

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**

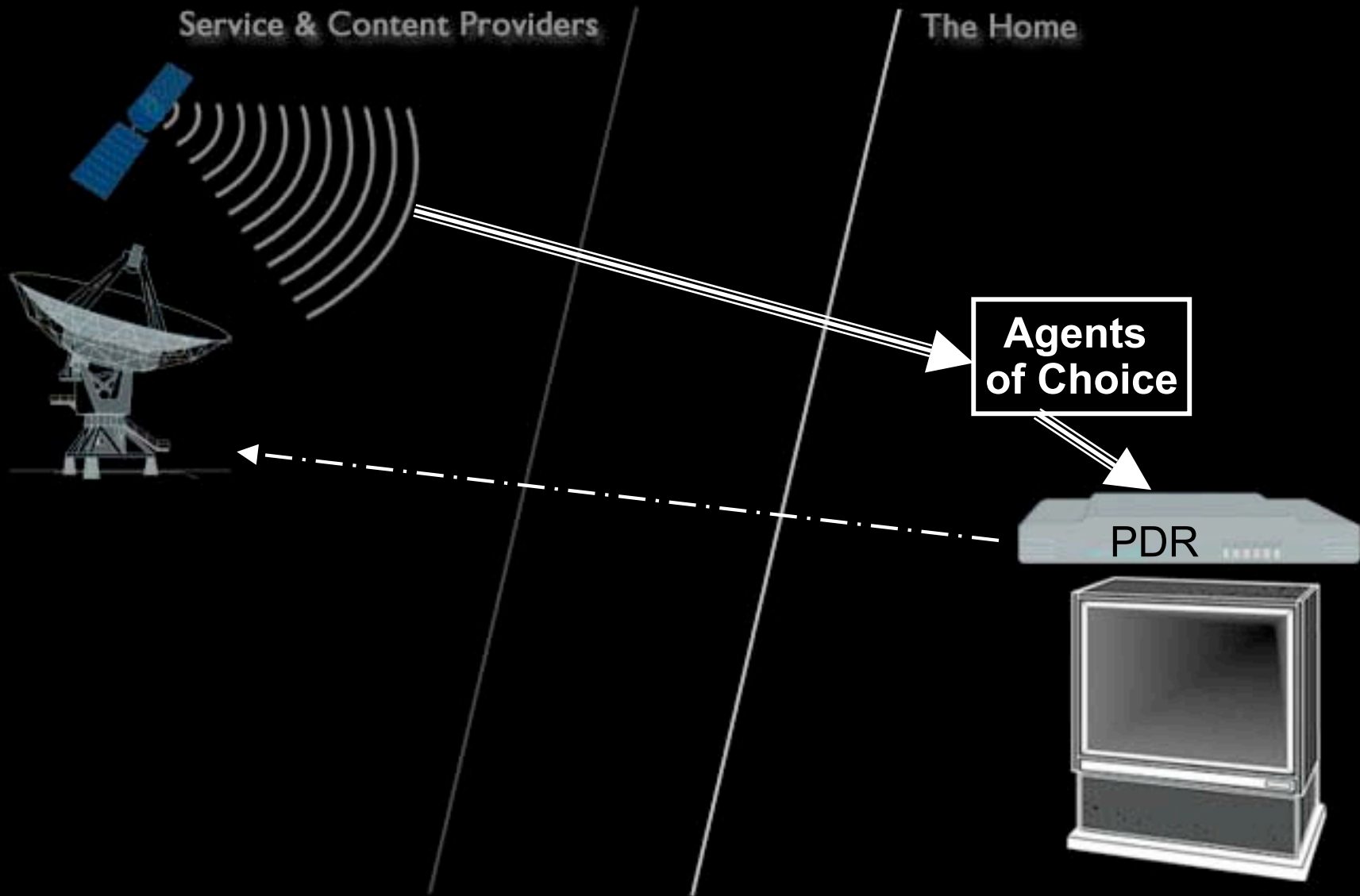
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What is Personal TV?

