

# **Canvas: Annexes for proposition**

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## Annex 1 – Nature of costs

The costs can be split into three broad areas with different characteristics:

### *a) Platform technology*

These costs are specific to Canvas and include:

- Specification and development of a set top box
- Integration of software and construction of a testing regime
- Conceptual development, design and production of a user interface

The majority of product and technology costs would be incurred prior to launch although there would also be a low level of ongoing operational costs. Both upfront and ongoing costs would be shared with venture partners. The majority of costs associated with Canvas are man hours, some of which would be in the form of redeployment of existing people and the project requires a significant commitment from the BBC's Research and Innovation team. Canvas would also require 'technology' partners to develop the software and 'device' partners to manufacture the box. These partners would take on significant costs on behalf of the venture which are not stated here.

### *b) Marketing and Operations*

Any marketing and operations costs would be divided between venture partners. The launch cost and annual costs are highly dependent on the launch scenario. These figures also include marketing support for High Definition (HD) on DTT (not currently budgeted). These costs have been based on existing investment in Freeview and Freesat [REDACTED]

### *c) Distribution via IP*

These costs arise from the distribution of content from BBC servers to ISP networks. These costs do not include any cost that the ISP incurs from distributing content from their network to the home.

This is a BBC only cost. It is currently a variable cost and is dependent on the success of the platform, the unit cost per gigabyte and the nature of the content offer. The figures reflect mitigation provided by technology solutions such as push video on demand and assume that all existing DTT broadcast services continue to be by those technologies. These assumptions have reduced proposed costs to the BBC significantly. However it is very difficult to estimate the unit cost of IP distribution as the market is changing rapidly, prices are dynamic and technology advancements are likely.

### *d) Other costs and revenues*

The costs shown here do not include the costs for the BBC in terms of reversioning content for the TV screen or investing in content that makes the most of the new environment, and does not include potential rights costs (expected to be minimal but highly dependent on the exact approach taken).

In addition, the cost of a data analytics engine has not been included in our modelling. A data analytics engine would allow the BBC to offer personalised recommendations and our commercial partners to offer targeted advertising. This workstream is expected to be cost neutral within the first five years.

## Annex 2 – Cost recovery

There is potential for the BBC to regain some of its expenditure through a cost recovery model similar to that of Freesat. The ambition is to charge those content providers that provide content through the broadband path for an EPG listing position and exposure to the full technical features that Canvas would provide. Hence this is net of forecast income from Freesat (estimated at circa £[redacted] pa).

Looking forward over the next few years, we estimate that a realistic cost recovery model could generate [redacted] (this would be split by the number of partners in the venture). Table 5 below demonstrates how this may look.

**Table 5**

	2010/11	2011/12	2012/13
Number of broadband content providers (with listings)	[redacted]	[redacted]	[redacted]
EPG/ Partnership fee	[redacted]	[redacted]	[redacted]
Total p.a.	[redacted]	[redacted]	[redacted]

These figures are indicative.

### Annex 3 – Key drivers of distribution costs and details of assumptions

Internet distribution costs are variable, driven by the volume of consumption and unit pricing that applies at the time. Errors in the forecast of either of these impact directly the cost to the BBC. For this reason, all costs here are illustrative only.

#### Unit costs

Distribution costs for A/V media over the internet are currently charged as £/GB (a GB is approximately 30 minutes of PC iPlayer video, or 10 minutes of Canvas video).

Distribution costs have fallen consistently in recent history due to a number of factors:

1. Global growth has driven economies of scale, and continues to do so
2. Moore's Law continues to drive down unit costs of the hardware and storage components of distribution systems
3. Competition has increased, with the number of large scale suppliers increasing with directly competing products
4. The BBC's distribution volume and industry profile have both increased substantially, driving significant unit price reductions

As a consequence, over the space of the last 12 months, the BBC's unit pricing for internet streaming [REDACTED] and the cheapest supplier is now offering unit pricing at [REDACTED] of a year ago.

On the other hand, although the costs of servers, storage and networks continue to fall, the infrastructure on which they depend (data centres, power, cooling) are all seeing prices increasing. For example, [REDACTED]

However, it costs ISPs more to distribute content to their users than it costs the BBC to deliver it to the ISPs' networks. As a result, a number of ISPs (in particular Virgin, Sky, and BT Wholesale) are planning to develop their own systems for the delivery of video optimised for their networks, and some of these are expected to be operational within the next 18 months. This would result in new business models being developed for internet distribution, which adds further uncertainty to the unit pricing that will apply at the point that Canvas launches.

#### Distribution costs and assumptions

Canvas will be launched in the context of increasing IP connected television platforms. Canvas may have an impact on the costs of distributing to those platforms because it may affect their take-up once it has launched.

#### Scenario 1: No Canvas, other IP connected television platforms launch

In scenario 1 Canvas does not exist and the BBC would pay the costs to distribute content to reach users of other IP enabled TV platforms. This is described as the counterfactual in the Market Impact Assessment. Independent market modelling has shown that the number of IP connected boxes offering video services is likely to increase regardless of whether Canvas is launched. This means the BBC would have a distribution cost even if Canvas did not launch.

Scenario 1: Without Canvas (£m)	2010/11	2011/12	2012/13
Syndicating to TV platforms in world without Canvas <sup>1</sup>	[REDACTED]	[REDACTED]	[REDACTED]

#### Scenario 2: Canvas launches, other IP connected television platforms launch

Scenario 2 presents the costs in a scenario in which a strong Canvas proposition is launched and has an impact on the market in which other IP enabled platforms exist. For example, one impact of Canvas might

<sup>1</sup> This includes an estimate of connected Sky DTT and DSat boxes, TUTV, Freeview+ and BT Vision in a scenario in which Canvas is not launched; the costs for syndication have been calculated using the same product assumptions, such as quality, PVR and push VoD usage and BBC share as the specific Canvas costs

be to slightly reduce the amount of other IP enabled boxes used by providing a free to air alternative. In this case the costs for syndicating occur alongside the costs for distribution to Canvas boxes. This is described as the factual in the Market Impact Assessment.

<b>Scenario 2: With Canvas (£m)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
Syndicating to TV platforms in world with Canvas <sup>2</sup>	■	■	■
Marginal cost of Canvas	■	■	■
Total cost of syndicating and Canvas	■	■	■

### Scenario 1 compared to Scenario 2

In the scenario in which Canvas is launched the number of viewers using non-Canvas platforms declines. Therefore, scenario 1 and scenario 2 have different user numbers for connected IP boxes and a table is presented in the annex under 'Users with connected boxes.'

The table below shows the cost difference between launching Canvas and not launching Canvas.

<b>Scenario 1 compared to Scenario 2 (£m)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
Incremental impact of Canvas	■	■	■

### Scenario 3: Canvas launches, no significant competing DTT IPTV platform

Although unlikely, there could be a scenario in which Canvas is the only significant DTT service with IP connectivity (assuming Canvas is incorporated into BT Vision and TUTV boxes). In this case Canvas would have higher user numbers than if a competing DTT IPTV proposition launched. However, the costs of syndicating to other TV platforms would be lower because there would be less of them.

<b>Scenario 3: Canvas without significant competing DTT IPTV platform (£m)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
Syndicating to TV platforms in world with Canvas <sup>3</sup>	■	■	■
Marginal cost of Canvas	■	■	■
Total cost of syndicating and Canvas	■	■	■

### Summary of variables

Distribution costs are ultimately determined by two underlying factors:

- the amount of BBC content consumed over IP, which translates into Gigabytes (GB), driven by number of users and viewing behaviour
- the price per GB that the BBC has to pay for distribution, driven by market forces

### TV viewing behaviour

In order to estimate the amount of content consumed over IP, it has been assumed that the amount of TV viewing remains the same up to 2013 at 216 minutes per day per viewer.

<sup>2</sup> This includes an estimate for connected Picnic boxes and Sky DSat boxes as well as cost of Canvas in scenario 2 (in which TUTV and BT Vision both adopt Canvas). The total number of Canvas connected boxes has been adjusted to reflect these legacy primary and secondary boxes and their relative connectivity i.e. TUTV's estimated connectivity is 10% and BT Vision is 75% by 2012.

<sup>3</sup> This includes an estimate for connected Freeview+ boxes and Sky DSat boxes. For the latter we have estimated that 25% of all Sky boxes from 2010-2014 will have IP capability and assumed the same proportion of those boxes will be connected as we have for all Canvas boxes (66%).

Independent modelling of the impact of Canvas on ISPs forecasts that the way people watch TV will change:

Share of TV viewing	2010	2011	2012	2013
Linear TV	75%	70%	65%	60%
Non-linear	25%	30%	35%	40%

The share of linear TV viewing will be split out into Freeview channel share and Canvas IP linear channel services.

	2010	2011	2012	2013
IP channel share of total linear viewing %	0%	5%	10%	10%

The total number of IP viewing minutes (all non-linear minutes plus IP channel share of linear minutes) is then converted into traffic.

#### Traffic impact of HD

The amount of HD content over IP impacts the bandwidth requirements of Canvas. This is because we have assumed that the average bandwidth of HD is over 3 times that of SD content. As the proportion of HD content over IP increases, the higher the average bandwidth and overall traffic consumption.

	2010	2011	2012	2013
HD share of total IP delivered content (%)	0%	6%	12%	18%

#### Traffic and PVRs

Analysis of iPlayer requests data indicated that 40% of all requests made during a month consists of the top 10 programmes. Therefore, we have assumed that off air recording/push VoD to PVRs of the most popular programmes would reduce non-linear traffic consumption by 40%. Therefore, if these top 10 programmes were to be delivered to the set top box directly off-air they would be available to the user immediately and at broadcast quality without the use of IP. It is also likely that the user's own recording will further reduce the amount of demand for non-linear content over IP.

