

UK Interactive Development

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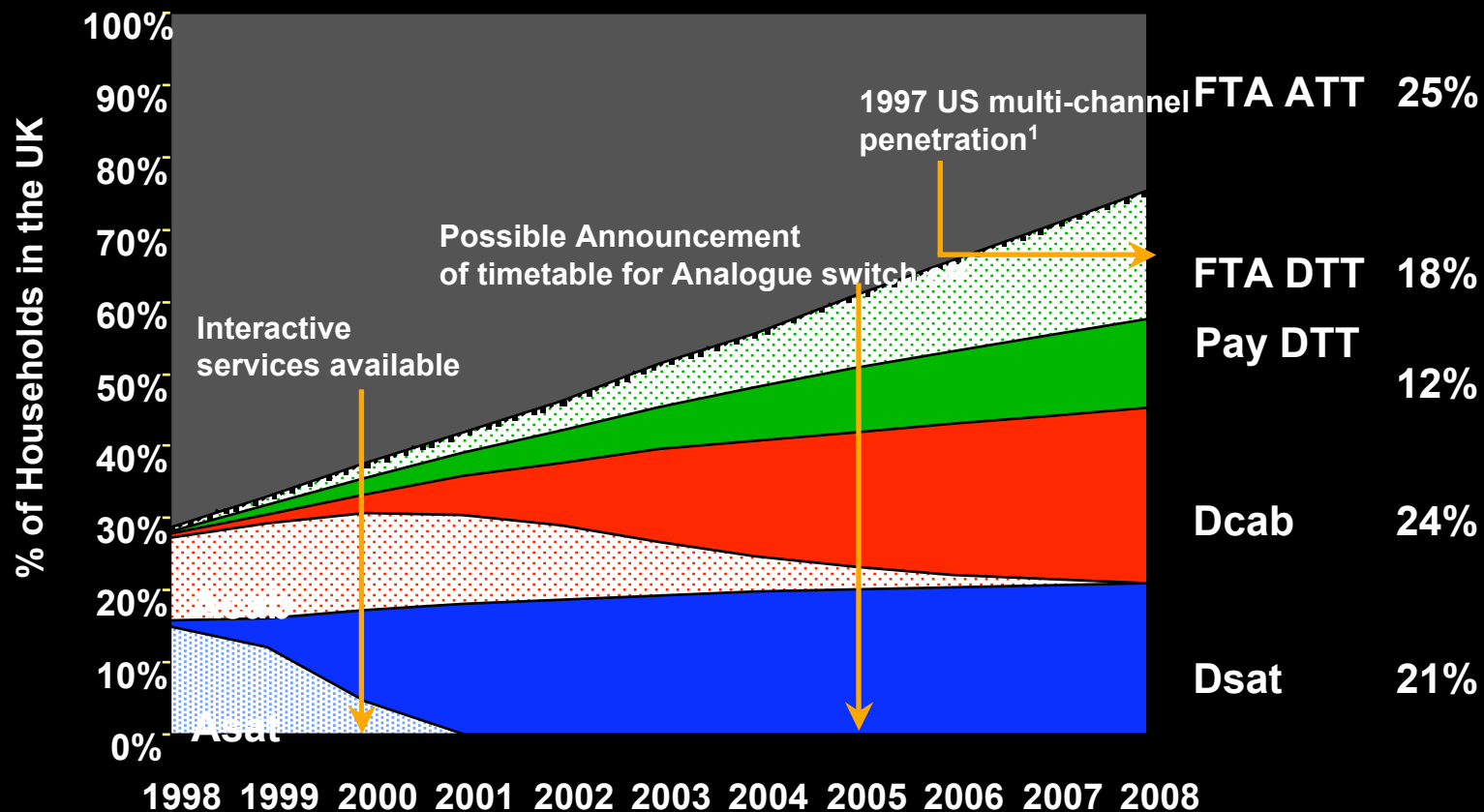
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Summary

- Prediction of Digital TV penetration
- Choice of distribution confusion
- 3 key developments - games, mobiles & storage
- **TIMELINE - technical & content possibilities**

