TV-Anytime. Business Models

Personal Digital Recorders
“New relationships, new business models”

Gary Hayes
Senior Producer, BBC Interactive Television
Chair of TV-Anytime Business Models
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Presentation

- Statistics for thought & ‘why a business models’ wg
- Transactional & public service opportunities
- The environment - “from local storage to home server”
- Towards a definitive set of scenarios
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Some figures PDR’s

Forester research into Personal Storage
- by end 2001 900,000 people will be using PDR’s
- by 2004 there will be 4 million
- by 2009 80% of the world’s media consuming population will be using Personal Storage systems - whether PC or set top based

Price Waterhouse
- 95% of content in US will be viewed from off-line devices 2005

More than half of UK population prefer ppc (pay per choice) rather than subscription
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TVAF - Business Models Group Methodology

1. Irvine (9/99) - Mission of our working group: “That no system can be developed without first imagining & documenting every conceivable present and future way that it could be used” - link

2. Geneva (11/99) - Identified benefits for consumers, content & service providers, advertisers and devised simple system for a CFC. Developed a range of scenarios based on feature sets 1 and 2 (simple & complex), with and without return path

3. Sunnyvale (1/00) - Compiled user centric experiences & classifications. Developed cross-linked business benefits

4. Osaka (3/00) - Converged all previous and developed ‘TVA Environment ‘document including functionality road map

5. New York (5/00) - Phase 2, definitive value chain scenarios
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TV-Anytime. Typical delivery structure

Content or service provider can manage storage device

Time shifted & off peak loading of a/v, web & enhanced apps to PVR

Viewer Interface

DVD, Tape

Application
Graphics
Video/Audio

STORAGE
PDR

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TV-Anytime. Revenue Opportunities

• For ALL - service & content providers, network operators, advertisers & equipment vendors
• Increased revenues from traditional models e.g.: subscription, pay per choice, network connectivity, search, selection & capture - navigational services such as user profiling & virtual channels
• New services (non-exhaustive)
  • Targeted trails and ads (matched to viewer profiles)
  • Skip ‘options’ - safeguarding ad revenue, protection & benefit
  • Audience tracking and aggregating, real time market research
  • Metadata provisioning e.g.: highlight packages
• Hybrid new media, delivered in linear packets, viewed non-linear - av, graphics, eTV apps, nVOD & VOD combinations
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What kinds of services could the **BBC** offer via TVA?

- Delivery of niche content to specialised audiences outside peak viewing
- Segmented & targeted international news bulletins
- Segmented regional news & magazine programming
- Packages of theme’d or popular programming eg: BBC comedy
- Highlight modes of key sports or live event programmes
- Educational packages with segmented, targeted learning levels
- Packages of interactive TV or web linked enhancements
- Effective ‘targeted’ promotion of other programmes to specific target audiences
- Creating communities using ‘return path’ based on programme or genre brand interest ([demo](#))
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WG. The Environment “three evolving models”

• Model 1a and 1b - Basic ‘push’ model. Free via Unidirectional “does not require communication from the end user to the service provider”

• Model 2 – User Response model Free + PPC via Bi-directional “communications channel provides the capability to inform the service provider of user selections, profiles and other requests”

• Model 3 - Full interactive model Free + PPC via Bi-directional “integration between multiple content providers, services providers, resource locators and the Internet”

• Road Map - “step by step increase in functionality” >>>>
### TV-Anytime. Business Models

<table>
<thead>
<tr>
<th>Priority</th>
<th>PDR Functionality</th>
<th>Scenario</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Instant Record</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Record and playback an AV stream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Simultaneous record and playback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Live pause</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Content Search and Access</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Playback of content in indexed/highlight mode</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Book marking (personalisation/agents)</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Portability of user profile (personalisation/agents)</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Updating of content</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Storage management – basic &amp; advanced (e.g: quality)</td>
<td>I - III</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Profile management (personalisation/agents)</td>
<td>III</td>
<td></td>
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<tr>
<td>12</td>
<td>Multi-user profile support (personalisation/agents)</td>
<td>III</td>
</tr>
<tr>
<td>13</td>
<td>Multi-modal operation</td>
<td>IV</td>
</tr>
<tr>
<td>14</td>
<td>Targeted services using local profiles (personalisation/agents)</td>
<td>III</td>
</tr>
<tr>
<td>15</td>
<td>Compliance to all content delivery mechanisms</td>
<td>IV</td>
</tr>
<tr>
<td>16</td>
<td>Synchronisation of stored &amp; ‘live’ content</td>
<td>IV</td>
</tr>
<tr>
<td>17</td>
<td>Supports a variety of content types regardless of source, delivery channel or medium</td>
<td>IV</td>
</tr>
<tr>
<td>18</td>
<td>Transferring/archiving content to &amp; from other local devices</td>
<td>IV</td>
</tr>
<tr>
<td>19</td>
<td>Using other devices to control PDR remotely</td>
<td>IV</td>
</tr>
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*Rights Management & Protection

*Return Path*
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<tr>
<td>20</td>
<td><strong>Limited eCommerce</strong></td>
<td>VI</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Ability to pull content</td>
<td>II-IV</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Synchronisation of cross media with pull elements</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Usage data can be exploited (e.g: rights)</td>
<td>III+VI</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Consumer profile data can exploited by all</td>
<td>III+VI</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>3rd party management of PDR</td>
<td>III+VI</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Updating of content with verification</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Content usage verification</td>
<td>III-VI</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Networking using the PDR (e.g: email, remote control by mobile, etc)</td>
<td>IV-V</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td><strong>Full Pay Per Choice eCommerce capable</strong></td>
<td>I-VI</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Limited eCommerce
- Ability to pull content
- Synchronisation of cross media with pull elements
- Usage data can be exploited (e.g: rights)
- Consumer profile data can be exploited by all
- 3rd party management of PDR
- Updating of content with verification
- Content usage verification
- Networking using the PDR (e.g: email, remote control by mobile, etc)
- Full Pay Per Choice eCommerce capable
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WG. Towards a definitive set of Scenarios