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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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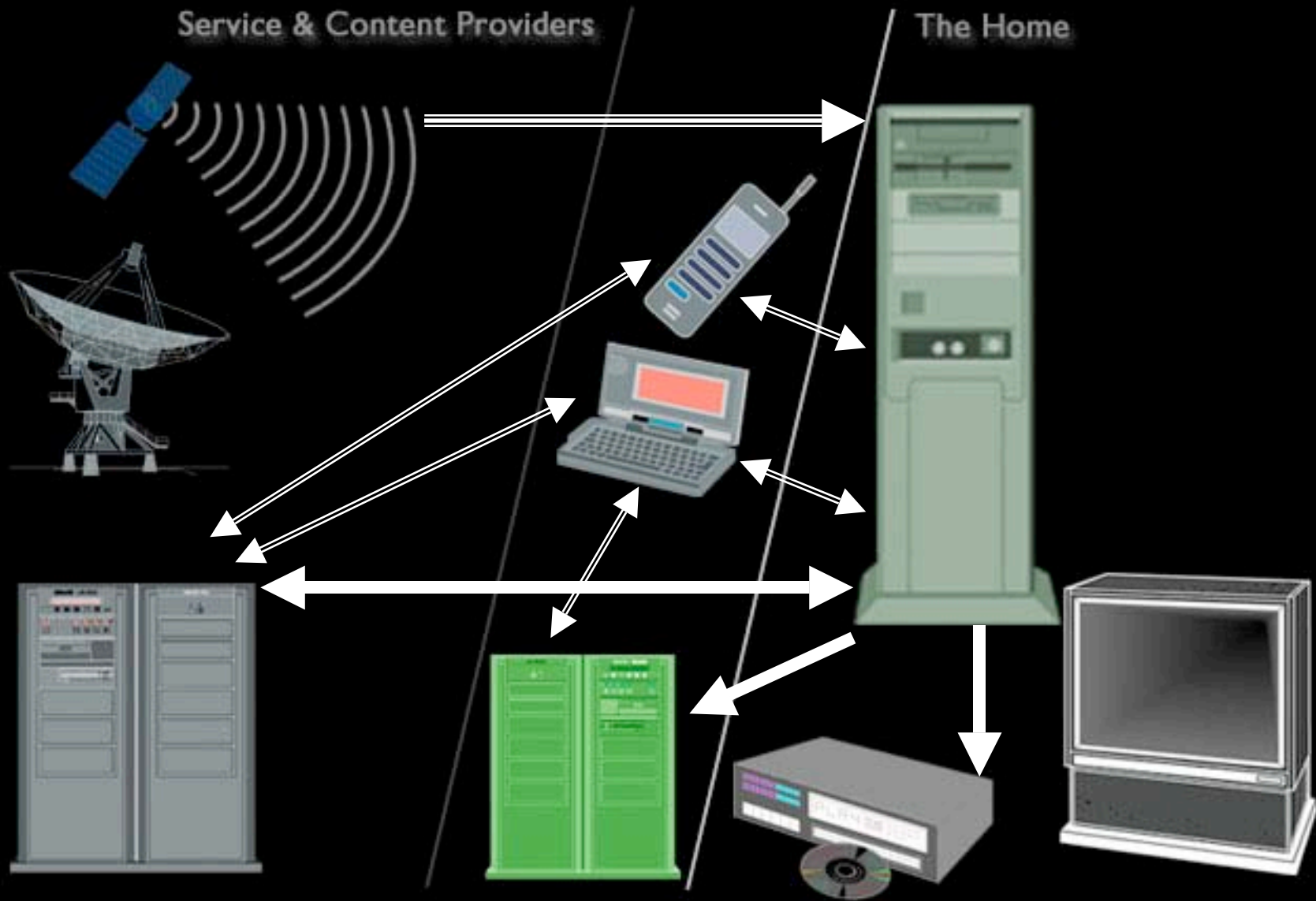


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What is Personal TV?

- 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...

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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

LOCAL STB

TiVo
Sky+
DVD-r
DVR
IntTV's
Dcable
DSL
PC
etc:

DIGITAL HUBS

Apple
Microsoft
Sony
HP
Samsung
Philips
Linux
etc:

DELIVERY

dBroadcast
Analogue
3G
IP
DVD
etc:

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Clear and present danger
“Over the first hill”

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WE'VE ALL SEEN THE NEWS!

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NEWSPAPER OF THE YEAR
www.irishnews.com

the **IRISH NEWS** ***

Tuesday April 1 2003 45p (GB 65c; IR €0.80)

Rockstar chic – how to achieve the look Fashion: Page 18

Robbie back for Republic Sport: Back page



A flaming disgrace....

SMOKE SCENE: A fire, believed to have been started maliciously, rages across a mountainside outside Newry on Sunday night. About 40 firefighters spent more than four hours bringing the blaze under control. See story P12. PICTURE: David Hynes

YOU SKIP A COMMERCIAL, YOU'RE STEALING PROGRAMMES

By Barry McCaffrey

THE family of a Coalsland man, abducted at gunpoint and forced to carry a placard in public labeling him a rapist, last night called on republicans to clear his name.

The 24-year-old father of one is now in hiding outside Northern Ireland after being ordered out following the public humiliation.

The mother has demanded that Sinn Féin the law for son innocent.

The man, who worked as a joiner, had been accused of raping a teenage boy. A senior police officer in the area described the gang who abducted him as "wounded, unappointed bullies, masquerading as judge and jury".

The man's mother, who was too afraid to be named, said: "This whole thing started after my son and his partner allowed this teenager to sleep on their couch after he had fallen out with his house."

"They thought they were doing someone a favour by letting him stay, but the next thing was that allegations started flying around that my son had raped this person."

"When my son heard what was being said he went straight to the police and offered to take whatever tests was necessary to prove he hadn't touched anyone."

"But the police told him that no complaint had been made so they could do nothing."

The alleged rapist was then abducted on his way to work last Monday morning.

"They drove him to some place where he was made to kneel on the floor and had what he thinks was a gun put to the back of his head."

"They forced him to write on a placard that he was a rapist and made him walk through the town with it on."

Calling for Sinn Féin to clear her son of the rape allegations, she added: "There is absolutely no evidence against my son."

"The person who claimed my son had raped him has made no complaint to the police."

"Now my son is in hiding and his partner and their child are living in a hotel because of totally unfounded allegations."

But a Sinn Féin spokesman said: "Sinn Féin had nothing whatsoever to do with anything that happened in Coalsland last week."

Dungannon Child Superintendent Eddie Graham condemned the abduction.

"A lot has been said and written about the humiliation of a young man. Allegations have freely flown about the young man. His alleged victims and the DSPN, he said.