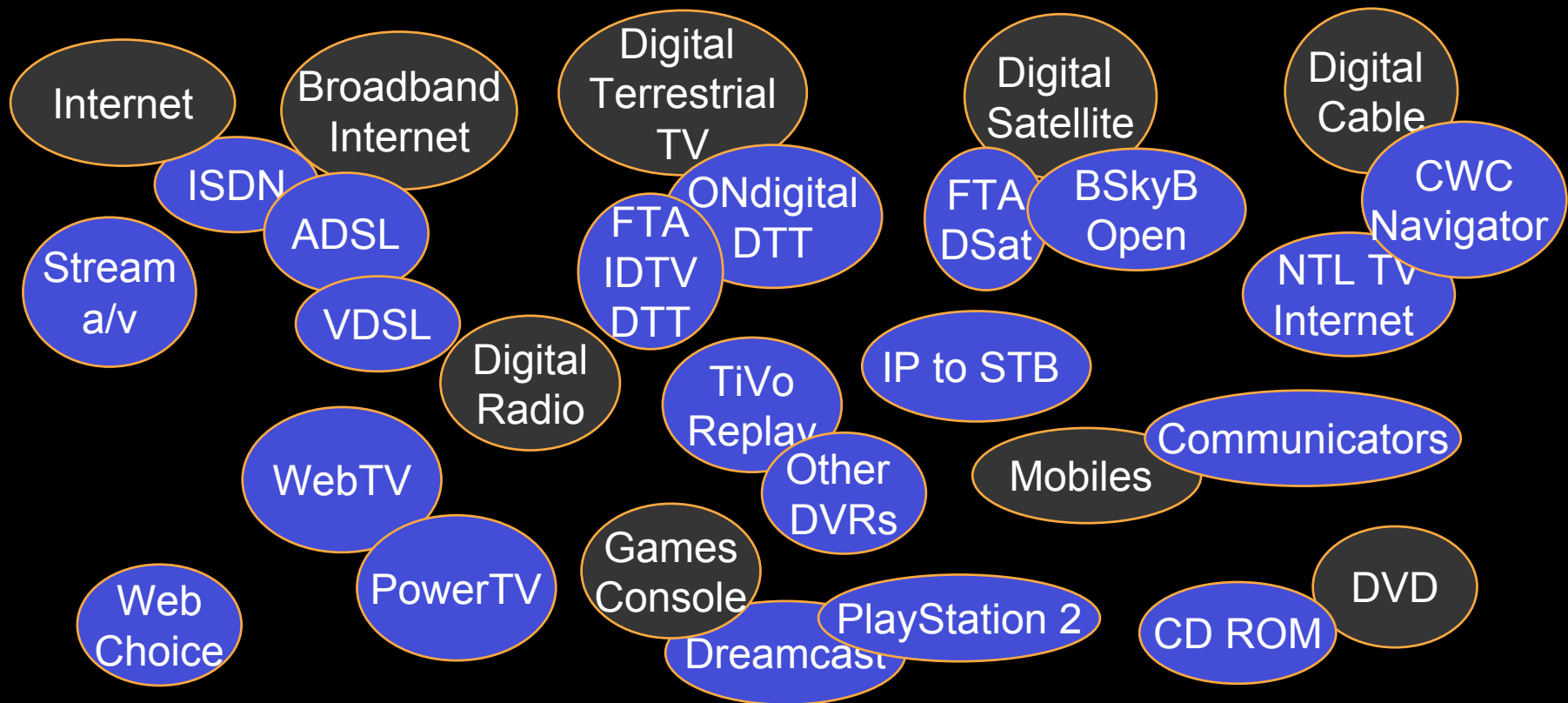
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Growing pains



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Quick, choose a distribution platform!



