Personal Television Futures

Future Opportunities for Broadcasters Enabled by Personal Media Storage Systems

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Opening - You know what?

it’s going to happen…

Personalised TV (PTV) will be ubiquitous

and we all need to be ready for it…
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A little history - early av distribution:

- Sep 1975 - Sony betamax deck $2300
- Sep 1977 - VHS deck retails for $1000
- Nov 1977 - 50 titles available for rental
- Dec 1977 - First video rental store, store owner threatened with a lawsuit
- 1985 - Rental market $2.5 billion
- 2001 - Rental market $8.4 billion
- 2002 - DVD 30% of rentals, 25 000 video stores in USA

Source: video software dealers association
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PDR’s ubiquitous…once

• The price of home media storage is right
• PDR’s are integrated with relevant and attractive consumer electronics
• Support of CE manufacturers, rights holders, broadcasters & MSO’s
• The industry is truly creative on this new platform
• Barriers to interoperability are removed
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My talk
What is Personal TV?
Clear and present danger, the first hill
Opportunities, new services & monetisation
Beyond the horizon
What is Personal TV?
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TV and Radio programmes where the viewer relies on various Agents of Choice* for their media consumption

*Agents of choice - automated and/or manual profiling of consumer preferences
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Service & Content Providers → The Home

Agents of Choice

PDR

BBC New Media

Gary Hayes, Senior Development Manager. NAB ’03
What is Personal TV?

- People will receive their ‘life’ content when and where they want it…media storage will be transparent and everywhere
- OK - it may be a confusing environment, technically complex…
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…but the new technology is here to stay - a 21st century paradigm shift…

1. All devices have storage
2. Agents of choice accepted
3. Display devices everywhere
4. Interoperability…
Simple evolution
1. dTV receiver
2. dTV receiver with storage
3. Home ‘entertainment & life media server’ - stb, pc & games console
4. High capacity portable media players e.g: PaVP portable audio/video players & smart displays
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Changing environment

<table>
<thead>
<tr>
<th>LOCAL STB</th>
<th>DIGITAL HUBS</th>
<th>DELIVERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TiVo</td>
<td>Apple</td>
<td>dBroadcast</td>
</tr>
<tr>
<td>Sky+</td>
<td>Microsoft</td>
<td>Analogue</td>
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<td>3G</td>
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<td>Philips</td>
<td>etc:</td>
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<td>etc:</td>
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<td>etc:</td>
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</tbody>
</table>

BBC New Media

Gary Hayes, Senior Development Manager. NAB ‘03
Clear and present danger

“Over the first hill”
WE’VE ALL SEEN THE NEWS!
New Media

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YOU SKIP A COMMERCIAL, YOU'RE STEALING PROGRAMMES

A flaming disgrace....

Principals slam ‘rogue’ governors

BBC New Media  Gary Hayes, Senior Development Manager  NAB ‘03
Clear and present danger

• Everyone would prefer to receive content and be able to transfer it to people they know and around their own AV systems!
• They want to access it EVERYWHERE
• They DON’T want to be forced to see irrelevant content!
• INCLUDING advertisements…
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“…barring government intervention the TV business model of the 20th century is dead”

W Crawford 2002 (Future of DTV)
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In today’s image-conscious world, facing up to facial disfigurement is a tough challenge, with the hidden psychological scars running deep. Research co-ordinator Chris Alam tells Jane Bell of the depth of suffering she and her team found in a major new Ulster study.

TIME-SHIFTED TV - TRULY ‘DISRUPTIVE’

BBC New Media

Gary Hayes, Senior Development Manager. NAB ‘03
Clear and present danger

PVR’s will **kill broadcasting** especially commercial broadcasting.

Allowing **viewers** to view **what they want when they want** will mean they:

• **WILL** avoid adverts,
• avoid promotions,
• avoid **ANYTHING** they don’t want to see that **TRYS** to get them to transact
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UK take-up of PVR technologies, household penetration (%)

Source: Decipher analysis
Clear and present danger

Question

What adverts will people not want to skip?

Answer

The ones they REALLY want to see!

Note to industry: RELEVANCE to the viewer…
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UK household take up of PVR services and ad skipping

Source: Decipher analysis
Clear and present danger
• 88% of the adverts in the programmes viewed on PVRs went unwatched
• Channel surfing decreased by 31%

BUT
• 6 out of 10 TiVo users watched more television.
• ReplayTV reported that, on average, users viewed three hours more television each week
• 60% of users watched series that were once unavailable because of inconvenient scheduling
• One third of TiVo users now see television as their primary source of entertainment – twice as many as those without

(Source: Tivo and ReplayTV)
In Europe the UK has the second highest percentage of VCR’s per TV household - at 86% (Iceland at 88%!).
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What kinds of monetised services could providers offer via PDRs?