"Damage has been done to the people of Coalsland by malicious, unproven allegations, masquerading as justice and law. (Damage) has been done to the victims of sexual offences who may now not feel able to contact police."

"It (damage) has been done to the young man at the centre of this despicable incident."

Story in full = P5

Principals slam 'rogue' governors

By Annas Bonner
Education Correspondent

SCHOOL governors are abusing their powers and even wandering in and out of classrooms at will, a conference of principals heard last night.

Fern Turner, regional official of the National Association of Head Teachers (NAHT), was calling for new powers to remove 'rogue governors' from schools.

She said the vast majority of Northern Ireland's thousands of voluntary governors provided a great service to schools, but some used their position in "an abhorrent manner".

"We have governors throughout Northern Ireland who appear to believe that their role is the day-to-day management of the school, and who wander in and out of the school and classrooms at will," she said.

"Legislation in England is at last attempting to address the worst abuses of the system. However, there has been no movement at all in this respect in Northern Ireland."

Principals at the NAHT's annual conference in Templepatrick had been demanding greater powers to ban both disruptive children and parents.

Ms Turner described existing measures to help schools keep a lid on violence by pupils as "a farce".

"What can you do when you have tried every possible option available and you know that within the next week or month they will be strutting down your corridors again?" she asked.

"Governors in England have been given the power to permanently exclude pupils. Why have we been denied this legislation?"

Story in full = P12

BBC New Media

Gary Hayes, Senior Development Manager. NAB '03

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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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IRAQ WAR DAY 13 LATEST

The Telegraph

TODAY'S NEWS TODAY CITY

TUESDAY APRIL 1, 2003 • 50p (€0.86) • EST 1870 • www.bellstteleggraph.co.uk

UNCOVERING THE SCARS WITHIN
THE CAREER CHALLENGE OF FACIAL DISFIGUREMENT

JOBFINDER

ALL THE LATEST JOBS FOR TEACHERS, CIVIL SERVANTS AND NURSES

BUILDING FOR THE FUTURE
COLLECTOR CARD INSIDE TODAY P11

30 second ad is Dead

says Guenther.
Advertising's worst nightmare

By Sue Lewis and Brian Walker

THE brother of Northern Ireland's first Army casualty to be shot in Iraq was at her side today after Army chiefs flew her to England.

The Irish Guards soldier, believed to come from the greater Belfast area, was evacuated to the UK after being shot in the leg during fighting in the southern city of Basra.

He is in hospital in an unknown location being treated for a flesh wound.

"Unfortunately his injury is not serious," an Army spokesman said.

No more details are being released at the family's request.

More than 100 troops from the province are serving with the 1st Battalion the Irish Guards, which forms part of 2 Armoured Brigade - also known as the Desert Rats.

They have been involved in fighting in Basra against a force of fighters loyal to Saddam Hussein.

Warwick, a brother from the Irish Guards, said he was "in the hospital" in Basra. "I think we're going to target enemy positions and the other side of the river."

...serving in the Gulf as the likelihood of casualties is quite large, which is why I have appealed to people to give their support to the troops and to pray for their safe return."

The shooting of civilians at army checkpoints has reacted against the Iraq campaign, serious back the health and minds campaign to win over civilians.

In the latest incident today, US troops killed an Iraqi near Shatra, a town ruled by US forces yesterday to capture Chemtani Air. The commander of Iraqi forces in the south.

Commander of a local militia in Northern Ireland surrounded the water truck, where eight American troops killed at least eight Iraqis after their Toyota van killed an Iraqi at an army checkpoint near Basra.

It happened only 20 miles from where a suicide bomber in a taxi killed four US soldiers at a checkpoint on Saturday.

US Central Command said the soldiers fired a warning shot, then a shot into the pack and "then as a last resort fired into the pack."

...the tipping point" in Basra and Basrah when local...

WAR IN IRAQ: INSIDE TODAY

BBC New Media

Gary Hayes, Senior Development Manager. NAB '03

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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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The Belfast Telegraph TUESDAY APRIL 1 2003

Jobfinder **PUBLIC SECTOR** 10 PAGES TODAY

NORTHERN IRELAND'S BIGGEST JOB MARKET • TO ADVERTISE CALL 02890 264338 www.belfasttelegraph.co.uk

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 Allam tells **Jane Bell** of the depth of suffering she and her team found in a major new Ulster study

TIME-SHIFTED TV - TRULY 'DISRUPTIVE'