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Interactive Consoles - aka games

- Play Station 2. UK shops late 2000. 66 million polygons per second. Can play DVD's. Backward compatible & access to internet. MPEG2 decoder, may be able to receive DVB transmissions. 'Emotion synthesis'
- Currently 6 million consoles in UK
- DreamCast - uses Windows CE. Launched 9 Sept, built in modem. **Sold one million units in 6 weeks!**

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Mobile Interactivity

- Now 60% Finland, 50% UK, 30% US (non-Open)
- Now SMS - short messaging services, Email & web
- Predicted (Forester) 700 million mobile users by 2003
- WAP (Wireless Application Protocol) \$500 mobile to receive fast web, pics & low quality video
- G3 - small mobile, mobile connected computers
- Bluetooth - local communication with TV, PC, STB
- Anywhere RAM - remote comms with all home devices

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Bright future - local storage

Storage possibilities - Introduction

- In the last 10 years there has been a **100 fold increase** in the capacity/cost ratio of hard disks - doubling every 10 months
- In 2000, 10 GB of hard disk storage will cost \$100, providing four hours of MPEG2 audio-visual storage
- The capacities below, doubling every 10 months or a pessimistic 18 months, are based on 5.5Mbit/s video stored on a \$200 disk,

<u>Year</u>	<u>Pessimistic</u>	<u>Expected</u>
2000	8 hours	8 hours
2005	80 hours	480 hours
2010	800 hours	28,800 hours

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Storage possibilities - Introduction

Forester research in to Personal Storage

- by 2001 900,000 people will be using PVR's
- by 2003 there will be 4 million
- by 2008 **80% of the World's population** will be using Personal Storage systems

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Storage possibilities - Benefits for BBC

- Usage reporting data - did people request & store programming
- Profiling the audience - aggregating individuals, public service
- Targeted push/pull services - ads, trails, programmes, apps
- Downloading (Web, TV and eTV) in off-peak hours
- Transaction control - for eCommerce providers
- Rights management - conditional access reporting

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Current PVR commercial activity NOW!

- TiVo service in the US. 48 hours storage as standard. Already provide live linking from promos and ads to PVR functions. Partners - America Online, Discovery, News Corp, TV Guide, NBC, CBS, ABC, Sony & Showtime
- Replay TV. PVR technology. Partners - Time Warner, Disney, Liberty Media, United Television, Matsushita Kotobuki Electronics, and Showtime
- Fast TV in Germany. 30 hours with mobile and internet interoperability - i.e: control your PVR via web or mobile phone
- Others include EchoStar's DISH player-WebTV. BSkyB/Java storage & many others kicking off

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Storage possibilities - Benefits for BBC

In the **USA** there are 10 million able to adopt PVR technology now:

TiVo announced two recent broadcasting deals:

- 1 With Direct TV - 7 million subscribers end July
- 2 with Echostar/WebTV's set top with storage - 2.7 million users

In **Europe** TiVo have partnered with Philips who are building D-Boxes

- Kirsch (German Satellite 1 million - "Premier World" 3 years old) are the first to adopt this new technology
- Philips and TiVo are actively building relationships with Canal + and TPS etc to swamp the market
- 'Singularis' developed boxes for Ono, Spanish broadcaster. 3.5 mill
- BSkyB are already moving to have their own storage devices

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Some of the 28 inaugural member organisations of TV anytime