- DVD now represents 57 percent of 2002 home video consumer spending
- Rental of movies ($16.8 billion) now twice that of cinema tickets!
- DVD in 40 million US households, VHS in 96 million US households

THE FIGURES ABOVE SAY IT ALL

- There is a massive market and PERSONAL TV systems will be the most cost effective way to distribute high quality video content - but also new CONTENT…

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Opportunities, new services & monetisation
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NEW AD MODELS - REACHING INDIVIDUALS

• Innovative advertising opportunities that deliver individuals directly to advertisers
• Qualitative and quantitative measurement.

TAM (Television Audience Measurement) detailed TV audience information for the 21st century.
• Extending the reach of targeted TV advertising via SMS, telephony and the web
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NEW AD MODELS - INNOVATION?

Targeted advertising
we now know who is out there -
individuals appreciate relevance
the ad is way more effective
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NEW AD MODELS - INNOVATION?

Dynamic Insertion
Ads can ‘drop’ into relevant content and viewers
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NEW AD MODELS - INNOVATION?

Ad free or ad full 'content'
1 Cheaper programming for the consumer with ads included.
2 If they watch the ad included you get benefits such as extensions to programmes
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NEW AD MODELS - INNOVATION?

Ad positioning
1 Single ads linked to multiple genre programmes
2 Commercial exclusivity - sponsor has 'dynamic' sole placement
3 Effective clustering of ads at beginning and ends of programmes
4 View the program with the default advertisements being replaced with ads from the local store
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NEW AD MODELS - INNOVATION?

Flexible length
Ads can now be any duration!
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NEW AD MODELS - INNOVATION?

"the ad loyalty card"
"You watch my ads we give you benefits such as a free programme or a coupon for real product" (using a personal impression counter)
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NEW AD MODELS - INNOVATION?

Non-skipping options
For additional fees advertisers can force non-skip - regardless of where they are inserted
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NEW AD MODELS - INNOVATION?

Virtual ad channels
viewers choose to go to relevant ad channels
Infomercials
extending the short form ad.
Greater detail
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NEW AD MODELS - INNOVATION?

Story lines - repeat viewings
Created via stored ‘soap operas’
Topicality
Updating of commercials on the PDR
to retain timeliness
Forced ad playback insertion

*Example:* During a programme during playback an ad is inserted and has to be watched or the programme will not continue!
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NEW AD MODELS - INNOVATION?

Guaranteed number of impressions
eg: Brand buys 25 non-skippable impressions for every PDR on the market
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‘Push and Pull’ targeting and profiling - the three enablers:

1. **Broadcast & location targeting** - Tagging content ‘effectively’ matched to local devices

2. **Usage reporting** - getting a range of usage data back for analyses. Using core profiles and click tracking, ‘we’ can understand viewers - anonymous, aggregated viewing patterns.

3. **Content tracking** - over two way broadband environments, tracking content usage. How it is being distributed or shared, leading to pay-per-use and micro payments
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Service & Content Providers

3rd party NDR

The Home

BBC New Media

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BBC interactive services, people want to interact

• The BBC is **changing the grammar** of interactive services
• We now have almost as many people in UK using iTV than have used the web - 11 million have used BBC iTV and 13 million BBC Online sites last year
• Over 40 new interactive TV services a month
• Test The Nation – had over 10 times the audience of the internet
• Sport – people want to relive the multistream experience
• Non-linear services…many variations
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### Wimbledon 2002 Multiscreen

<table>
<thead>
<tr>
<th>Court</th>
<th>Name</th>
<th>Sets</th>
<th>Games</th>
</tr>
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<tbody>
<tr>
<td>Centre</td>
<td>T. Henman</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>S. Draper</td>
<td>*3</td>
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<td>N. Escude</td>
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<td>V. Zvonareva</td>
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<td>I. Majoli</td>
<td>3</td>
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<tr>
<td>Court 10</td>
<td>Mandula/Wasch</td>
<td>6</td>
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<tr>
<td></td>
<td>Capriati/Hychova</td>
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</table>

BBC1 Full Screen Menu BBC Sport
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What kinds of monetised services could providers offer via PDRs?

