TV-Anytime. Business Models

Personal Television Systems
"Real World scenarios leading Open Standards"

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Chair of TV-Anytime Business Models

TV-Anytime. Business Models

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

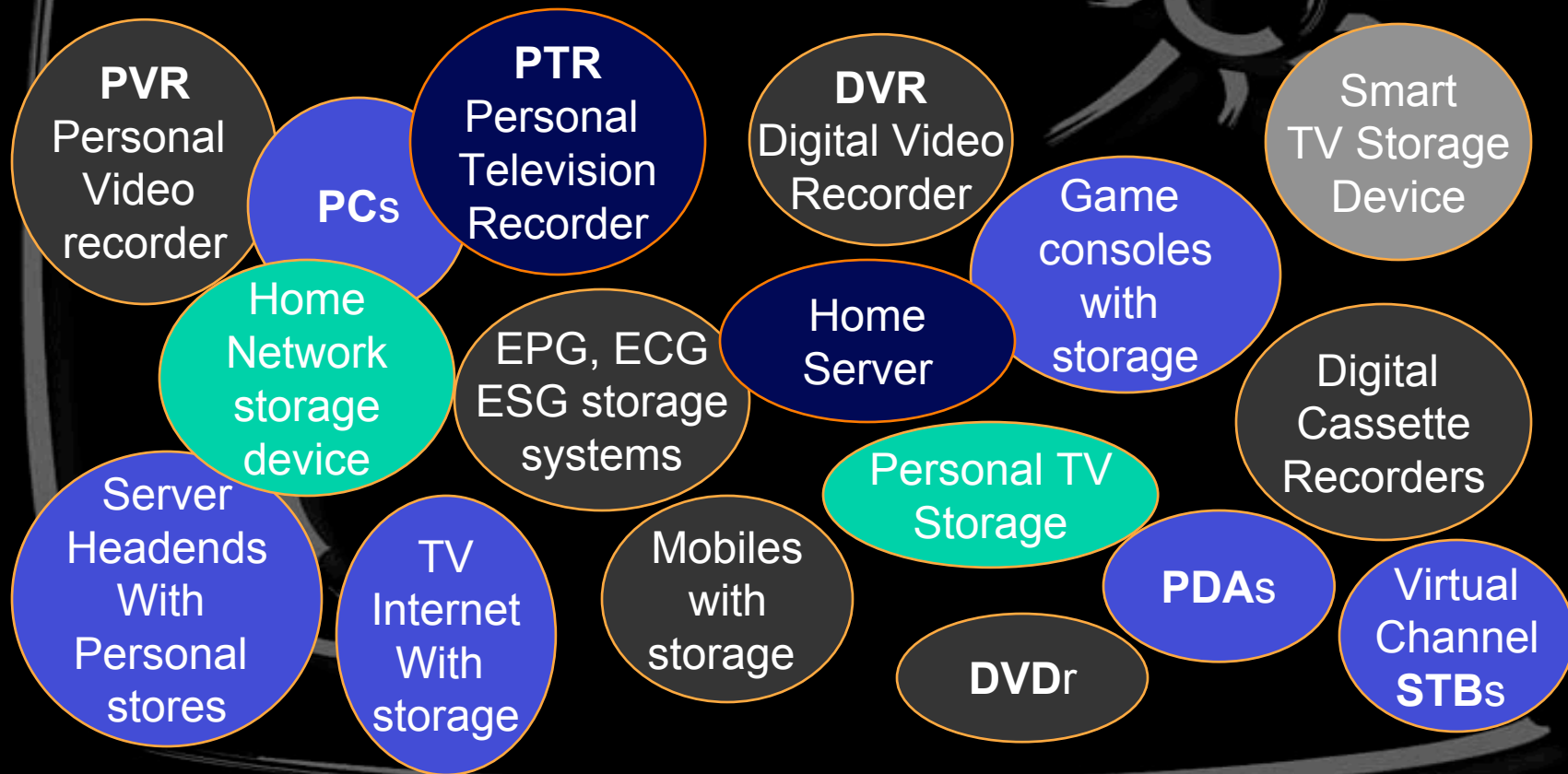- 95% of content in US will be viewed from off-line devices 2005