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Clear and present danger

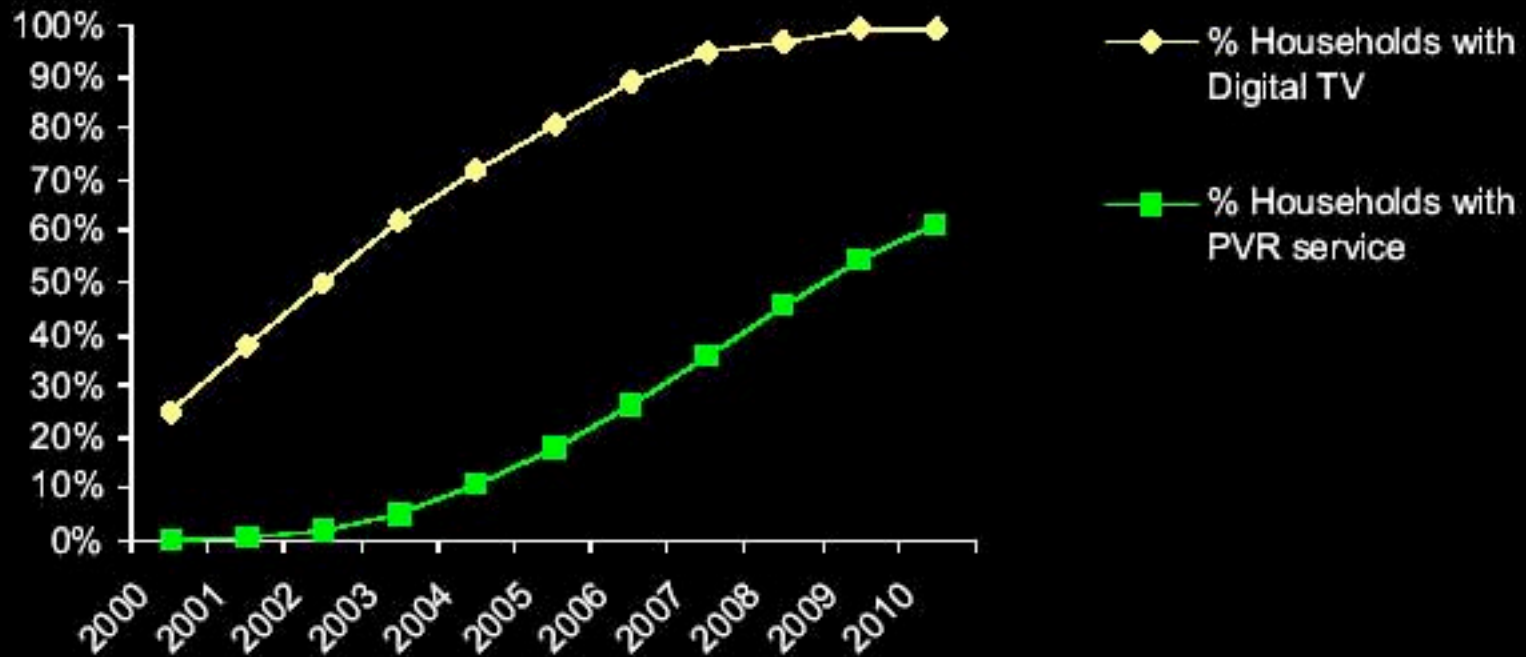
PVR's will **kill broadcasting** especially commercial broadcasting.

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

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Clear and present danger

Question

What adverts will people not want to skip?

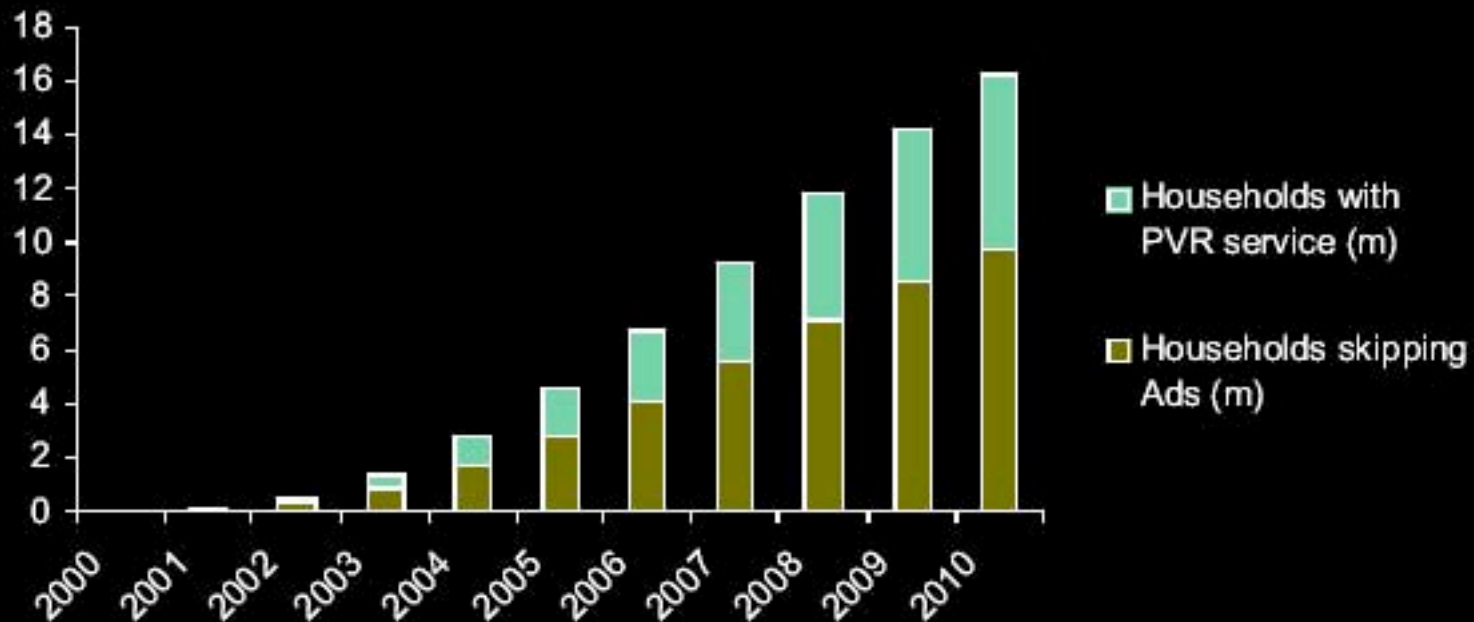
Answer

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

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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)

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UK Ownership of entertainment related devices

	Ownership (% of UK households)
Colour TV	96
2+ TVs	60
TV sets 28" & over	16
One VCR or more	84 (of which 19% have two or more)
Video Games	29
Non PC DVD players	1

Source: BARB Establishment Survey 1999, Screen Digest, TGI

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 &
monitisation*

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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

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NEW AD MODELS - INNOVATION?