SONY

CANAL+

Microsoft

BBC Broadcast



NOKIA
CONNECTING PEOPLE



SHARP



Pioneer



Helecon

NOB INTERACTIVE

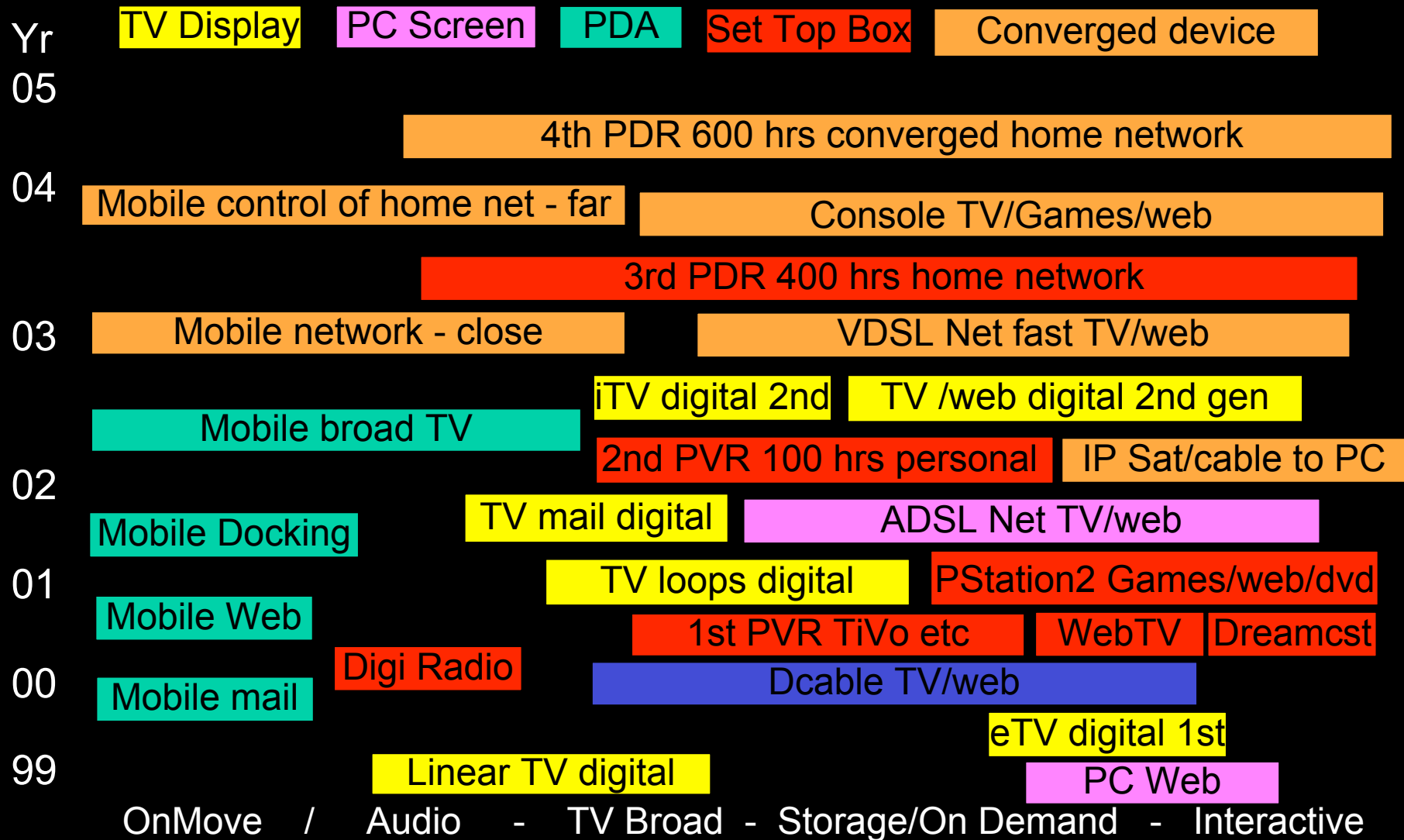


BBC Broadcast

G Hayes 17/11/99

Interactive TV

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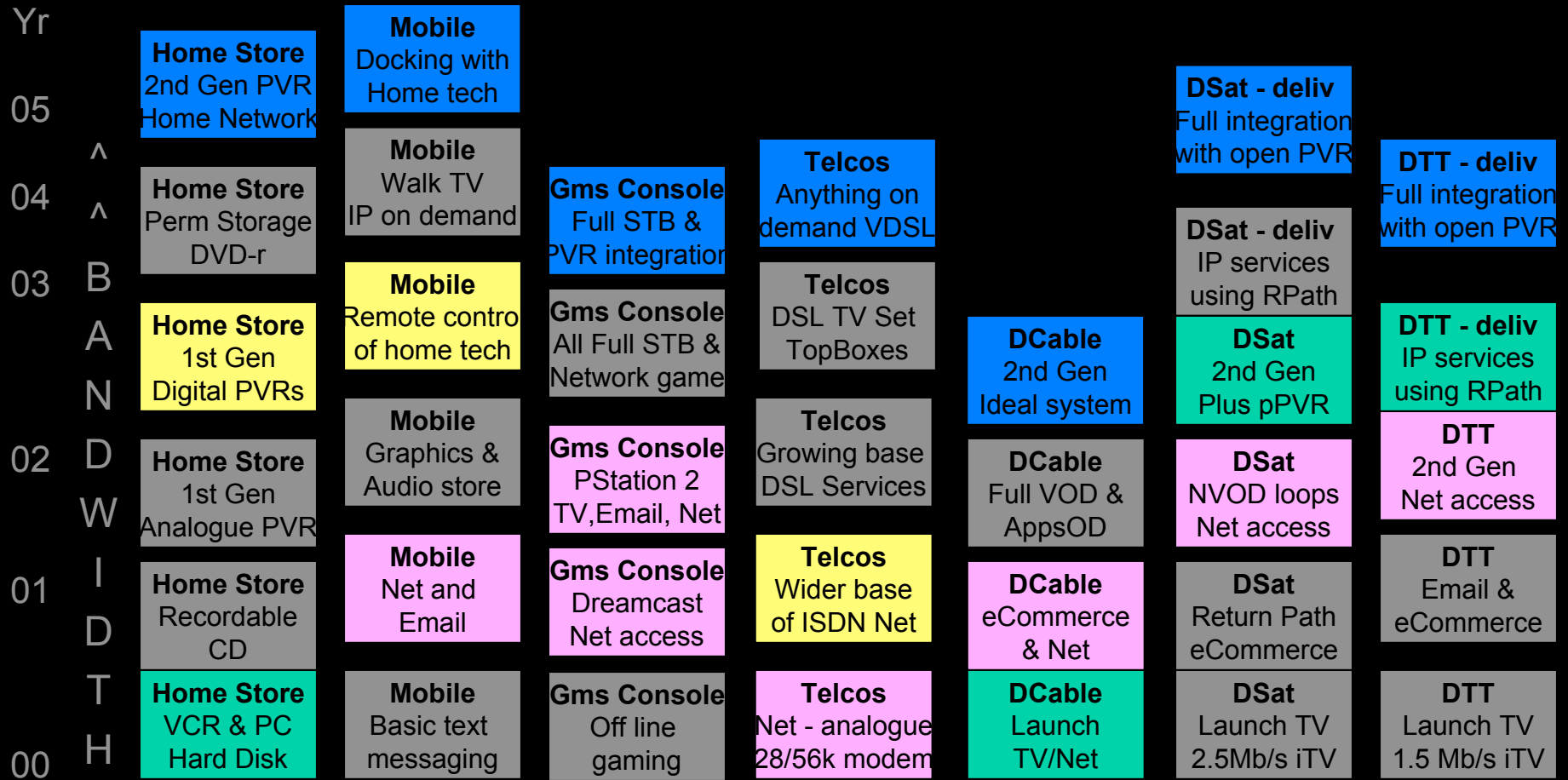
OnMove / Audio - TV Broad - Storage/On Demand - Interactive

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<<<<< PULL (personal)

PUSH >>>>>

Key

TV on Demand

Internet

'real' personalisation

Converged

Point a which technology reaches

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THE END

Our Wood Norton Interactive Demo System

- A clear functional spec for the pres for the programmers (block book 1 to 3 hrs)
 - Make sure the graphics are 'director' friendly
 - Limit the presentation to 1 to 4 interactive screens
 - When digitising Beta (MPEG I) – do a time code shot list for Tristan in advance
 - Use the network to share/move files – especially before Thurs aft for Fri morn.
- Please tell us the kit (video, beta, laptop, TV, projector) you will use on Friday

What you can do?

- Play any video at any size (MPEG I) on demand (and audio of course)
- Jump to any point within a video (1/2 sec) or audio (instantly)
- Limited functionality games/quizzes (only do one!)
- Graphical & text menus, text pages, pictures
- Simple animated loops over interfaces

What you can't do?

- Transparency (see through graphics) over video (you can have opaque overlays)
- Live compositing over interfaces
- Edit the video once it is digitised (instead do jump-to from within Director – the programmers will work with you to log specific points within Director)