TV-Anytime. Business Models

Personal Television Systems
“Real World scenarios leading Open Standards”

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

- Statistics for thought
- The PDR, a definition
- Business models role in TVAF
- TVA stakeholders and it’s environment
- Opportunities and benefits
- Functionality road-map & scenarios towards the specification
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Personal Digital Recorder’s - statistics for thought

Forester research (July 2000) into PDRs
- by end 2000 750,000 people in US will be using PDR's
- by 2002 8.2 million households worldwide will be using PDRs
- 63% of those will be bundled in with sat and cable boxes
- more than 66% of current PDR users timeshift programmes daily and surf a lot less

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

TechTrends
- Around 47% of US cable and satellite subscribers are willing to pay a separate monthly fee for personal TV services
- By 2003, U.S. shipments of PDR-enabled digital set-top boxes will grow to nearly 8 times those of stand-alone PDR set-top boxes.
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Personal Digital Recorders

- The TVA standard uses the term PDR to represent all devices, types of devices or systems that capture digital TV based content, for the consumer.
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The Business Models Group Role in TVAF

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

• 2. Geneva (11/99) - Identified benefits & scenarios for consumers, content & service providers, advertisers and devised three ‘evolution’ models for the CFC.

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

• 4. Osaka (3/00)- Converged all previous and developed ‘TVA Environment ‘document “RI” including functionality road map for use by content ref, metadata and rights groups

• 5. New York (5/00) - Phase 2, definitive value chain scenarios cross-linked to the final specification series - simple examples

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The Personal TV Stakeholders

- Content creators
- Content owners
- **CONTENT PROVIDERS**
- Advertisers, promoters & ad distributors
- Software developers
- **SERVICE PROVIDERS**
- Portal owners
- **NETWORK OPERATORS**
- **EQUIPMENT MANUFACTURERS**
- Equipment retailers
- **CONSUMERS**
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The TVA Environment

INTEGRATED TV
or TV/PC COMPONENTS

PDR
(local storage device)

Headend PDR
(remote personal storage)

Online
‘mobile device’

Multiple Networks
‘push & pull’ content

Portable Viewer
Docking capture
device eg: PDA, mobile

Removable media
Eg: DVD

Screen

Home ‘Hub’

Homer
Hub

In the TVA Environment, the integration of TV and personal computing devices creates a multi-platform ecosystem where content can be accessed and shared across different devices. This diagram illustrates the relationships between PDR (local storage device), Headend PDR (remote personal storage), Portable Viewer (docking capture device), Online (‘mobile device’), and Removable media (Eg: DVD). The ‘Home Hub’ acts as a central point of connectivity, enabling seamless interaction between these components and various networks.

The diagram highlights the concept of ‘push & pull’ content, where content can be actively delivered (‘push’) or accessed on demand (‘pull’). This flexibility allows for a dynamic and engaging media experience, whether through traditional TV, mobile devices, or other interactive platforms.

For more information, please refer to the presentation by Gary Hayes, Senior Producer, BBC Interactive, at IBC2000.
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Key implications for content providers

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

- Most content on demand, micro payments, packaging of specialist, popular and niche content

Understanding the audience

- Usage reporting - profiling the audience, aggregating individuals, public service & commercial feedback loop

Targeting of services for all

- Ads, trails, segments and highlights of programmes & interactive services can be cross-promoted and viewer relevant
Meet the audience
Broadcast - personally relevant to some
Regional or theme’d delivery - more relevant
Personal TV devices - relevant to all
Some key benefits for broadcasters

- ‘Up-loading’ (TV and eTV) in off-peak hours freeing up peak-time bandwidth - scheduling made easier
- Intelligent PDRs, ‘fish’ for content in regular schedule - making diverse output appear personally relevant (surprise still there)
- Managing rights - conditional access tracking
- Providing segmented, more compact programming if the viewer requires e.g.: educational programming more efficient with segmented, targeted learning levels
- A TV-Anytime environment will support a content provider’s basic rights, such as their copyrights. The environment will ensure the integrity of their content, disallowing association with unsuitable material from other providers. It will also disallow unauthorized storage of their content.
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TV-Anytime. Some key opportunities