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'

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NEW AD MODELS - INNOVATION?

Topicality

Updating of commercials on the PDR
to retain timeliness

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NEW AD MODELS - INNOVATION?

Forced ad playback insertion

e.g: 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?

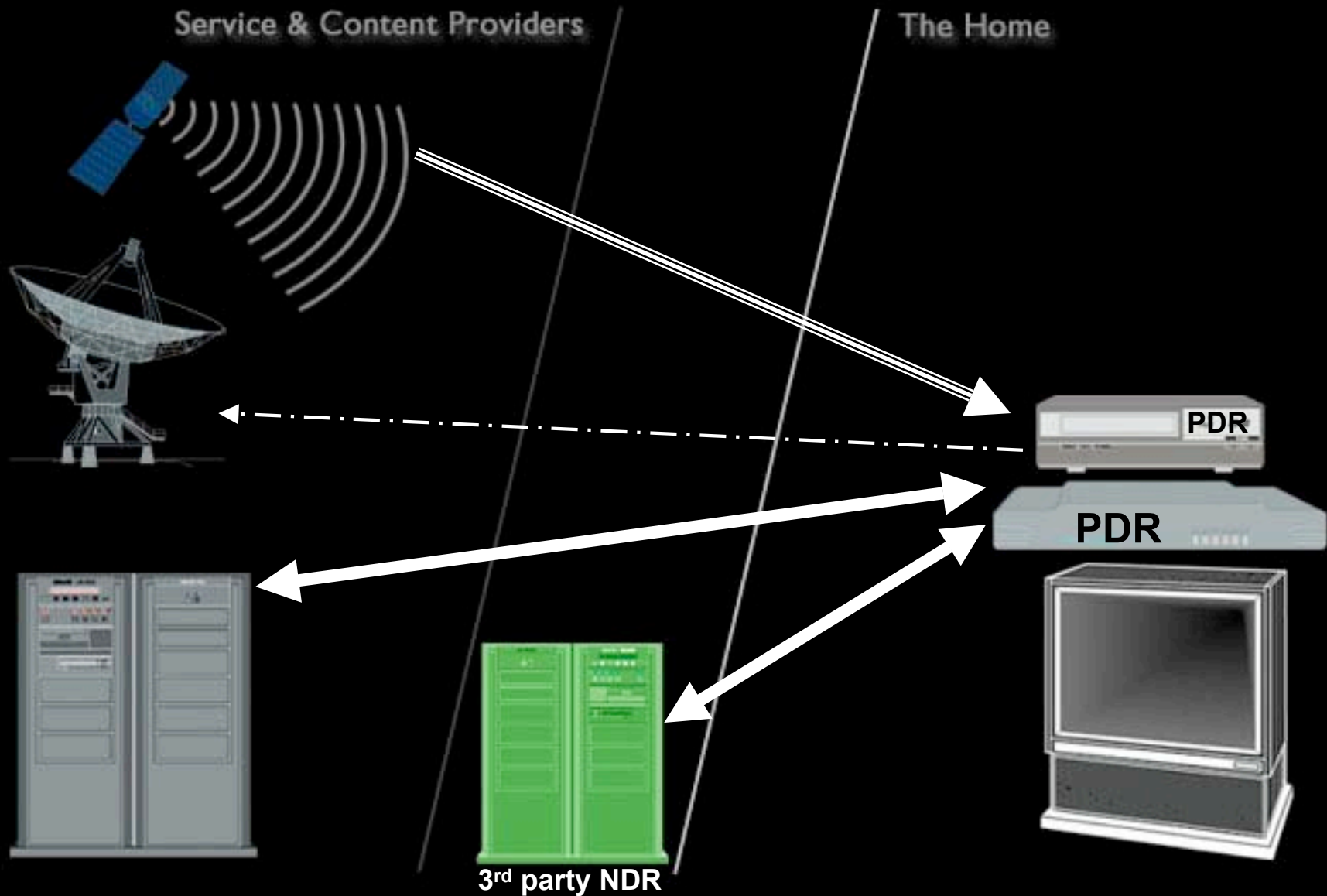
Guaranteed number of impressions
eg: Brand buys 25 non-skippable impressions
for every PDR on the market

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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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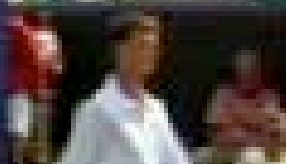


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BBC interactive services, people want to interact

- 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
Press SELECT

	Centre	T. Henman 3	S. Draper 5
	Court 1	M. Rosset 2	N. Escude 5
	Court 2	M. Chang 6 1	S. Schalken 7 4
	Court 3	V. Zvonareva 6	I. Majoli 5
	Court 18	Mandula/Wasch 5 1	Capriati/Hdovak 4 0

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...