#### Bitrates

Once the total traffic has been calculated, the next step is to assume the rate at which the content is compressed and delivered. It has been assumed that the bitrate for SD quality is 1.6Mbit/s up to 2013 which is similar to that used by BT Vision for its IP content delivery. For HD quality it has been assumed that the bitrate will be 6Mbit/s up to 2013.

It is likely that technological developments will reduce bitrates which will consequently reduce the total traffic volumes and the cost. For example, if the bitrate of SD is reduced to 1.2Mbit/s and that of HD is reduced to 4Mbit/s the cost of delivering Canvas as stated above is reduced by almost 30% in 2013.

#### Users with connected boxes

The number of Canvas primary and secondary sets has been forecast by independent market modelling. We have assumed two thirds of all Canvas sets will be connected. This modelling also provided forecasts of other TV platforms with IP connectivity. This is a key variable as if the number of connected boxes doubles, the total cost of Canvas will double.

The total traffic volumes consumed by each Canvas user is then multiplied by the total number of connected boxes:

<b>Option 1: No Canvas</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Total connected users</b>	<b>2.0</b>	<b>2.3</b>	<b>2.9</b>	<b>3.6</b>

<b>Option 2: With Canvas</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Connected Canvas users	1.1	1.7	2.4	3.1
Other connected users	1.4	1.7	2.0	2.3
<b>Total connected users</b>	<b>2.5</b>	<b>3.4</b>	<b>4.4</b>	<b>5.4</b>

<b>Canvas without significant competing DTT IPTV platform</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Connected Canvas users	1.0	2.0	3.2	4.2
Other connected users	1.4	1.4	1.5	1.5
<b>Total connected users</b>	<b>2.4</b>	<b>3.4</b>	<b>4.7</b>	<b>5.7</b>

The independent market modelling suggests that the launch of Canvas will have an impact on the user numbers of other TV platforms with IP connectivity. For example, in the scenario in which a strong Canvas is launched it is assumed that Top Up TV and BT Vision become part of Canvas.

Also, the launch of Canvas is forecast to impact the number of Sky DSat and DTT connected boxes. For example, in Scenario 2 the number of Sky DSat and DTT connected boxes is estimated to be 2.2m compared to 2.6m by 2012 in the scenario in which Canvas is not launched.

The number of connected Canvas users is based on high user case in the scenario in which other strong IP connected DTT platforms are launched.

#### **BBC share of total Canvas IP viewing**

Once the total traffic volumes have been calculated it is then necessary to assume the BBC share of the traffic consumed:

<b>BBC share of viewing</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Non-linear	50%	45%	40%	35%
Linear	0%	5%	10%	15%

We assume that in the non-linear space there will be an increasing number of partners in the years after launch and therefore our share is expected to fall.

#### **BBC cost per GB distributed**

The critical input into the cost calculations for the BBC is the forecast of the price per GB that the BBC pays for distribution. If this cost doubles the overall cost of distributing Canvas will double. It is extremely difficult to predict this cost.

The current cost per GB for iPlayer traffic today is £[REDACTED]. Historically, the cost of distribution by the GB [REDACTED], usually as the amount of traffic consumed increases. However, it has been assumed that the cost per GB does [REDACTED] for the reasons outlined at the start of this Annex.

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
BBC £/GB	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

It should be noted that these costs are only valid as long as the BBC does not pay for quality of service through the ISPs' network to the user's home.

Annex 4 – Possible Merger Control, Competition Law and State Aid Issues

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Annex 5 – Rights implications: the delivery of BBC linear & on demand services via IPTV

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Annex 6 – Current position with Freeview Board

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[Redacted. This passage recounted that the Executive has determined that it is not possible to implement through Freeview for commercially sensitive reasons and that it is not practical to implement through Freesat. It accordingly proposes to pursue a new venture to enable it to develop the 'Canvas' proposal and if required, to launch it under a new brand. In this option, the BBC and other parties including Public Service Broadcasters would set up a new venture, within which they would develop the Canvas proposal. The ambition would be for this venture to, subject to existing approvals and any further regulatory constraints, include the existing Freesat operation. Privileged legal advice confirms that there are no contractual restrictions set out within the DTVSL joint venture agreement that would prohibit the BBC or other PSB DTVSL shareholders from participating in such a joint venture. The implications for licence fee payers would be limited. Any new venture would make all existing Freeview and Freesat channels and services available and may seek to sub license the Freeview and Freesat brands. The venture would operate in a way that is entirely consistent with Freeview – i.e. a horizontal market. As with Freeview, the venture would also encourage third party service providers to evolve the new standard.]

## Annex 7 – Preliminary Market Impact Assessment

This preliminary market impact assessment from the BBC Executive was submitted to the Trust on 24<sup>th</sup> October 2008. Minor updates have been made (e.g. to the legal precedent annex) but significant changes since submission have not been taken into account. Hence BT's content connect product for instance, which BT Wholesale is currently trialing and which could have a significant impact on the business models of non-LLU ISPs, has not been taken into account. Any such changes will be taken into account by the BBC Trust in its analysis of market impact.

### 1. EXECUTIVE SUMMARY

#### 1.1 The Canvas proposition

The Canvas proposal is to create an open technical specification for internet connectivity to encourage the growth of internet protocol (IP) connections into set-top boxes. The specification would be aimed at both DTT (digital terrestrial television) and DSat (digital satellite) and would, in that context, be platform neutral. The standard will allow video-on-demand content (VoD - such as BBC iPlayer) to be delivered to viewers via either push VoD (broadcast delivery of content to a reserved section of the PVR) or via the IP connection; viewers will be unaware of which delivery technology is used. The Canvas standard aims to include a common Electronic Programme Guide (EPG).<sup>4</sup>

Affiliate content, such as archive VoD (e.g. from ITV.com or 4OD), short form content (e.g. from YouTube), reversioned broadband content (such as from NHS Direct, bbc.co.uk or local newspaper video content) is also envisaged.

#### 1.2 Likely affected sectors

Although Canvas is a platform neutral, open technical specification, its availability may affect a wide range of market sectors. Introduction of the Canvas specification is likely to affect the number of IP connected televisions in the UK. This will affect the audience's ability to consume on-demand content via their television, which may affect existing consumption rates of linear television as well as on-demand content. Increased broadband traffic may affect broadband infrastructure providers and ISPs and demand for new set-top boxes may affect equipment manufacturers. As a result, we consider that the sectors potentially affected by Canvas are wide ranging and include:

- All television platforms:
  - Satellite (both pay and free)
  - Digital terrestrial (DTT)
  - Cable
  - IPTV and IPTV hybrids
- On-demand:
  - Catch-up and archive Video-on-demand
  - Short form content
  - Films
  - PVRs
  - DVDs
- Linear channels and content providers

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<sup>4</sup> The EPG will be regulated by Ofcom's EPG code, which requires fair reasonable and non-discriminatory treatment of channels wishing to be placed on the EPG. Therefore, this paper does not analyse the EPG element of the Canvas standard.

In addition, the effects of Canvas may also be felt in the following sectors:

- Broadband and Internet service providers (ISPs)
- Equipment manufacturers

### 1.3 The counterfactual: 'A world without Canvas'

The television and audiovisual sector is dynamic and changing rapidly. It is difficult to predict the future with certainty as technology, viewing behaviour and the regulatory environment all evolve.

In the counterfactual,<sup>5</sup> we assume that the existing mix of television platforms and retailers continues – although we do allow for: Sky's premium channels to be wholesaled on pay DTT; wide adoption of push-VoD<sup>6</sup> technology and continual roll-out of IP connected proprietary set-top boxes and televisions on both free and pay platforms. Neither Canvas nor a strong pay DTT offer (e.g. from Sky) is launched.

In the counterfactual DTT, cable, Freesat<sup>7</sup> and pay satellite penetration grows until digital switchover in 2012. After switchover is complete, growth in digital penetration will be limited to household growth. At the same time, however, the DTT platform is likely to become increasingly fragmented and less open as the penetration of pay-DTT (Top Up TV, BT Vision etc) grows and IP connectivity increases.

The growth of primary-set DTT homes (with increasing numbers likely to include PVRs and broadband connections) and the adoption of IP connections on the satellite platform lead us to expect a significant increase in VoD consumption. It is currently unclear whether increased VoD consumption will affect linear channel viewing.

The modelling suggests that the BBC's share of total linear broadcast viewing across all platforms decreases by less than one percentage point to 2017. The increase in viewing of VoD content over broadband connections may lead to some increase in the costs to non-LLU ISPs.<sup>8</sup> This cost impact may be somewhat mitigated as the number of broadband subscriptions increases over time, as subscribers trade up to more expensive packages and as broadcasters increasingly use PVR technology to deliver the most popular VoD content via broadcast rather than through the IP connection. Ultimately, the world without Canvas will depend on many factors, not least the product launches of commercial broadcasters such as Sky.

For illustrative purposes we have also described a scenario without Canvas where a successful pay DTT service, such as Sky's proposed Picnic service, launches. In that scenario, we expect the DTT platform to grow at a faster rate (driven initially by Sky marketing) but then decline as homes migrate to pay satellite, with the DTT platform ultimately smaller and much more fragmented and closed than described above.

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<sup>5</sup> The 'base case' in the model.

<sup>6</sup> Push-VoD utilises broadcast transmission of programmes to a reserved section of a digital personal video recorder (PVR) to offer on demand content to users.

<sup>7</sup> In this document Freesat will refer to the BBC/ITV joint venture and FREESAT from Sky will refer to Sky's free satellite offer. FREESAT from Sky is likely to decline as Sky customers are persuaded to migrate to pay satellite.

<sup>8</sup> Non-LLU ISPs are those internet service providers that have not invested in unbundled local loop capacity but instead rely on variable capacity arrangements, for instance using BT Wholesale's IP Stream product.

## 1.4 Market impacts

### 1.4.1 Approach

We have attempted to identify the possible market impacts of Canvas by comparing up to 2017<sup>9</sup> various scenarios against our counterfactual. We initially compare an ambitious scenario in which Canvas thrives and faces no competitive response (the 'no response' scenario) with the counterfactual. We highlight this ambitious scenario to emphasise the potential impact of widespread Canvas adoption. The scenario description is based primarily on the results of independent modelling work undertaken for the project.

