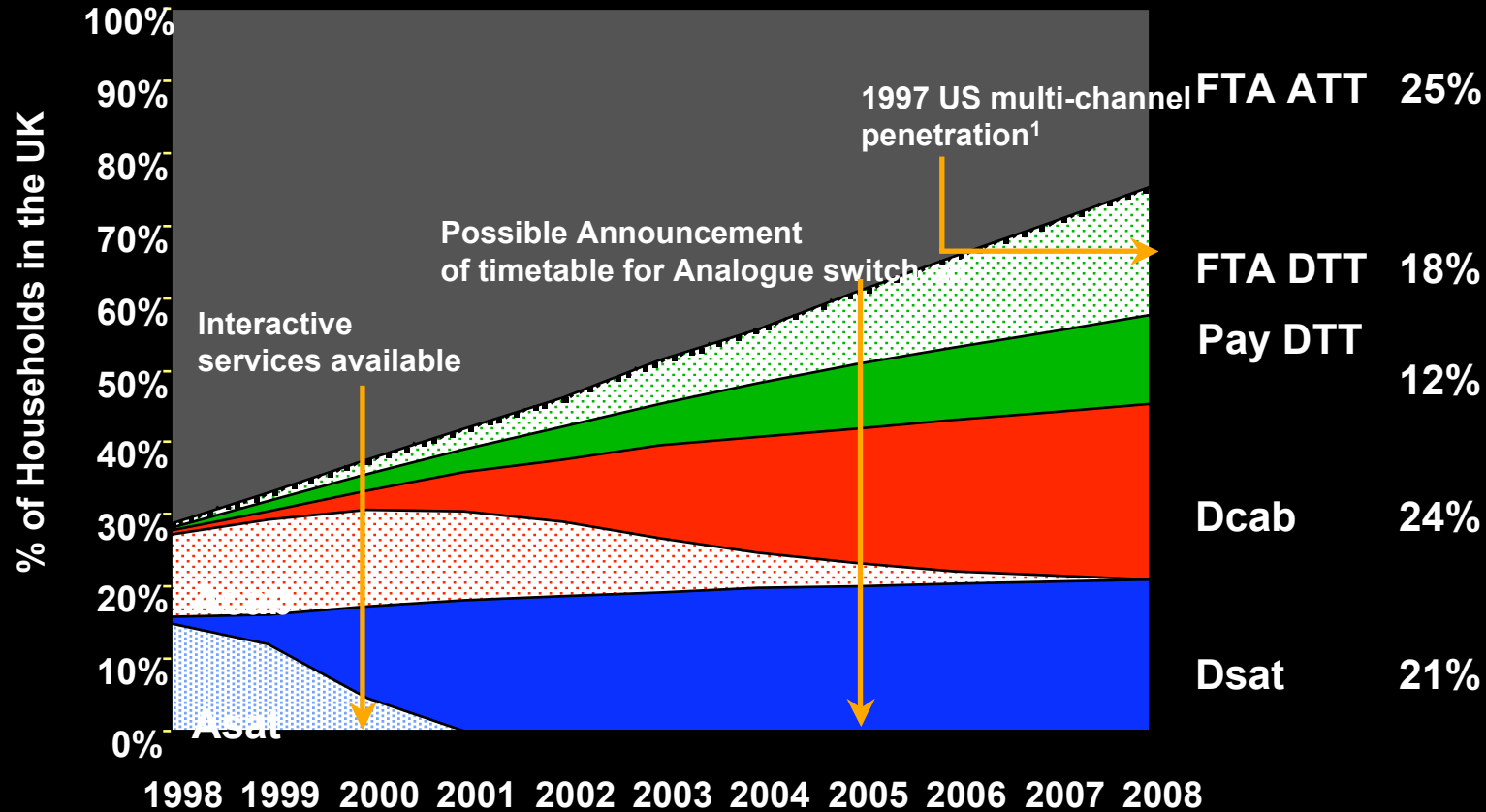
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BBC Digital Portfolio (excerpts)

- BBC Brand only second in the world to Coke

- All BBC analogue services available on all new digital platforms - DTT, Dsat, Dcable, ADSL, webstreaming, Digi Radio

- BBC Online - largest web site in Europe (top 5 world-wide)

- New BBC digital channels - Choice, Knowledge, News24 and 'UK various - Play, Gold, Horizons etc'

BBC Worldwide (commercial arm)

- BBC America & World distributed world-wide digitally

- Beeb.com - successful commercial web site & ISP

- Audio CD, CD ROM & DVD titles all UK best sellers

- Playstation (Teletubbies & Noddy) and other console games

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BBC interactive digital TV launches 1999/00