• **Highlight** ‘capture’ of key sports or other live event programmes

• News bulletins - personalised ‘*regionalised*’ capture and **Personalised** capture from magazine programmes

• Packages of **theme’d** or popular programming eg: comedy, drama, kids

• Educational packages with **targeted** levels of learning

• Targeted & niche **promotion** ‘off the PDR’ to individuals

• Packages of **interactive** TV or web linked enhancements…
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NLN01 (non-linear narrative) - Parallel, sequential, temporal

The linear narrative forms the backbone on which hangs jump off points to alternative commentary, background & perspective. This temporal, time critical interaction of course means care has to be taken so viewers do not feel they are missing out on other streams...
**NLN02 - Sequential, tangential scenes**

Again linear narrative forms the backbone with jump off points to alternative commentary, background & perspective. Here though we are assuming an on-demand environment and the viewer returns to the main narrative where they left off.

In one example of this format below the short loops from and back offer serendipity, time-shifting and slightly anarchistic and disorientating being relevant to sections further along in the narrative.

---

<table>
<thead>
<tr>
<th>Central narrative</th>
<th>chapter 1</th>
<th>chapter 2</th>
<th>chapter 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clip 3x</td>
<td>Clip 2b</td>
<td>Clip 3a</td>
<td>Clip 1c</td>
</tr>
</tbody>
</table>

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**NLN03 - Single node scene menu**
A window on the world. Viewers get to choose key events in any order from a central menu. In this example a mosaic ‘mind-map’ interface, shallow hierarchy, convergent sequence leading to closure and conclusion.
NLN04 - Sequential and branching hierarchy with fixed junctions
Sequential journey through key scene clips laid out in a order. The tangential deep hierarchical links at junctions give more perspective or background. They pick up where they left off to go to the next scene - ideally suited to gaming-type progression with challenges at main junctions.
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**NLN05 - Branching hierarchy, fixed junctions**

The most non-linear, a viewer led journey through short scenes, alt perspectives or outcomes, interface leads the viewer onward after each clip, deep hierarchies can be built with a mix of divergent & convergent sequences.

```
Context/Intro

Menu 1
   Clip 1a
   Clip 1b
   Clip 1c
   Clip 1x

Menu 2
   Clip 2a
   Clip 2b
   Clip 2x

Menu 3
   Clip 3a
   Clip 3b
   Clip 3c
   Clip 3x

Menu x
   Clip 1x
   Clip 1xa
   Clip 1xb
```
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Beyond the horizon
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KEY INDUSTRY ENABLERS - standards
DO we move forward as an interoperable worldwide industry OR fragmented & disconnected

• Agents of choice & targeting - standardised profiling dictionaries.

• IMAGINE a world where providers ‘release’ content, it can find its own audience everywhere and where it generates revenue automatically back to providers

• We NEED standardised metadata to track content – interoperable DRM and DRE - look at the Creative Commons initiative

http://creativecommons.org
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TV-ANYTIME - PHASE TWO EVOLUTION OF PDR’s

1. New **types of content** (rich media, graphics, audio etc:) will be captured

2. New **types of services** (non-linear TV, interactive TV, TV combined with web, games etc;) will be captured

3. Content will be moved from persistent local storage to **removable media** *(Content will be further distributed via this removable media)*

4. A greater range of **TVA capable devices** will exist

5. Content will be **moved, copied or streamed** between local, connected TVA devices

6. Content will be moved, copied or streamed over **external networks** between TVA devices
HOME ENTERTAINMENT FUTURES

• Currently in the US there are three TV sets per TV household and 105.5 million TV households - about 316,500,000 TV sets

• 36% of homes will have multiple PCs, 9% broadband Internet, and 4% wired networks.

• Unit sales of digital cameras will grow from over 4 million in 2001 to 19.8 million in 2006

• In Europe, 15% households will have wireless networks by 2005

• Chip manufacturers are producing single chip multi av decode – NEC up to 4 streams by 2003

• Strategy Analytics Jul 99
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**Postulations - PTV 10 years hence…**

- Scheduled TV will mostly be limited to live sport and news
- Distribution of TV content will be 90% broadcast/band and wireless to PTV systems the rest high capacity DVD
- You will have portable profiles worldwide and will receive their content anytime/where
- **All promos and ads will all be highly targeted**
- Viewers will all have large home servers feeding many displays and devices (in and out of home)
- **Programmes will be made for time-shifted, large groups of niche audiences**
- Linear AV only TV will be in the minority
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THANKYOU

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BBC Online
http://www.bbc.co.uk

BBC Digital TV
http://www.bbc.co.uk/digital/interactive.shtml

BBC iTV Commissioning
http://www.bbc.co.uk/commissioning