We then add some sensitivity analysis by comparing the 'no response' scenario against a variety of other scenarios: a widely adopted Canvas with a competitive response from pay satellite (DSat); a widely adopted Canvas with a strong pay DTT response; an unsuccessful Canvas with a strong pay DTT response and an unsuccessful Canvas launch with a weak pay DTT response.

### 1.4.2 Estimated impacts

#### 1.4.2.1 The 'no response' case

In the ambitious scenario where the Canvas technical specification is widely adopted on a platform neutral basis and there are no other significant market changes (the 'no response' case), the DTT platform outperforms its rivals with higher growth than the counterfactual; it is also much more open. Canvas becomes the de facto standard for IP connected set-top boxes and is adopted by pay-DTT services (such as Top Up TV and BT Vision; it would also be available to a Sky DTT offer). Pay satellite would face a decline in growth - although it would be insulated by both its attractive premium content offering and by its ability to offer bundled services – both of which reduce churn; Cable similarly declines. Freesat and FREESAT from Sky penetration remain broadly constant.

A widely adopted Canvas also has a positive effect on VoD consumption as the number of homes capable of receiving VoD increases significantly compared to the counterfactual and the DTT platform remains more open (i.e. subscription is not necessary to access VoD content). The impact of increased VoD consumption on linear viewing is less clear and difficult to identify. We estimate little impact on total linear viewing (and recent research supports this hypothesis); the possibility of new innovative linear broadcast channels utilising the IP connection may even increase linear consumption. Impacts on on-demand films and short form content are also difficult to estimate given the lack of current data; DVDs are likely to be affected negatively.

The key impact of a successful, widely adopted Canvas is on broadband network providers and ISPs. On the one hand, broadband subscriptions are likely to increase and subscribers may trade-up their subscription packages more than they would have done in the counterfactual. However, increased VoD consumption may place increased demands on broadband network capacity. This is likely to be particularly the case for those non-LLU ISPs as their unit costs tend to rise in line with traffic volumes (whereas unit costs for LLU ISPs tend to decrease as traffic volumes increase, due to economies of scale).

There will be a clear, positive impact on set top box manufacturers from increased box churn.

#### 1.4.2.2 Sensitivity analysis – a variety of competitor responses

We also need to take account of competitor responses to a widely adopted Canvas, particularly from pay-TV providers. Should the competitive response be via DSat, we would expect DTT penetration to decline slightly compared to the 'no response' scenario. DSat penetration is considerably higher and FREESAT from Sky penetration lower as Sky successfully migrates customers to its pay offer. Cable and Freesat penetration are both lower. VoD consumption, broadband subscriptions and non-LLU ISP costs are also lower.

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<sup>9</sup> The impact on the various platforms and on the number of VoD capable homes is modelled to 2017; the impact on ISP costs is modelled to 2014.

Should a strong pay-DTT alternative to Canvas be developed, we would expect DTT penetration to increase even further compared to the 'no response' case, although the DTT platform will be less open and more fragmented. Pay satellite, cable and Freesat penetration is lower; FREESAT from Sky penetration is broadly unchanged. There is a significant increase in pay subscribers across the platforms. Consumption of VoD increases, as do broadband subscriptions; non-LLU ISP costs are lower.

Should Canvas fail to achieve wide adoption and there are competitor responses on DTT, we would expect outcomes to be broadly similar to the counterfactual world described above.

## **1.5 Market Impact Conclusions**

In summary, we expect by 2017 that a successful launch of the Canvas standard will have a positive market impact on:

- DTT penetration (which is good for consumption of PSB content), and
- The nature of the DTT platform – a more open platform provides more opportunities for content suppliers;
- Consumption of VoD content;
- Set top box manufacturers; and
- Growth of broadband homes.
- Unit costs of LLU ISPs may also be positively affected.

Negative market impacts are somewhat more uncertain, particularly with regards to pay satellite given the uncertainty around Sky's potential strategy for pay DTT – although the modelling suggests that if Sky were to launch its own pay DTT offer, the loss of DSat subscribers would be almost exactly offset by new pay-DTT subscribers.

- FREESAT from Sky may be negatively affected, although this is due to Sky migrating customers to pay over time.
- The key negative impact is likely to be felt by non-LLU ISPs, although they are likely to have some scope to pass on higher costs to end users and to benefit from new subscribers and 'trading-up by existing subscribers.
- Cable is also likely to face reduced penetration relative to the counterfactual.
- DVD market is likely to suffer.

## 2. CANVAS DESCRIPTION: IDENTIFYING KEY FEATURES FOR MIA

Canvas is a proposed open, platform neutral technical specification to facilitate and encourage the growth of a hybrid broadband and broadcast free-to-air (FTA) platform environment – both satellite and DTT - enabling the BBC and others to migrate all of its current and future on-demand and web based content onto the main television screen in the living room, accessed through a single, simple user experience.

The proposal would offer the UK consumer the existing benefits of FTA television in the form of linear channels and, in addition, access to on-demand services including iPlayer. The integration of broadcast and broadband would enable new audience experiences across genres and enable functionality such as personalisation, social media and localisation.

Canvas functionality would also enable on-demand and interactive services from 3<sup>rd</sup> parties e.g. NHS Direct, Flickr. Ultimately, Canvas would future-proof the FTA platforms, and in so doing enable the BBC to continue to support its universality objectives and ensure a direct relationship with audiences.

Canvas is intended as an evolution of the BBC's current platform ventures, Freeview and Freesat, and the launch would be timed to support the transition of DTT to HD. The proposal would be achieved by the creation of a new technical specification (building on that currently specified for Freeview/Freesat boxes) which manufacturers would have to incorporate in order to gain the relevant Trademark Licence (TML).

It is intended that set top boxes that meet the specification will work without a broadband connection. Unconnected boxes would still offer linear channels, PVR functionality and some basic on-demand services delivered via broadcast (push VoD). This creates a secondary target group - people with Freeview and without an internet connection

The model for Canvas adoption is the same as the BBC's current FTA platform ventures – simple to understand, an open model for content providers and a single cost for the box. These characteristics are critical to the distinctiveness of the proposition in the market and underpin the BBC's continuing ambition to protect universal reach of the full range of its services.

Openness of the platform at every level is critical to its long-term success. This means a platform that:

- Is open to users of all access providers (ISPs)
- Is open to all devices which can integrate the software specifications and user experience
- Provides choice to the consumer through open access to all content providers who adhere to the Canvas standards
- Allows 3rd party developers the opportunity to enhance the usability of the platform

While the ambition is to be as open as possible, we will need to make pragmatic decisions in order to deliver the product for launch. Explicitly, we may need to work with a smaller number of manufacturers, content partners and ISPs in the run up to launch, building on the principles and precedents set by Freesat.

Simplicity will be at the core of the Canvas proposition. This is intended to be a simple proposition to communicate to consumers, and for them to buy, install, use and upgrade. It is intended to make sense of the increasingly complex digital television market.

## 2.1 Partnerships

In much the same way as the BBC has partnered with other broadcasters to maintain Freeview's relevance through introducing Freeview+, the BBC would partner with broadcasters, manufacturers and technology providers to introduce the Canvas proposition. Given the complexity of the project, the BBC would also need to partner with software providers and ISPs in order to ensure a successful platform venture and a quality user experience for the audience.

The BBC intends to enhance the positive economic impact of the BBC by ensuring strong working relationships with a wide range of partners and suppliers. In this way we can understand what the market requirements are (by working with industry manufacturers and suppliers we help to clarify the emerging IPTV market through setting open standards to bring real value to others across the industry value chain) and create more public value by working together.

The addition of an IP connection to Freeview and Freesat boxes containing personal video recorders (PVRs) will facilitate the provision of currently online audiovisual content – such as on-demand catch-up services (e.g. iPlayer, 4OD) and commercial on-demand archive services (e.g. ITV.com) – through an enhanced EPG-based interface common to all boxes meeting the Canvas standard. It will also enable:

- Reversioned (Non-broadcast) user-generated content on-demand (via e.g. You Tube)
- Reversioned web pages on-demand (e.g. NHS Direct) (possibly the open web- i.e. not just content within walled gardens).

Much of the linear broadcast channels and the on-demand content will be free at the point of use. Some of the on-demand content (e.g. archive content) from third party affiliates will be available on a commercial basis – most likely funded through advertising embedded in the content. If Canvas is adopted by pay-TV operators, some of the linear content accessed via the set top box will be subscription funded.<sup>10</sup>

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<sup>10</sup> Although Canvas is designed primarily for free TV platforms (Freesat and Freeview – where content is free - either licence fee or advertising funded), if pay-TV operators adopt the Canvas standard into their set top boxes, then the Canvas standard will sit alongside pay TV channels that charge a subscription as well as carrying advertising.

### 3. AREAS/ SECTORS POTENTIALLY AFFECTED BY CANVAS

The sectors potentially affected by Canvas are wide ranging within the audio visual sector. They include:

- All television platforms:
  - satellite (both pay and free)
  - digital terrestrial (DTT)
  - cable
  - IPTV and IPTV hybrids
- On-demand services:
  - Catch-up and archive Video-on-demand
  - Short form content
  - Films
  - PVRs
  - DVDs
- Linear channels and content providers

In addition, the effects of Canvas may also be felt in the following sectors:

- Broadband and Internet service providers (ISPs)
- Equipment manufacturers

#### 3.1 Introduction and approach

In this chapter we identify and describe the range of products and services likely to be affected by the launch of Canvas<sup>11</sup>. Once we have described our approach to market impact assessment, we begin our analysis by exploring the key element(s) of the Canvas proposition that would help identify potentially affected sectors on an *a priori* basis. We then utilise relevant competition law<sup>12</sup> and other regulatory precedents – as described in the appendix - in an attempt to identify the scope of each sector identified as likely to be affected by Canvas. Finally, we explore whether each sector should be widened beyond that identified in precedent and draw final conclusions on the scope of each affected sector. To complete each section, we then describe the key statistics and players associated with each identified sector.