• Basic PDR functionality – general record features
• Navigation & Selection – the capabilities of integrating ECG with sophisticated digital recorders
• Personalisation – ways that a viewer can manage the PDR system and make it more relevant to them
• PDR and TV enhancements – beyond audio and video, into web and interactive TV applications & PDR advanced features
• Communication – two way interaction between viewers based around their PDR
• Transactional opportunities – a range of monetary or benefit based relationships between viewer and provider
WG. Transactional opportunities - user centric

- I want to buy from a large selection with a range of prices - m2
- I would like various return or credit options – m2
- I would like to buy packages of content or subscribe to programming at a discount – m3
- I want to choose who I buy the service from – m1
- I want choices whether to watch or not to watch commercials or trailers – m1
- I would like to be paid if ‘they’ know what I am watching – m2
- I want to buy video segments or archive footage – m3
- I want to have the option to buy product or get more info immediately when watching ads – m2
- I would like to reassign ownership rights in my movie to someone else eg: just as I used to give a VHS cassette I already own to a friend – m2
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Basic PDR functionality
• Dynamic Record
• Pause Modes & Time Shift
• Transport Modes

www.tv-anytime.org

Combining the immediacy of television with the flexibility of the internet
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Navigation & Selection
- Selecting content
- Selection enhancements
- Segmentation, skipping, highlight viewing & track changing
- Non-ECG capture options
- Scheduled TV or Online browsing

www.tv-anytime.org

TV-Anytime
Combining the immediacy of television with the flexibility of the internet

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Personalisation

- Multi user log in, PDR operation, PDR management
- Personalised filtering and search
- The Intelligent Agent
- Personalised capture modes & ‘targeting’
- Preferred providers
- Playback & updating preferences
- Preferred quality
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PDR and TV enhancements
- Non ECG or TV content capture
- TV to web/data services links
- URL & link collection, favourites
  - Remote content selection & transfer
  - Archiving
  - Portability of personal profiles
  - Personal content
Communication
Mail and the PDR
• Sending trails/ads & receiving trails or ads
• Attaching metadata to allow easy capture
• Sending indexes of their own ‘highlight edit’
• Attaching low/high bandwidth content to mails
• Integration with existing mail devices, mobile, PC etc.
Forward content to a friend, send as a gift
Popular choice involvement
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Summary - Key Implications for Broadcasters

Away from ‘prime time’ & ‘genre channels’ to ‘programme package’

• Most content on demand, micro payments, packaging of specialist, popular and diverse content

Understanding the audience

• Usage reporting - profiling the audience, aggregating individuals, public service feedback loop, content usage steers commission

Targeting of services for all

• Ads, trails, segments and highlights of programmes & interactive services can be cross-promoted and viewer relevant material captured on the PDR
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THE END
## TV-Anytime. Business Models

### UK Digital ‘Interactive’ - diverse environment

<table>
<thead>
<tr>
<th>Platform</th>
<th>Audience ‘99</th>
<th>Audience ‘00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet on PC</td>
<td>2.5 mill</td>
<td>3.8 mill</td>
</tr>
<tr>
<td>Digital Terrestrial TV 550 000</td>
<td>1.2 mill</td>
<td></td>
</tr>
<tr>
<td>Digital Satellite TV</td>
<td>1.8 mill</td>
<td>4.6 mill</td>
</tr>
<tr>
<td>Digital Cable</td>
<td>100 000</td>
<td>2.1 mill</td>
</tr>
<tr>
<td>DSL services (e.g.:ADSL)</td>
<td>100 000</td>
<td>1.1 mill</td>
</tr>
<tr>
<td>Games Consoles</td>
<td>(6 mill)</td>
<td>4 mill (net access)</td>
</tr>
<tr>
<td>Mobile ‘Assistants’ wap etc</td>
<td>25 mill</td>
<td>10 mill (data access)</td>
</tr>
</tbody>
</table>

Estimates aggregated over several UK research companies
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Agnostic - what/how content gets to the viewer

- Internet
- Broadband Internet
- ISDN
- Digital Terrestrial
- MHEG
- Digital Satellite
- Open TV
- Digital Cable
- WebTV
- VDSL
- Digital Radio
- FTA
- IDTV
- DTT
- DVB
- IP to STB
- Stream a/v
- ADSL
- ATSC
- pJava
- DVB
- Mobiles
- UMTS
- MHP
- VDSL
- WAP
- Bluetooth
- Communicators
- 3G
- CD ROM
- DVD
- CD Audio
- 3G
- CD Audio

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BBC Digital Portfolio (excerpts)
- All BBC analogue services available on all new digital platforms - DTT, Dsat, Dcable, ADSL, web streaming, Digital Radio
- BBC Online - largest content web site in Europe
- 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
Some key benefits for content providers

- Reduction of scheduled programming turned to advantage
- Down-loading (Web, TV and eTV) in off-peak hours
  BBC has 19 streams mostly dormant 1-6 am (95 hrs!!)
- PDR’s intelligently ‘fish’ for content in regular schedule - thereby making diverse output appear personally relevant
- Cross promoting & capture of other viewer relevant content
- Managing rights - conditional access tracking
- Providing segmented, more compact programming if the viewer requires