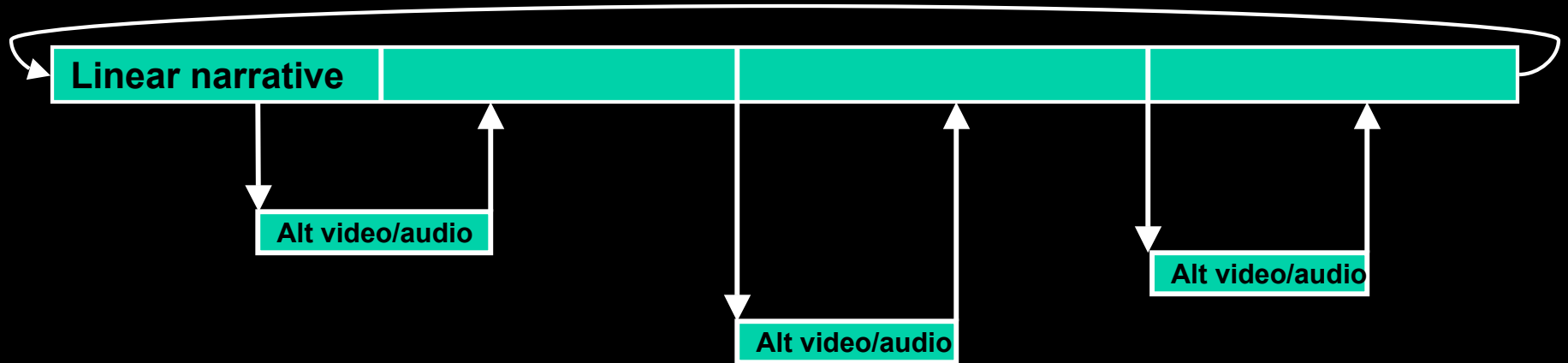
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NLN01 (non-linear narrative) - Parallel, sequential, temporal

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...

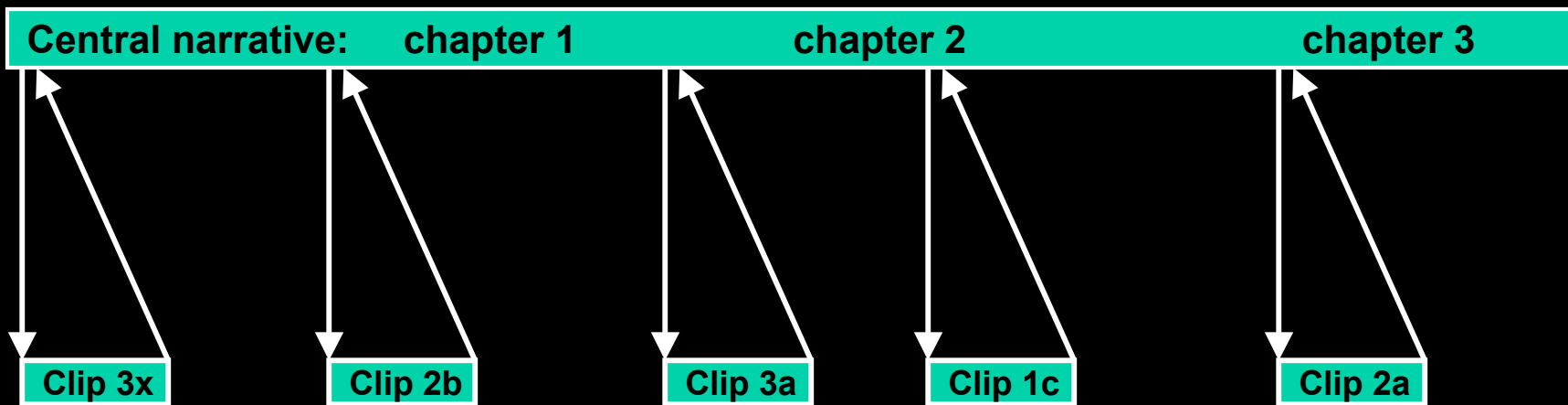


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NLN02 - Sequential, tangential scenes

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.