We have focussed our attention on products and services that might be impacted directly by the IP connection at the heart of Canvas and by changes in consumption of the services that could be offered over that connection. The existing functionality of Freeview and Freesat boxes – such as the inclusion of a personal video recorder (PVR) - is taken as given.

<sup>11</sup> This is the first stage of the full Market Impact Assessment process as set out in Ofcom's *Methodology for Market Impact Assessments of BBC services*, page 11, <http://www.ofcom.org.uk/research/tv/bbcmias/statement/statement.pdf>

<sup>12</sup> This document covers only precedents at the UK and EU level. Ofcom usefully summarises relevant decisions from other jurisdictions in its annex 16 of its pay TV investigation (which can be found at [http://www.ofcom.org.uk/consult/condocs/market\\_invest\\_paytv/annex16.pdf](http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/annex16.pdf))

It is important to be clear about which sectors need to be included in the market impact assessment (MIA). Ofcom's guidance on market impact analysis<sup>13</sup> states that:

- *“the MIA analysis should be structured by clearly defining the markets where the service is going to have its most immediate impact i.e. the “own” market;*
- *Consideration of other markets may be relevant (for example, markets for downstream services, inputs, or products offered on the same platform);*
- *The market definition exercise will follow the practice and methods adopted in competition policy, but:*
  - *Markets are likely to be defined more broadly, as the focus of the MIA is not on the constraints on market power but on comprehensive impact assessment,*
  - *Markets defined in previous regulatory investigations are likely to provide useful starting points for the analysis,*
  - *Broader sector characterisations provided in market research/industry surveys can also be useful”*

The process of identifying products and services potentially affected by the launch of Canvas is similar to the task of defining a market in competition law and competition law precedent can be extremely informative in identifying the scope of the sectors potentially affected by the introduction of Canvas. There is an extensive case history of UK and European competition law cases (including mergers) in the audiovisual media sector to aid us and a summary is set out in the appendix to this document.<sup>14</sup>

Ofcom also suggests taking a wider sectoral approach when thinking about market impact. Competition law precedent should not be the end of the story as it differs from market impact analysis in some important respects. The aim of market impact analysis is not to define a market in which a hypothetical monopolist could profitably raise prices<sup>15</sup>, but to identify a wider range of services that may be materially affected by the introduction of Canvas. This is especially relevant in a rapidly changing world, in which old market boundaries are breaking down.

Given the purpose of Canvas is to facilitate and encourage the convergence of linear and non-linear content on the television set, Canvas is likely to encourage evolution in consumer behaviour, which would support the case for taking a wider approach, and including a wide range of television platform and audiovisual content sectors in our analysis.

We would expect, a priori, that Canvas would have a direct effect on-demand in the television platform sector, the on-demand content sector and on the linear channels (and content) sector. We expect it could also cause an effect on the broadband infrastructure and ISP sector, as well as on set-top box manufacturers. We will test these hypotheses and explore the scope of each of these sectors below.

It is possible that the impact of Canvas on consumption of on-demand content and linear channels may have a consequential impact on advertisers. We have not, however, assessed the impact on advertisers directly. Canvas is a technical standard rather than a content proposition; it will not carry advertising. It therefore only impacts advertisers indirectly through its potential

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<sup>13</sup> Ofcom *Methodology for Market Impact Assessments of BBC services* May 2007

<sup>14</sup> A very useful summary can also be found in *Market definition and market power in pay TV*, which formed Annex 13 of Ofcom's Pay TV Market Investigation document (it can be found at [http://www.ofcom.org.uk/consult/condocs/market\\_invest\\_paytv/an13.pdf](http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/an13.pdf)).

<sup>15</sup> Standard competition law market definition techniques focus on the ability of a hypothetical monopolist to profitably and permanently raise price using a technique called the SSNIP test (see OFT Competition Act 1998 Guideline *Market Definition* at [http://www.oft.gov.uk/shared\\_of/business\\_leaflets/ca98\\_guidelines/oft403.pdf](http://www.oft.gov.uk/shared_of/business_leaflets/ca98_guidelines/oft403.pdf))

impact on the consumption of content (both on-demand and linear) that does carry advertising. It may also impact advertisers positively by allowing content providers to deliver more effective advertising (e.g. targeted advertising utilising the IP link) – although advertisers would probably have to pay more for targeted adverts. As this preliminary market impact assessment assesses the impact of Canvas on on-demand content and linear channels directly, we have not considered advertisers separately.

## 3.2 TV distribution platforms/retailers

### 3.2.1 *Relevant Canvas feature(s)*

The Canvas standard is intended to grow significantly the number of IP connected set top boxes capable of receiving linear free-TV transmissions; both DTT set top boxes and digital satellite boxes. It is therefore likely that Canvas could possibly affect inter-platform competition.

There are currently a wide range of television distribution platforms: satellite (pay and free), cable, DTT (including DTT/IPTV hybrids) and IPTV. Additional platforms – such as mobile television – may arrive in the future. Promoting the adoption of IP connections – and hence the services that can be offered - for only selected platforms will potentially enhance the relative attractiveness of those platforms. This in turn could potentially affect demand for other platforms – and for the consumer packages retailed over those platforms.<sup>16</sup>

### 3.2.2 *A wider scope*

Competition law precedent is currently unclear on whether all television distribution and retail activities are in the same market. Generally speaking, markets have been identified at the retail level, with pay-TV and FTA TV usually deemed to be in separate – although converging – markets, with FTA TV providing a limited constraint on pay-TV retailers. Although the focus of the precedents has been on content, we believe it would be appropriate to also apply those conclusions to the various platforms.

The purpose of identifying potentially affected sectors in a market impact assessment is wider than the competition law purpose of identifying markets within which a hypothetical monopolist could exert market power. We should therefore consider whether we should adopt a wider view. Given the wider sectoral approach being adopted for the purposes of this market impact analysis, we propose to consider all pay and free platforms together. This is because Canvas will be incorporated into some TV platforms and not others; it therefore has the potential to affect competition between all television distribution platforms.<sup>17</sup>

In summary, we will consider all television platforms in our impact analysis, including: satellite (both pay and free); digital terrestrial; cable and IPTV (including IPTV hybrids).

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<sup>16</sup> Although the DTT platform already has IP connectivity (via BT Vision) and on-demand content (via Top Up TV and BT Vision), the introduction of Canvas is likely to significantly increase the penetration of IP connections and the availability of on-demand content relative to other platforms such as Pay Satellite; IPTV and Cable already have both features.

<sup>17</sup> Furthermore, as noted in section 3.3, the affect of Canvas on on-demand services may also potentially affect inter-platform competition. Ofcom noted in its MIA on the BBC's on-demand proposals, consumers currently facilitate catch-up through personal recording devices such as PVRs. Many pay and free platforms now offer PVR functionality options in their set-top boxes – e.g. V+, Sky+, Freeview+, Top-up TV. Given PVR offerings are part of the inter-platform competitive landscape, it seems prudent to include all the various platform offerings in this market impact analysis.

### 3.2.3 The platform sector today: size and key players

According to Ofcom,<sup>18</sup> by end Q2 2008:

- Take-up of multichannel television on main sets in UK households has reached 88%.
- Over 22.5m households have multichannel television equipment connected to their primary set.

#### 3.2.3.1 Cable:

Cable network infrastructure is available to 50% of the UK population (with digital cable 98% of that) and is owned by Virgin Media, Wightcable and Smallworld. Customers within the digital footprint have access to a wide range of services, including telephony, broadband internet access, a broad range of linear television channels and a variety of interactive television services, including video on-demand.

In Q1 2008 Virgin Media, reported cable TV revenue stood at £618.2m, down from £637.3m in Q1 2007. Group revenue (including mobile and broadband) was £1021.9m, down 2% from the previous year. Net TV additions were 142,000 in the year Q2 2007 to Q2 2008. Overall Virgin Media had 3.54m TV subscribers, 424,900 installed V+ boxes (12% of cable homes) and 4.74m total subscribers (TV, telephony, internet) with 51% of customers taking triple play in Q2 2008.<sup>19</sup>

Virgin Media offers a wide range of on-demand content from paid for films, archive television content and music videos to free catch up television content. Virgin Media introduced the BBC iPlayer onto its cable network in May 2008, with about 350 hours of BBC content being added to the platform.<sup>20</sup> It is accessible via the EPG, Virgin Menus or the red button. Virgin Media subscribers watched 10.5 million on-demand BBC programmes in June 2008, whilst iPlayer managed a total 20.4 million programme requests (with 1.5 million users per week) in the same month. 48% of Virgin Media's customer base was using its VoD service on a monthly basis by Q2 2008. In total there were 38m VoD views in Q2 2008, up 92% on a year ago. Average views per user were up to 24 from 14 a year previously.<sup>21</sup>

#### 3.2.3.2 IPTV (including hybrid IPTV)

Ofcom estimates that around 70,000 (0.3%) of households were using an ADSL connection to receive digital television on the main set by Q2 2008.<sup>22</sup>

Screen Digest estimates that total revenue for IPTV will reach €49.6m in 2008, made up of €26.7m from on-demand and €22.9m from subscription. This translates to a monthly ARPU (average revenue per user) of €10.5.<sup>23</sup>

Tiscali (formerly Homechoice) offers the UK's only pure IPTV offer, with both linear channels and on-demand content offered over a broadband connection to an IP enabled set top box with a Tiscali broadband connection (although some minor channels can only be accessed via DTT).

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<sup>18</sup> Ofcom 2008f "Digital Television update – Q2 2008"

<sup>19</sup> Ofcom 2008f page 16

<sup>20</sup> Virgin Media and ITV have recently announced that ITV has agreed to provide 7 day catch-up and archive content to Virgin Media's TV customers (see <http://www.itv.com/PressCentre/Pressreleases/Corporatepressreleases/ThousandsofhoursofTVshowstobemadeavailableondemandbyVirginMedia/default.html>).