- Digital Text (24/7 news & Info) - DTT, DSat, Dcable. WAP
- BBC Parliament (enhanced audio channel) - DTT
- Knowledge (24/7 interactive education channel) - DTT, Dsat

Launches during 2000/01

- Wimbledon (Multi court video streams) - DSat, DTT
- Football (All Saturday enhancement) - Dsat, DTT
- News 24 (Bulletin VOD news loops) - Dsat, ADSL
- CBBC (Range of Children's enhancements) - DTT, Dsat
- Children's Channel (24/7 interactive) - DTT, DSat, Dcable
- Landmark Factual - DTT, DSat, Dcable

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BBC focus on digital 'Interactive TV' services

Key genre

- News, Education, Sport & Children's - then entertainment, documentary/factual, lifestyle

Areas of development

- Continuous news/info, channel 'text/graphic' enhancements
- Enhanced viewing (active programmes - local interactivity)
- Interactive viewing (return path - two way)
- Navigation (connecting the many parts of the BBC)
- Online (moving to broadband and convergence with TV)
- On going platform research, trials, training and pilots

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The end…

of the beginning:

Are there any questions?

OK later...

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Bright future - local storage

Storage possibilities - Introduction

- In the last 10 years there has been a 100 fold increase in the capacity/cost ratio of hard disks - doubling every 10 months

- In 2000, 10 GB of hard disk storage will cost $100, providing four hours of MPEG2 audio-visual storage

- The capacities below, doubling every 10 months or a pessimistic 18 months, are based on 5.5Mbit/s video stored on a $200 disk

Year	Pessimistic	Expected
2000	8 hours	8 hours
2005	80 hours	480 hours
2010	800 hours	28,800 hours

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Introduction to Digital Storage

Forester research in to Personal Digital Recorders (PDR's)

- by 2001 900,000 people will be using PDR's

- by 2003 there will be 4 million

- by 2008 80% of the developed world's population will be using Personal Storage systems

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Some of the 28 inaugural member organisations of TV anytime

SONY   CANAL+   Microsoft

BT   BBC Broadcast   PHILIPS   NOKIA CONNECTING PEOPLE

NDS   GTE   DiviCom®   kpn

SHARP   NTT Communications   Pioneer

SAMSUNG

sonera Make things click.   Helecon ho   European Broadcasting Union

NOB INTERACTIVE

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Digital Storage - Benefits for Broadcasters

- Usage reporting data - did people request & store programming

- Profiling the audience - aggregating individuals, public service

- Targeted push/pull services - ads, trails, programmes, apps

- Downloading (Web, TV and eTV) in off-peak hours

- Transaction control - for eCommerce providers

- Rights management - conditional access reporting

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New players. Interactive Consoles - aka games

- Play Station 2. UK shops late 2000. 66 million polygons per second. Can play DVD's, MPEG2 decoder. Backward compatible & access to internet may be able to receive DVB, via plug in cards, transmissions. 'Emotion synthesis'
- Currently 6 million consoles in UK homes
- DreamCast - uses Windows CE. Launched 9 Sept in US & Europe, built in 56k modem. Sold one million units in 6 weeks in USA!

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Mobile Interactivity

•Now 60% Finland, 50% UK, 30% US (non-Open)

•Now SMS - short messaging services, Email & web

•Predicted (Forester) 700 million mobile users by 2003

•WAP (Wireless Application Protocol) $500 mobile to receive fast web, pics & low quality video

•G3 - small mobile, mobile connected computers

•Bluetooth - local communication with TV, PC, STB

•Anywhere RAM - remote comms with all home devices

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Yr

Legend:
- TV Display
- PC Screen
- PDA
- Set Top Box
- Converged device

05

4th PDR 600 hrs converged home network

04

Mobile control of home net - far

Console TV/Games/web

3rd PDR 400 hrs home network

03

Mobile network - close

VDSL Net fast TV/web

iTV digital 2nd

TV /web digital 2nd gen

Mobile broad TV

2nd PVR 100 hrs personal

IP Sat/cable to PC

02

Mobile Docking

TV mail digital

ADSL Net TV/web

01

TV loops digital

PStation2 Games/web/dvd

Mobile Web

1st PVR TiVo etc

WebTV

Dreamcst

00

Digi Radio

Dcable TV/web

Mobile mail

eTV digital 1st

99

Linear TV digital

PC Web

OnMove / Audio - TV Broad - Storage/On Demand - Interactive

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Navigation

- Providing personalised 'filtering' of many services to viewers
- Around linear TV, data services, iTV & other applications
- Linking ECG, TV / Interactive & web services
- Personal routes & tailored recommendations
- Web-like navigation (favourites, history etc)
- Virtual channel (pull on demand, push stored, broadcast loops, scheduled TV)