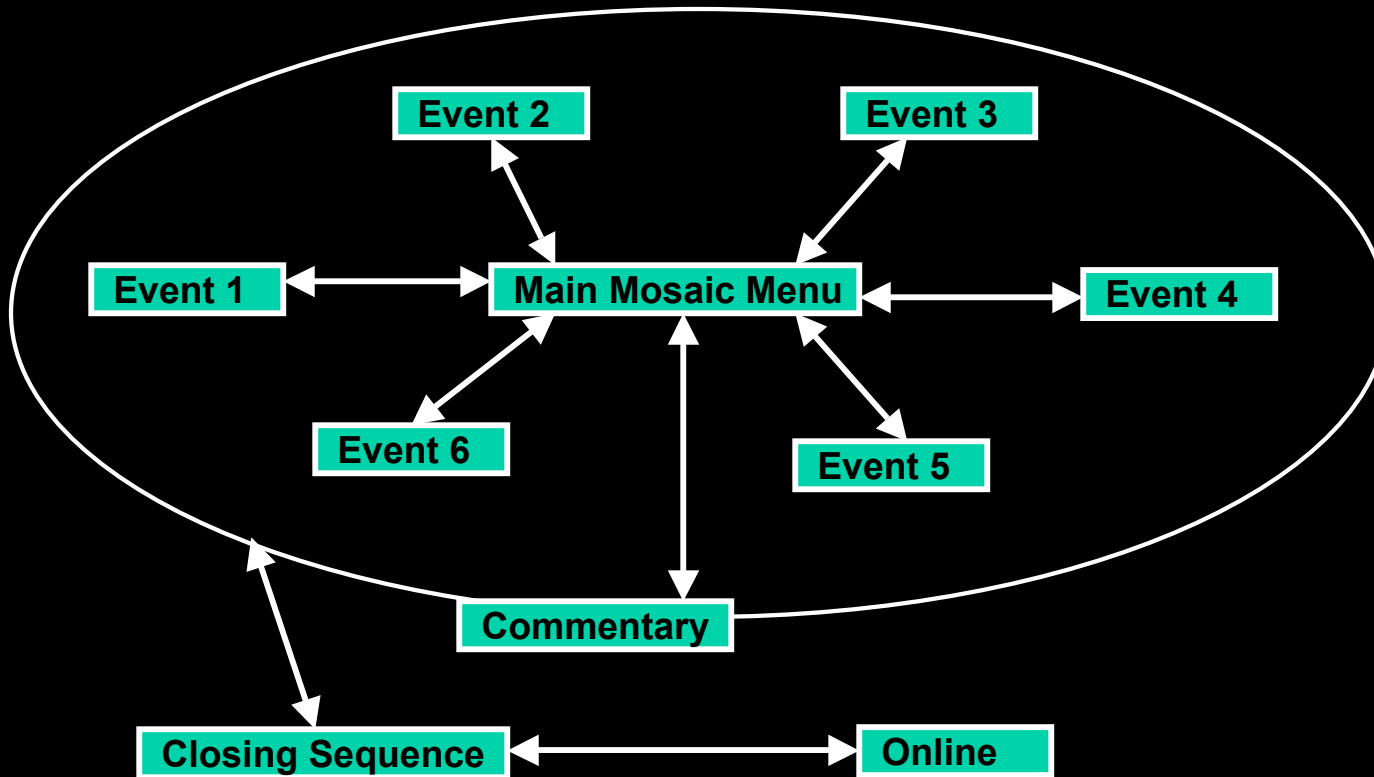


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NLN03 - Single node scene menu

A window on the world. Viewers get to choose key events in any order from a central menu.

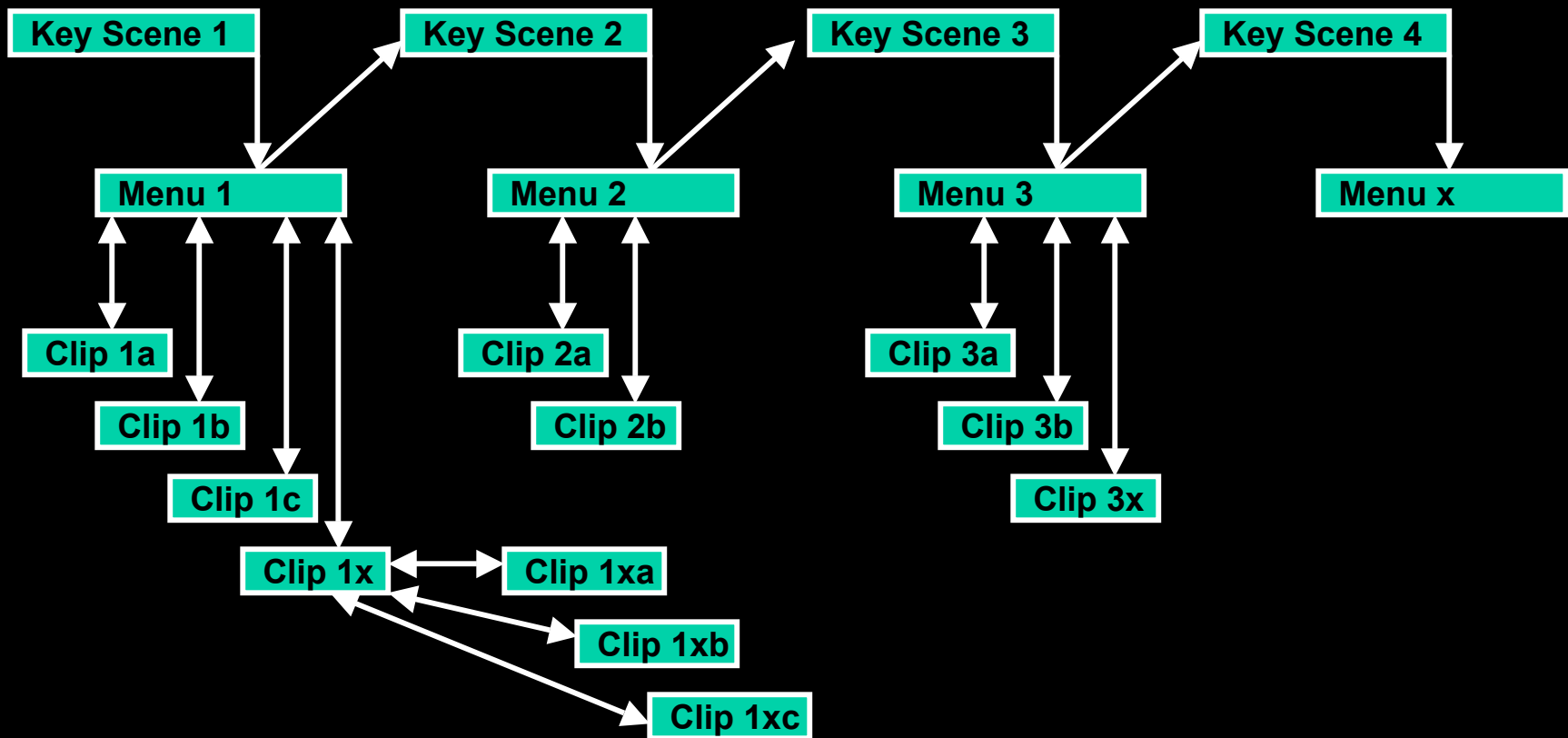
In this example a mosaic 'mind-map' interface, shallow hierarchy, convergent sequence leading to closure and conclusion