<sup>21</sup> Ofcom 2008f page 16

<sup>22</sup> Ofcom 2008f page 5

<sup>23</sup> Screen Digest 2008 *IPTV Business Models: Profit and loss in the telco TV space*

Some 70 TV and radio channels are free at the point of view, as is some on-demand content: a selection of UK and US comedy and drama series, 7 day catch-up of selected BBC, Channel 4 and FX programming and over 1000 movies. Other on-demand content offered includes comedy and drama series, films, music videos, sports, children's, Asian and adult programming, which can be watched on a monthly subscription basis (together with additional channels).

BT Vision also offers on-demand content via its IP network, with an IP connection into a DTT set top box with a BT Total Broadband connection (it is hybrid IPTV with linear broadcast channels (including premium content such as Setanta Sport) delivered over DTT and on-demand content delivered via broadband). On-demand content offered includes TV programmes, films, music videos, sports and children's programming, which can be watched on either a pay-per-view or monthly subscription basis.

### 3.2.3.3 Pay Satellite

Pay and free-to-view satellite services for UK viewers are carried on a range of satellites. Coverage is typically cited as 98% of the UK population.

BSkyB is the primary pay satellite operator, with Sky and Freesat (a BBC/ITV joint venture) offering a non-subscription service for a one-off fee.

For the year end 30 June 2008, BSkyB reported £3769m in retail subscription revenue, up almost 11% (£363m) on the twelve months to June 2007, and £328m in advertising revenue, down by just under 7%. BSkyB experienced a 13% reduction in wholesale subscription revenue to £136m.

By the end of June 2008, there were almost 8.98 million Sky subscribers (UK and Republic of Ireland combined), of which more than 3.7 million took Sky+ (nearly 41% of its customer base) and 498,000 paid for high definition services (over 5% of its customer base).

Sky offers a range of on-demand and near on-demand content. As noted above, Sky Anytime and Sky Player both offer the opportunity for subscribers to access on-demand content from a range of Sky channels. Sky also offers NVOD services. It currently offers a selection of latest-release films on a pay-per-view basis every 15 minutes or so by staggering their start times.<sup>24</sup> Some channel providers also broadcast some of their channels one hour later (i.e. 'plus one' channels such as ITV2+1, Channel 4+1) on the satellite platform.

Content is available on a monthly subscription basis; latest-release films can be watched on a pay-per-view basis. It is possible that in future on-demand content will also be available on a pay-per-view or monthly subscription basis (where on-demand content is delivered via broadband).

### 3.2.3.4 DTT platform

DTT is the most commonly-used platform on main sets; it is the only digital platform in around 9.7 million (over 39%) homes in Q2 2008. Ofcom estimates that the number of homes using DTT on any set in the home has reached 16.7m (around 67%) by Q2 2008. DTT is accessed using set top boxes, IDTVs (integrated digital television sets) or other DTT devices. IDTV sales accounted for almost two thirds (63%) of all DTT equipment sales in Q2 2008, the highest proportion to date – IDTVs have outsold set top boxes since Q3 2007. The cumulative sales of DTT PVRs / DVRs (Personal Video Recorders / Digital Video Recorders) were approaching 1 million by Q2 2008.<sup>25</sup>

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<sup>24</sup> Note, however, that these cannot be paused or rewound except with a PVR.

<sup>25</sup> Ofcom 2008a page 9

Freeview provides access to a package of linear channels which can be watched on television by anyone with a compatible set-top box or television. Content is free at the point of view.

*Top Up TV* is in around 1.3% of homes in Q2 2008 according to Ofcom estimates.<sup>26</sup> It provides access to linear and on-demand content which can be watched on television by anyone with a Top Up TV set-top box, where both the linear and on-demand content is delivered over DTT (on-demand content is transmitted to set-top boxes at off-peak times). Linear content is Freeview content and is free at the point of view. On-demand content offered includes comedy and drama series, films, music videos, sports, children's programming and so on and is available on a monthly subscription basis.

### 3.2.3.5 Free satellite

There are currently four categories of free satellite viewer:

1. Those who have churned from BSkyB's pay satellite service but have retained their satellite equipment so they can continue to receive free-to-view satellite channels;
2. Freesat from the BBC and ITV; and
3. Users of BSkyB's own non-subscription services – including FREESAT from Sky;
4. Homes that have obtained satellite receiving equipment from retailers other than BSkyB or BBC/ITV.

Ofcom estimates that there were 840,000 free-to-view satellite households using free satellite services as their primary viewing platform in Q2 2008.<sup>27</sup>

*Freesat* – a joint venture between ITV and the BBC launched in May 2008 - is potentially available to 98% of UK homes. The service currently provides access to around 130 free digital TV and radio channels (expected to increase to around 200 channels by the end of 2008). A high definition version of the set top box offering access to BBC and ITV HD services is currently also available. Content is free at the point of view. By the week ending 27 September 2008, Freesat's cumulative sales had reached 100,000 units.

*FREESAT from Sky* provides access to over 200 linear channels which can be watched on television by anyone with a Sky set-top box and a mini-dish.<sup>28</sup>

## 3.3 On-demand content

### 3.3.1 *Relevant Canvas feature(s)*

The primary functional feature of the Canvas proposition is the IP connection, which enables online audiovisual content (in particular on-demand content such as BBC iPlayer) to be accessed via the television set as opposed to the PC. An important step therefore is to consider relevant precedent around on-demand audiovisual content.

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<sup>26</sup> Ofcom 2008a page 8

<sup>27</sup> Ofcom 2008f page 15

<sup>28</sup> In November 2007, BSkyB launched its '*Sky Pay Once*' package under which customers can have Sky satellite equipment installed and gain access to four of Sky's TV package 'mixes' for six months for a one-off fee of £75. After this period customers can choose to keep the four 'mixes' for a subscription of £19 per month or opt to receive the 200 free-to-view channels available on satellite at no cost. The offer is currently available through third-party retailers rather than directly from Sky.

### 3.3.2 A wider scope

The existing precedent tends to draw few definitive conclusions on whether the provision of VoD services to the television over an IP connection would or would not affect linear television content, NVOD content or other non-linear on-demand content (such as films). The CC's provisional findings in Kangaroo concluded that TV VoD was not constrained by linear TV, TV NVOD, film VoD. The OFT and the CC analysis would also suggest we exclude the DVD market and short-form content from our analysis, although Ofcom's market impact analysis for the BBC's on-demand services did consider DVDs to be a potentially affected market.

Based on competition law precedent alone, we would include all VoD (both catch-up and archive content). However, given the need for a wider scope for market impact purposes, we propose to extend and enhance the affected sectors identified using competition law precedents by also including:

- Linear broadcast channels – both free and pay. Although Linear TV and TV VoD have been found to be in separate markets for competition law purposes, there is a clear possibility that once consumers are offered the choice between both products on the same TV set, consumption of one could affect consumption of the other. We therefore include analysis of linear TV in our assessment (see section 3.4 below).
- DVD market. OFT and CC analysis of Kangaroo suggested excluding DVDs from the analysis. The CC also excluded DVDs from its analysis when it concluded that free, pay and VoD content was in an 'all-TV' market.<sup>29</sup> Ofcom similarly concluded that DVD rentals were not a strong constraint on premium film content.<sup>30</sup> However, Ofcom's MIA on the BBC's on-demand services would suggest that for market impact purposes the DVD market should form part of this analysis. On balance, it is prudent to include the DVD market in our analysis.
- Short-form content. We propose to include short-form content in our analysis. Although one might argue, as did the CC, that long-form and short-form content does not fulfil the same purposes for viewers (due to quality, length, price points etc), the intent of Canvas to seek out short-form content partners (to be delivered over the IP connection in the box) would suggest that Canvas may affect directly the consumption of short-form content.

In summary, we propose that in addition to catch-up and archive VoD we should also include analysis of the following on-demand content offerings in the pMIA: Short form content; on-demand Films; PVRs and DVDs.

### 3.3.3 The on-demand sector today: size and key players

Consumers of all ages are showing a growing interest in accessing audio-visual content online; 17% of those with broadband watched TV over the internet in 2007, up by eight percentage points on 2006<sup>31</sup> – and this is particularly apparent among younger people. Responding to this trend, a range of broadcasters have begun to make their content available for download or streaming online (Sky, Channel 4, ITV, BBC) but consumers are just as interested in user-generated short form content. This content adds to the wide range of pre-existing professionally produced audio-visual content available on the internet – from news clips to US programmes and feature films – and available to stream or download from aggregators such as iTunes and US

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<sup>29</sup> Competition Commission *Acquisition by British Sky Broadcasting Group Plc of 17.9 Per Cent of the shares in ITV Plc*, 14 December 2007, paragraph 4.27.

<sup>30</sup> Ofcom 2008d, paragraph 4.234: "Our evidence on pricing of DVDs and the growth of DVD rentals indicates that these are likely to represent relatively weak substitutes for premium movies."

<sup>31</sup> Ofcom 2008 *Communications Market Report*, 14 August 2008, page 62.

Broadcasters and film studios. By value, films dominate the on-demand sector;<sup>32</sup> by volume user-generated short form content is the most significant.