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

PVR Personal Video recorder

PCs

PTR Personal Television Recorder

DVR Digital Video Recorder

Smart TV Storage Device

Home Network storage device

Game consoles with storage

EPG, ECG ESG storage systems

Home Server

Personal TV Storage

Digital Cassette Recorders

Server Headends With Personal stores

TV Internet With storage

Mobiles with storage

PDAs

DVDr

Virtual Channel **STBs**

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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 "R1" 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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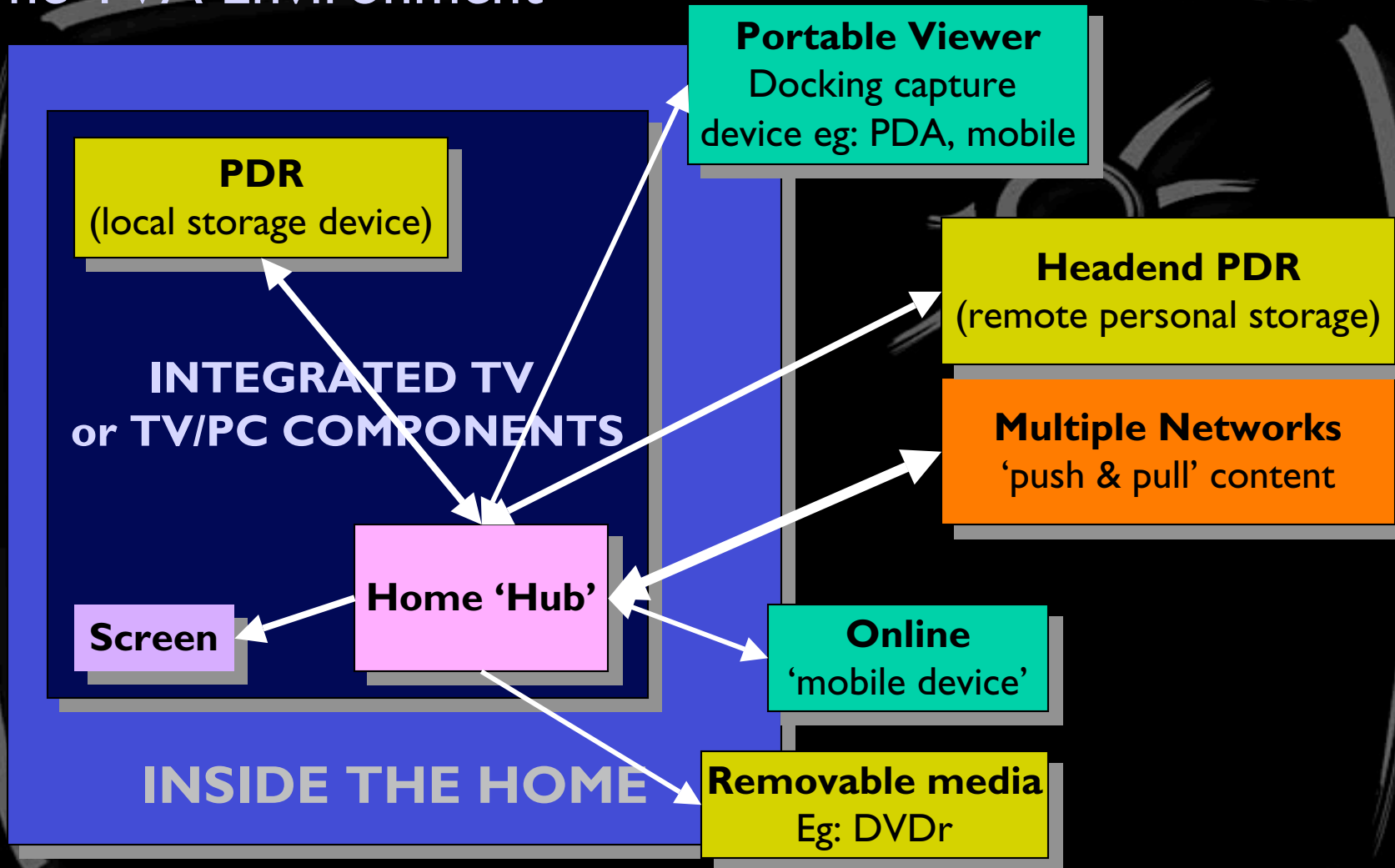
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The Personal TV Stakeholders

- 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

Portable Viewer
Docking capture device eg: PDA, mobile

PDR
(local storage device)

Headend PDR
(remote personal storage)

INTEGRATED TV or TV/PC COMPONENTS

Multiple Networks
'push & pull' content

Home 'Hub'

Screen

Online
'mobile device'

INSIDE THE HOME

Removable media
Eg: DVDr

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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

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Broadcast - personally relevant to some

Regional or theme'd delivery - more relevant

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Personal TV devices - relevant to all

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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

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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"* >>>

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Priority	PDR Functionality	Scenario	Models			
			1a	1b	2	3
1	Instant Record	I				
2	Record and playback an AV stream	I				
3	Simultaneous record and playback	I				
4	Live pause	I				
5	Content Search and Access	II				
6	Playback of content in indexed/highlight mode	II				
7	Book marking (personalisation/agents)	III				
8	Portability of user profile (personalisation/agents)	IV				
9	Updating of content	III				
10	Storage management – basic & advanced (e.g: quality)	I - III				
11	Profile management (personalisation/agents)	III				

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Priority	PDR Functionality	Scenario	Models			
			1a	1b	2	3
12	Multi-user profile support (personalisation/agents)	III				
13	Multi-modal operation	IV				
14	Targeted services using local profiles (personalisation/agents)	III				
15	Compliance to all content delivery mechanisms	IV				
16	Synchronisation of stored & 'live' content	IV				
17	Supports a variety of content types regardless of source, delivery channel or medium	IV				
18	Transferring/archiving content to & from other local devices	IV				
19	Using other devices to control PDR remotely	IV				

Rights Management & Protection
*Return Path**

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Priority	PDR Functionality	Scenario	Models 1a	1b	2	3
20	**Limited eCommerce**	VI			■	■
21	Ability to pull content	II-IV				■
22	Synchronisation of cross media with pull elements	IV				■
23	Usage data can be exploited (e.g: rights)	III+VI				■
24	Consumer profile data can exploited by all	III+VI				■
25	3rd party management of PDR	III+VI				■
26	Updating of content with verification	III				■
27	Content usage verification	III-VI				■
28	Networking using the PDR (e.g: email, remote control by mobile, etc)	IV-V				■
29	**Full Pay Per Choice eCommerce capable**	I-VI				■

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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)