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NLN04 - Sequential and branching hierarchy with fixed junctions

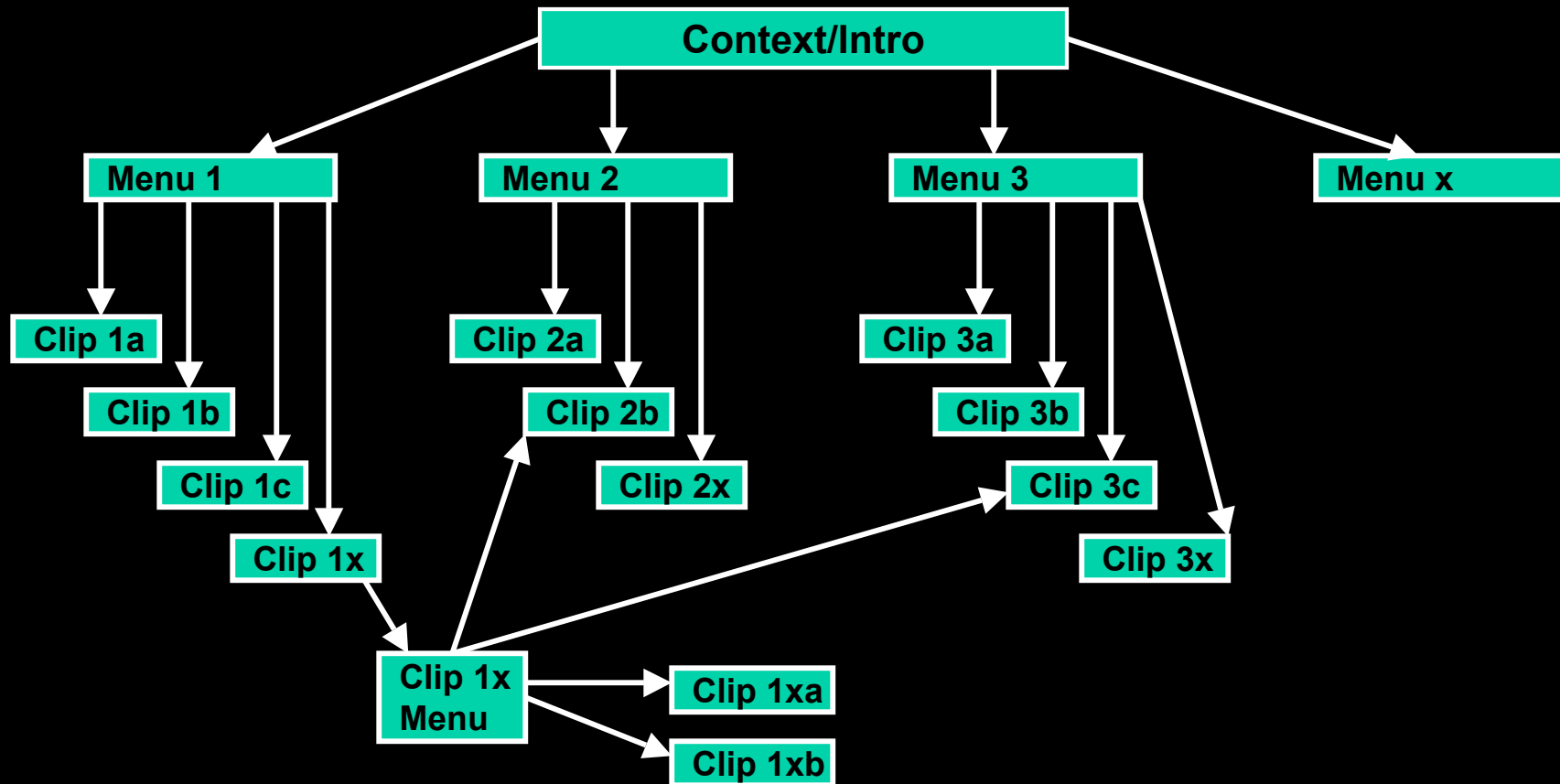
Sequential journey through key scene clips laid out in a order. The tangential deep hierarchical links at junctions give more perspective or background. They pick up where they left off to go to the next scene - ideally suited to gaming-type progression with challenges at main junctions.



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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.



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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**

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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*
- *Stategy 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>