### 3.3.3.1 Major broadcasters offering on-demand content over the internet

Over the past two years, the UK's major broadcasters have built-up substantial on-demand audio-visual propositions, delivered over the internet or cable infrastructure:

- Channel 4 launched its free/pay 4OD service in late 2006 using a download only model and the BBC's iPlayer followed suit in mid-2007;
- ITV relaunched its website in the summer of 2007, offering streamed online access to its live channels and to some content on-demand. By the year-end the BBC had done the same, with a streaming based distribution model for its iPlayer, opening up the service to Apple Macs and computers running Linux;
- Channel 4 has since taken a similar path, with a seven day streamed catch-up service on channel4.com (although it only runs with a Windows operating system); and
- BSkyB re-launched its online audio-visual on-demand service, Sky Anytime, as Sky Player in May 2008 (Sky's branded push-DVR service is still called Sky Anytime). It offers Sky subscribers free access to content on-demand from a range of its channels, alongside live access to Sky News. Non-BSkyB subscribers can also access Sky Player for a monthly fee.
- Virgin Media has continued to offer a pay on-demand service over its cable network, offering a range of archive content, films and music videos to its subscribers.<sup>33</sup> In addition it offers a free catch-up service offering selected BBC and Channel 4 content, as well as selected content from its own channels (such as Living and Bravo). A total of 45m on-demand videos were watched by Virgin Media TV customers in August 2008, with roughly a quarter of the views being BBC iPlayer content.<sup>34</sup> Screen Digest<sup>35</sup> estimates that current viewing of Virgin Media's free or SVoD (subscription VoD<sup>36</sup>) represents 95% of all its VoD viewing and that nearly 10% of Virgin's consumer level revenues are now derived from on-demand content.
- BBC Worldwide, ITV and Channel 4 announced a joint venture – Kangaroo – to offer archive content to audiences on an advertising funded basis.

Not only is an increasing volume of broadcast content now available online; in 2008, professionally produced audio-visual content commissioned for a website transferred to TV for the first time. Sofia's diary, first shown on Bebo, moved to Fiver, which acquired the broadcast rights in April 2008.

On-demand appears to attract a younger audience to on-demand content compared to its linear television audience. While different metrics are used to measure TV and iPlayer audiences, 37% of the iPlayer's audience is believed to come from the 16-34 demographic, while that group accounts for only 31% of the population aged over 16, and just 17% of the BBC's broadcast audience.<sup>37</sup>

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<sup>32</sup> Screen Digest 2008a *Internet Protocol TV Market* January 2008. Screen Digest estimates that 67% of IPTV on-demand revenue is from films (either PPV or archive).

<sup>33</sup> Subscribers to its top tier package – XL – receive access to archive TV content for no charge as part of the package; films and music videos must still be purchased.

<sup>34</sup> Virgin Media press release *Virgin Media's on-demand TV tops 45 million views* 26/09/08 (see <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1202541&highlight=>).

<sup>35</sup> Screen Digest 2008b *Virgin Media apes Comcast with growing on-demand use* 26 September 2008. (See [http://www.screendigest.com/online\\_services/intelligence/tv\\_and\\_broadband/updates/tvi-260908-rb1/view.html](http://www.screendigest.com/online_services/intelligence/tv_and_broadband/updates/tvi-260908-rb1/view.html))

<sup>36</sup> Subscription VoD provides viewers with unlimited access to VoD content for a fixed monthly fee.

<sup>37</sup> Ofcom 2008, page 63

Consumers appear to be responding to the growing availability of audio-visual content online – both professional and user generated. Ofcom estimates that the BBC iPlayer delivered more than 700,000 daily video streams in May 2008. It also notes that YouTube’s unique UK monthly audience stood at 9 million in April 2008, up by nearly 50% in a year.<sup>38</sup>

Ofcom found that the proportion of people with the internet at home that watched TV programmes online rose by eight percentage points to 17% in the twelve months to Q1 2008, while the proportion watching video clips and webcasts has risen to 32%. Notably, Ofcom found that younger adults (15-24) were more likely than any other demographic to download video clips or watch TV programmes and/or webcasts online. Ofcom also found that nearly nine in ten of those 15-24 year olds watching online claimed to watch user-generated content.[reference]

At present, on-demand audiovisual content – such as short-form content, television content and films – is distributed via various television distribution platforms or via the internet. Internet on-demand content can be made available on the television using various technical solutions.

Key providers of access to on-demand content which can be viewed on television include equipment manufacturers and television distribution platforms.

### 3.3.3.2 Equipment manufacturers offering access to on-demand content

*Apple TV* comprises of a piece of equipment that provides access to on-demand content which can be viewed on the television by anyone with an Apple set-top box and a broadband connection. Most of the content offered appears to be (commercial-free) TV programmes, films, songs and music videos, which can be watched on a pay-per-view basis, although it also offers access to web pages such as YouTube, Flickr and the Mac Web Gallery.

*Games consoles:* The latest generation of games consoles include hard disk drives for storing audio and video, in built web browsers and CD and DVD drives. They are able to handle a wide range of media content. The Nintendo Wii, for instance, provides access to on-demand content which can be played/ watched on television by anyone with a Wii set-top box and a broadband connection. At this stage, most of the content offered appears to be gaming content which can be downloaded for a fee and then played; however, some other web pages can also be viewed. BBC iPlayer content will also be available via Wii towards the end of 2008. As the Wii is designed to be connected to the TV, this deal delivers iPlayer on-demand content to appear on the TV. Sky has recently made a selection of its channel content available to download on a Sony PSP.

Ofcom research suggests that around two in five individuals have access to a games console in the home; young people are much more likely to have access, with six in ten 15-24 year olds having access. Ofcom’s research also shows that consumers use games consoles for a variety of purposes other than gaming; 39% use them to watch DVDs and 26% listen to CDs.<sup>39</sup>

### 3.3.3.3. Television platforms including PVRs

The main players in the television platform sector are described in section 3.2.4 above. We can, however, offer some additional detail on PVR provision, a key piece of equipment whereby viewers can store and access programmes they have previously recorded on-demand.

Local storage devices to record programmes have emerged in the last couple of years as a popular way to access on-demand content. The devices were first introduced into the UK by TiVo in 2000 in partnership with BSkyB and similar devices are now available for the pay-satellite, DTT and digital cable platforms. Ofcom’s latest consumer research suggests that nearly

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<sup>38</sup> Ofcom 2008, page 64.

<sup>39</sup> Ofcom 2008, page 73.

a quarter of individuals (23%) had access to a PVR of some sort (up eight percentage points on 2007).<sup>40</sup>

Sky + is the most widely used version, although sales of PVRs using Freeview are growing rapidly (11.5% of DTT boxes now have PVRs). PVRs on different platforms offer a range of services and functionalities:

- With a Sky + box (standard or high definition), Sky Anytime pushes preview (i.e. not yet broadcast on any Sky channel) content onto a reserved portion of the hard disk drive, giving consumers an opportunity to access 'first see' content on-demand, free of charge. Sky + also supports series linking.
- The Freeview+ (formerly Freeview Playback) specification ensures that devices with its endorsement meet a minimum set of standards, which also includes series stacking.
- The V+ box from Virgin Media supports high definition viewing and series linking.
- Top Up TV Anytime uses a 'pull'-based PVR model (i.e. the user selects content to download), with menu driven access to content from a variety of digital-only channels which is then downloaded onto a hard drive overnight.

Ofcom's consumer research shows that among those with access to a PVR – 88% of PVR users 'always' or 'almost always' check live TV before watching a recorded programme.<sup>41</sup>

#### 3.3.3.4 DVD market

According to the British Video Association, 2007 marked a record year for the British video/DVD market with total UK volumes sold reaching 250 million units for the first time and generating volume growth of 9%; DVD accounting for 99% of that. The BVA suggests that the retail market in 2007 was worth £2.3 billion.<sup>42</sup> Half year results show total video/DVD sales in 2008 are up 3.3% compared with the same period last year; a total of 111.6 million units have already been sold. This is thanks to an increased level of consumer choice provided by new Hi-Def formats, which accounted for a 1.2% share in the first half of 2008.<sup>43</sup>

According to the 2008 BVA Yearbook, there were 98 million rental transactions in the UK in 2007, generating a market worth almost £300 million. However, it is a market which has seen continuous volume decline since 2001.<sup>44</sup>

The DVD/video market is dominated by film releases from the major US studios in particular. The TV sector – DVDs based on release of programmes first made for television, including both UK and US releases - accounts for only around 15% of the market.

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<sup>40</sup> Ofcom 2008, page 66

<sup>41</sup> Ofcom 2008, page 67

<sup>42</sup> "BVA Yearbook 2008 – published today" BVA Press release (at <http://www.bva.org.uk/content.asp?id=141109>)

<sup>43</sup> "Home Entertainment Industry experiences continued volume growth" BVA press release 7 July 2008 (at <http://www.bva.org.uk/content.asp?id=145577>).

<sup>44</sup> "UK video rental data service stalemate" BVA Press release 4 August 2008 (at <http://www.bva.org.uk/content.asp?id=146731>)

### 3.4 Linear channels

#### 3.4.1 Relevant Canvas feature(s)

The Canvas standard involves the promotion of IP connections in set top boxes capable of receiving linear free-TV transmissions on a platform neutral basis; both DTT set top boxes and PSB Freesat box. It is therefore likely that Canvas may, through facilitating the delivery of non-linear content directly to the television set, change the competitive landscape between linear and non-linear content (in terms of both viewing and, potentially, attractiveness to advertisers<sup>45</sup>) and between potentially competing analogue and digital television platforms (such as DTT, cable, satellite and IPTV). It may also offer a new route to viewers for channel operators without DTT capacity. We must, therefore, also consider competition law precedents concerning linear television channels.

The provision of on-demand content alongside linear broadcast channels by the BBC and others may affect consumer demand for linear channels for three reasons. First, the addition of on-demand content to linear broadcast channels (on any platform) may affect viewing of linear broadcast channels on the platform. If, for example, on-demand content is an effective substitute for linear broadcast channels, then the amount of linear broadcast channels viewed will decrease, affecting channels and providers of content to channels. If on the other hand on-demand content is complementary to linear broadcast channels, such that viewing of on-demand content occurs in addition to viewing of linear broadcast channels, there will be little, if any, impact on channel providers.

Second, the IP connection may allow the development of new, innovative and interactive content that may prove to be particularly attractive to viewers and the provision of channels not previously distributed to households due to, e.g. DTT capacity constraints or lack of a return path. This could increase viewing of linear broadcast channels.