- Interactive and targeted advertising & promotions
- Multiple pricing for ad-free, ad-full & targeted ad content
- Targeted programming, content rental and sales
- Other services based on returned consumer usage data
- 3rd party services offering “virtual channels” or “trusted guides”
- On-demand access to up to date information e.g.: news or weather updated on the PDR as events update
- Many more - join the forum and contribute!

(See Kellie McKeown or Simon after)
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THE THREE MODELS

www.tv-anytime.org

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

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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 “limited return 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 “continuous return channel, 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>
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<tr>
<td>2</td>
<td>Record and playback an AV stream</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Simultaneous record and playback</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Live pause</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Content Search and Access</td>
<td>II</td>
<td></td>
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<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>
</tr>
<tr>
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<tr>
<td>12</td>
<td>Multi-user profile support (personalisation/agents)</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Multi-modal operation</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Targeted services using local profiles (personalisation/agents)</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Compliance to all content delivery mechanisms</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Synchronisation of stored &amp; ‘live’ content</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Supports a variety of content types regardless of source, delivery channel or medium</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Transferring/archiving content to &amp; from other local devices</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Using other devices to control PDR remotely</td>
<td>IV</td>
<td></td>
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*Rights Management & Protection
*Return Path*
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<tr>
<td>20</td>
<td><strong>Limited eCommerce</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Ability to pull content</td>
<td>II-IV</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Synchronisation of cross media with pull elements</td>
<td>IV</td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td>Usage data can be exploited (e.g: rights)</td>
<td>III+VI</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>Consumer profile data can exploited by all</td>
<td>III+VI</td>
<td>2</td>
</tr>
<tr>
<td>25</td>
<td>3rd party management of PDR</td>
<td>III+VI</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>Updating of content with verification</td>
<td>III</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>Content usage verification</td>
<td>III-VI</td>
<td>2</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>2</td>
</tr>
<tr>
<td>29</td>
<td><strong>Full Pay Per Choice eCommerce capable</strong></td>
<td>I-VI</td>
<td>2</td>
</tr>
</tbody>
</table>
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TVAF - Feature levels 1 of 2
Record & Playback (Feature Levels 1, 2, 3)
  *Impulse Record, Impulse capture*
Live Pause (Feature Level 4)
  *Pause Modes*
Content Search And Access (Feature Level 5)
  *Selecting Content, Selection Enhancements*
Playback Of Content In Indexed/Highlight Mode (Feature Level 6)
  *Segmentation, Skipping, Highlights and Track changing*
  *Scheduled TV and Online Browsing*
Bookmarking & Personalisation (Feature Level 7)
  *The Agent, Personalized Capture Modes*
Portability Of Consumer Profile (Feature Level 8)
  *Personalized Filtering and Search, Portability of Personal Profiles*
Updating Of Content (Feature Level 9)
  *Updating*
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TVAF - The Feature levels 2 of 2

Storage Management (Feature Level 10)
  Preferred Quality
Profile Management (Feature Level 11)
  Playback Preferences, Preferred Providers
Multi-user Profile Support (Feature Level 12)
  Multi-user Log-in, Multi-user PDR Operation, Multi-user PDR Management
Multi-Model Operation (Feature Level 13)
  Non-EPG or TV Content Selection
Targeted Services (Feature Level 14)
  Personalized ‘Targeting’
Non-A/V Content Support (Feature Levels 15, 16, 17)
  TV to Web/Data Services Links
Transferring And Archiving (Feature Levels 18, 21)
  Archiving
Networking Using PDR etc...(Feature Levels 19, 22, 24 through 29)
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THE END

want more? concept

Contact
gary.hayes@bbc.co.uk

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