Third, the addition of Canvas to only some television distribution platforms may affect inter-platform competition if it affects the relative attractiveness of those platforms. To the extent that some channels perform better on one platform as opposed to another, channels may be affected by the introduction of Canvas.

There is also some evidence of substitution away from more traditional television viewing due to increasing consumption of on-demand content. In a consumer survey for its market impact assessment of the BBC's on-demand proposition, Ofcom found that people who had recently watched video content or television programmes via the Internet were asked whether their usage of other services fell. While 42 per cent said that there was no effect on other activities, 18 per cent said that their viewing of FTA television services fell, and 12 per cent said the same for each of cable and satellite viewing.

In a recent report by Essential Research<sup>46</sup> increased consumption of on-demand content leaves total audiovisual consumption broadly unchanged, suggesting a general substitution between VoD and other forms of content. Essential Research report that 23% increased their consumption of audiovisual content (broadly half increasing linear viewing and half reducing linear viewing); 64% reported little change to overall consumption (again 50% consumed more linear television and 50% less) and 13% reduced audiovisual consumption (all at the expense of linear television). Overall, two thirds of PC VoD users watched the same amount overall and a third of PC VoD users claimed reduced linear TV viewing.

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<sup>45</sup> As noted in section 3.1, we have chosen not to consider directly the potential affect of Canvas on advertisers.

<sup>46</sup> Essential Research 2008 *VOD: State of Play* October 2008. Base 307 PC VoD users.

### 3.4.2 A wider scope

Competition law precedent has concentrated on whether free and pay linear TV are in the same market and on whether Premium content channels (sport and film) are in a separate market from other pay TV content. As Canvas offers the ability for viewers to choose directly between linear and on-demand content on their TV sets, there is clear logic in including linear broadcast channels as a sector potentially affected by the introduction of Canvas. Consumer evidence (see section 4.3.3) supports this conclusion.

We propose to also include content providers in this sector. First, adoption of the Canvas standard could facilitate additional on-demand income for content providers. Second, the Canvas standard could affect content commissioning if, for instance, it affects consumption of linear channels that are relatively high content commissioners: a positive (negative) effect on high commissioning channels could increase (decrease) commissioning of new content.

### 3.4.3 The linear channel sector today: size and key players<sup>47</sup>

The UK linear television landscape is still focussed primarily on the main public service broadcaster (PSB) channels (BBC One, BBC Two, ITV1, Channel 4 and Five); all except the BBC are advertising funded. Collectively they achieved a 56.7% share of viewing in multi-channel homes in 2007. Taking account both of the main PSB channels and of their digital-only services, the PSB channel families still accounted for a significant proportion of all TV viewing; they achieved a 70.3% share of viewing; other digital channels achieved a 29.7% share.

TV advertiser revenue rose 2.2% to £3.5bn over 2007. The commercial PSBs continue to attract the bulk of NAR (67%, £2.4bn), but they lost 2.6 percentage points in aggregate share in 2007 driven by a fall in ITV1's NAR. ITV1 and GMTV1 accounted for 40% of the market, down 2.5 percentage points since 2006. Five's share fell by 0.1 percentage points to 8.1%, while Channel 4/S4C's share of the total remained constant at 19%. The losses faced by the commercial analogue channels have been partly offset by their portfolio (or 'spin-off') channels, which have collectively grown to account for £347m (or 10%) of the industry's total advertising revenue. The key commercial players are:

#### 3.4.3.1 ITV

ITV plc's reported total revenue was £2,082m for the twelve months to December 2007, down by 4.5% or £99m from 2006 (ITV plc financial results 2007). The loss was attributed to a decline in premium rate telephone services revenues, down by 52% (£58m) to £53m, following the temporary suspension of phone-in competitions and the withdrawal of ITV Play in March 2007. Net advertising revenue (NAR) at the flagship channel, ITV1, was down £57m (4.4%) to £1,224m over the period. This fall in revenue was almost offset by NAR gains at ITV2, ITV3, ITV4, CITV and Men and Motors, up 33% (£52m) to £209m.

#### 3.4.3.2 Channel 4

During 2007 Channel 4's reported group revenue rose by 0.9% to £945m. Advertising and sponsorship grew by 6.2% - driven by the digital channels More4, E4 and Film4. Revenue generated by the main channel rose by 2.8% to £715m and by 21.6% to £156.4m for the digital channels. The main channel went from an operating profit of £21.8m in 2006 to a loss of £7.8m in 2007 due to programme investment and cost increases. By contrast, the digital channels turned 2006's operating loss of £17.6m into a profit of £16.2m over the course of the 2007-08 financial year.

<sup>47</sup>

All data in following section sourced from Ofcom 2008

#### 3.4.3.3 Five

RTL, Five's parent company, reported 2007 channel revenue of £341m, up 7.2% from 2006.

#### 3.4.3.4 Multichannel providers

The loss in advertising share among the commercial PSBs was picked up by the commercial multichannel operators, who generated £809m in NAR or 23% of the total advertising revenue. The key multi-channel operators are:

- *BSkyB*: For the twelve months to 30 June 2008, BSkyB reported wholesale subscription revenue of £181m and advertising revenue of £328m. BSkyB's multichannel portfolio audience share was 7.6% in 2007. It remains the fourth largest group by share in multichannel homes a share 2 percentage points higher than the next biggest group, Five.
- *UKTV* (a joint venture between BBC Worldwide and Virgin Media). Taken as a whole, the UKTV channel portfolio share was 3.9% in 2007. UKTV Gold accounted for 42% of total share in 2002 but this had fallen to 31% by 2007, because its share of viewing dropped by 0.7 percentage points to 1.2% over the period. UKTV Style's share of viewing also fell significantly over the period, by 0.7 percentage points to 0.4% in 2007.

#### 3.4.3.5 Content providers

Content is supplied by a range of organisations, although they can be broken down into broadly distinct groupings: broadcasters with in-house production capabilities, independent production companies and others (such as rights holders and film studios).

- Broadcasters with in-house production capabilities: Both the BBC and ITV have significant in-house production capabilities and Five's parent – RTL – also owns production companies. Channel 4 has no in-house production.
- Independent production companies: There are a large number of independent production companies in the UK, ranging from large corporate businesses to small, boutique companies. PACT – the industry trade body – reports a membership of over 600 companies who produce and exploit content across the TV, film, children's, animation and interactive media sectors. PACT's Independent Production Census 2007/08 reports strong growth in the sector, with revenues increasing from £1.6bn in 2005 to £1.95bn in 2007.
- Rights holders and film studios: Many rights holders, for instance sport governing bodies, commission and produce content that they later make available for broadcast. Many linear TV channels carry films from both major Hollywood studios and from smaller independent film makers. Films are made available in various release windows, ranging from cinematic release, through film VoD, pay TV movie channels, DVD and terrestrial TV channels.

### **3.5 Other potentially affected sectors**

Although not affected directly through demand-side substitution with services offered via Canvas, there are other sectors that may be impacted by Canvas. Two in particular stand out: Broadband network infrastructure providers and ISPs and set-top box manufacturers and retailers.

#### *3.5.1 Relevant Canvas feature(s)*

The key distinguishing feature of the Canvas standard is that it encourages the incorporation of an IP connection in to a set-top box, giving a direct route to the television. Any consumption of content over that IP connection is likely to have consequential impacts on broadband network infrastructure providers and ISPs, who sell broadband connections into the home.

As Canvas will encourage the purchase of new and replacement set-top boxes, equipment manufacturers will likely be impacted by Canvas.

### 3.5.2 Broadband network infrastructure providers and ISPs

Wide adoption of the Canvas standard will encourage significant growth in IP connected set top boxes. The provision of on-demand content via the IP connection by the BBC and others in addition to linear broadcast channels on the DTT platform could affect broadband network infrastructure providers and ISPs in two principal ways:

- The ability to view content on television via broadband may affect demand for broadband subscriptions.
- As users increasingly rely on the internet to receive television, this will increase demand for bandwidth from old and new subscribers

Through potential increased demand for their products and services, set-top box manufacturers will also be indirectly affected by the introduction of Canvas.

#### 3.5.2.1 The sector today

At the end of 2007 there were an estimated 18.3 million UK internet connections (both residential and non-residential). The strongest growth in connections was for residential broadband services, where the number of lines increased by 22% during 2007. Although still increasing, the rate of broadband growth is slowing; by the end of 2007, 58% of UK households had a broadband connection. The majority of this increase was due to migration from narrow-band and 2% were new connections.<sup>48</sup>

BT remained the largest retail provider during 2007 and its market share increased by three percentage points to 26.5%, with most of this increase being due to its acquisition of two smaller ISPs, PlusNet and Brightview. During 2007 the number of BT retail DSL subscribers increased by 33% to 4.1 million, while Virgin Media's cable modem subscriber base increased by 12% to 3.4 million.

Recent broadband connection market share changes have been driven by two main factors: bundling of broadband with fixed or mobile voice services or television; and market consolidation driven by economies of scale.

Service bundling has been a major driver of broadband take-up, with a number of major operators offering 'free' or reduced-price broadband to new and existing consumers of other fixed, mobile or pay-TV services. TalkTalk and BSkyB both introduced 'free' broadband services to customers taking other communications services from them in 2006 and have since captured significant market share.

The rate of consolidation has increased over the past few years as operators have deployed their Local Loop Unbundling (LLU) networks. The LLU cost structure means that per-subscriber costs decrease rapidly as a function of the number of subscribers that an ISP has at a given local exchange, and after a certain 'minimum efficient scale' go well below those of other ISPs who lack LLU and must rely fully on BT Wholesale. Further, per-subscriber marginal costs for bandwidth are also significantly lower under LLU than otherwise. The first factor has been a driver towards consolidation for several years, and the second will contribute to this trend as use of video (driven by products like Canvas) increases demand for bandwidth.

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<sup>48</sup> Ofcom 2008, page 18.

The number of unbundled local loop (LLU) broadband connections almost trebled to 3.7 million as consumers took advantage of LLU broadband offers and operators migrated existing customers onto their LLU networks. There are four or more LLU operators with a presence in almost half of all unbundled exchanges. The scale of migration to LLU networks is clearly indicated by the 23% fall in non-LLU DSL connections in 2007, the majority of which are provided using BT's wholesale products.

Other recent market consolidation has seen TalkTalk/Carphone Warehouse buy AOL, and Pipex buy Bulldog and then in turn be bought by Tiscali. Tiscali, in turn, has recently been put up for sale. The result of ISP consolidation, and of TalkTalk and BSkyB's entry into the market, has meant that since 2005 the share of 'other' operators has declined from 22.8% to 16.6%.

During the same period BT's market share has increased (partly due to its acquisitions noted above), while Virgin Media's share has continued to decline, albeit more slowly.

Key broadband network infrastructure providers include:<sup>49</sup>

- BT Wholesale (IP stream, Datastream): provides access to broadband network infrastructure covering the whole of the UK using BT central pipes, to BT Retail and to Internet Service Providers (ISPs) for the proportion of their offering to consumers that is not provided using their own connections to local loops in local exchanges. In Q1 2008 BT Wholesale provided 8,384,600 connections to UK broadband network infrastructure (51.35%).
- Virgin Media cable: provides access to its fibre-optic network covering approximately half of the UK to ISPs. At end Q2 2008 Virgin Media cable had 3.56m direct cable modem broadband customers (around 20% of broadband connections)
- LLU lines: BT Openreach facilitates access to broadband network infrastructure using alternative BT pipes, to ISPs for the proportion of their offering to consumers that is provided using their own connections to local loops in local exchanges. In Q1 2008 4,300,000 (26.34%) broadband network infrastructure connections were provided in this way.
- Other (Kingston, FWA, satellite): some broadband network infrastructure connections are provided wirelessly. In Q1 2008 140,000 (0.86%) connections were provided in this way.

Key ISPs include:<sup>50</sup>

- BT Retail (including PlusNet, Brightview): provides broadband subscriptions to businesses and households using BT Wholesale's central pipes. In Q1 2008 BT Retail had 4,401,770 UK broadband subscribers (27% of UK subscribers).
- Virgin Media (Cable and DSL): provides broadband subscriptions mostly using Virgin Media cable's fibre-optic network. In Q1 2008 Virgin Media had over 3.8m broadband subscribers (over 23%).
- Carphone Warehouse (including AOL): provides broadband subscriptions using both BT Wholesale's central pipes and alternative unbundled BT pipes connected to local loops via its own investments in local exchanges, but mostly the latter. In Q1 2008 Carphone Warehouse had 2,713,000 broadband subscribers (16.6%); 66.8% of which were provided via unbundled exchanges.
- Tiscali (including Pipex): provides broadband subscriptions, the majority of which are provided using BT Wholesale's central pipes. In Q1 2008 Tiscali had 1,875,000 broadband subscribers (11.5%); 41.6% provided via unbundled exchanges.

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<sup>49</sup> Enders Analysis 2008 *Broadband and Telephony Market Statistics Q1 2008*

<sup>50</sup> Enders Analysis 2008,

- BSkyB (including UK Online): provides broadband subscriptions, the vast majority of which are provided using unbundled BT pipes connected to local loops via its own investments in local exchanges. In Q1 2008 BSkyB had 1,456,000 broadband subscribers (8.9%); 86.3% provided via unbundled exchanges.
- Orange: provides broadband subscriptions, the majority of which are provided using BT Wholesale's central pipes. In Q1 2008 Orange had 1,107,000 broadband subscribers (6.8%); 36.9% provided via unbundled exchanges.
- Others: other ISPs had 6% of subscriptions.

### 3.5.3 *Equipment manufacturers*

The widespread adoption of the Canvas standard on the DTT and PSB Freesat platforms may affect manufacturers of set-top boxes given that demand for set top boxes is highly dependent on the operation and growth of the platform for which the box is required. As the Canvas standard is adopted, manufacturers will need to produce new set-top boxes for those consumers that (a) wish to connect for the first time or (b) wish to replace existing set top boxes.

#### 3.5.3.1 The sector today

It is difficult to locate UK specific information on the set top box sector. Screen Digest estimates that annual demand for set top boxes in Western Europe will reach 19.4m units in 2008, rising to 19.6m units in 2012. Screen Digest expects future set top box demand to focus on one or more of the following features: high definition, PVRs, and/or IP connections.<sup>51</sup>

Key manufacturers include: Motorola, Echostar, Thomson, Humax, ADB, Amino, LG, Sagem, Amstrad, Pace, Cisco (Scientific Atlanta), Samsung, Philips, Tilgin, Sony, Toshiba, Panasonic.

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<sup>51</sup> Screen Digest 2008c *Pay TV Set-top box market dynamics* April 2008

## 4. COUNTERFACTUAL: NO INVESTMENT

The television industry is extremely dynamic and difficult to predict. Key uncertainties include:

- Changing consumer behaviour coupled with technical innovations
- Regulatory changes

Without Canvas:

- All platforms will continue to grow as digital penetration increases to 2012. The DTT platform becomes increasingly fragmented and 'closed' compared to today.
- On-demand functionality is provided via 'push-VoD (to PVRs via broadcast) and 'pull-VoD (via IP connection). On-demand consumption increases significantly.
- There is no significant change in the BBC's share of total viewing.
- ISPs and broadband network providers face significant increases in traffic in the next few years.

### 4.1 Introduction and approach

In this chapter we attempt to identify future market trends and regulatory changes and the likely direction that the potentially affected sectors will take in the absence of Canvas. The analysis is based on the modelling undertaken for this project.<sup>52</sup>

We begin by identifying the likely technological, audience demand and regulatory changes that can be anticipated at this time. We then describe our main scenario for the market without Canvas (we also briefly highlight the changes to that scenario that would occur if Sky were to successfully launch a pay DTT offer).

### 4.2 Market changes

The television and audiovisual sector is dynamic and changing rapidly. It is clearly difficult to predict the future with certainty; although we can identify some key trends. Technological developments are having profound effects on the way in which content is accessed and consumed. Viewing patterns are changing as platforms, channels and different audio visual media evolve and as audiences seek out innovative content, greater personalisation and significant interaction and participation opportunities. There are also likely to be a number of (possibly major) changes to the regulatory environment.

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<sup>52</sup> Modelling from 3Reasons, September 2008.

#### 4.2.1 Technological innovation

The range of platforms and devices that consumers can use to access audiovisual content has expanded rapidly over the past decade. The falling costs of mass storage, the development of wireless technologies, improved battery capacity and component miniaturisation are just some of the factors driving the development of new devices through which traditional and new media can now be consumed. As new platforms and new devices are introduced, traditional broadcasters must find new routes to deliver content to viewers. This in turn increases both distribution and reversioning costs and makes it difficult for mass broadcasters to reach mass audiences.

New technological developments such as PVRs and the growth of on-demand delivery technologies also offers broadcasters and content providers new ways of bringing content to consumers, allowing them to better meet underlying demand characteristics.

#### 4.2.2 Demand characteristics

##### 4.2.2.1 Audience fragmentation

The more traditional television platform landscape is also changing and this has an impact on consumption of linear television.

Digital multichannel television penetration is now available on 87% of main sets in the home and one in five people now have access to a PVR.<sup>53</sup> Channel availability is also increasing and the ongoing migration to digital television has benefitted multichannels at the expense of the traditional PSB channels. The combined share of multichannels in all homes reached 37% in 2007 as the combined share of the five main PSB networks continued to decline on multichannel platforms. PSB networks held up better in Freeview homes (63% share) than in cable and satellite homes (47% share).<sup>54</sup> As Ofcom notes in its recent PSB Review document however, the public service channels' audience share taken together is likely to continue to decline.<sup>55</sup>

Nonetheless, traditional television remains the most popular first choice for entertainment and for UK and world news and TV is the medium that people would find it hardest to live without, although 16-24 year olds claimed they would miss the internet more than television.<sup>56</sup>

##### 4.2.2.2 Greater personalisation, interactivity and participation

Generally speaking, audiences are seeking greater control over the content they consume and when (and where) they consume it.

The growth in on-demand consumption (e.g. BBC iPlayer and red button usage for instance) are further indicators of the audiences' desire to be more in control of what they consume and when and where they consume it.

The BBC has recognised that new technologies (from web 2.0 to IPTV to mobile) are allowing audiences to personalise, participate and demand their news and sport anytime, anyplace, anywhere. They want to shape their own news and information consumption so that it works for their lifestyle. They are less deferential, keen to shape the agenda and offer/exchange views.

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<sup>53</sup> Ofcom 2008, page 113

<sup>54</sup> Ofcom 2008, page 218

<sup>55</sup> Ofcom 2008b, *Ofcom's Second Public Service Broadcasting Review, Phase One: The Digital Opportunity* 25 September 2008

<sup>56</sup> Ofcom 2008, page 230

They value the BBC's global perspective but demand a more relevant local view too as cultural and political devolution continues.

As noted above, the media landscape is changing to meet these audience demands. Multichannel television is growing and there has been entry into the pay-TV market. Changes to technology and consumer behaviour have also manifested themselves in increased supply and consumption of VoD content, both online and via television platforms. As described above in Section 3.3.4.1, VoD content is currently available via Top Up TV, BT Vision, Tiscali TV and Virgin Media offerings. In the case of Top Up TV, VoD content is 'pushed' over the airwaves and recorded on PVRs ("push-VoD"), and hence is available to customers with set-top boxes with built-in PVRs; in the case of BT Vision and Tiscali TV, VoD content is 'downloaded' over broadband ("pull-VoD") by customers with set-top boxes with broadband connections; in the case of Virgin Media, VoD content is 'downloaded' over cable ("pull-VoD") by customers with set-top boxes with cable connections.

It seems likely that VoD content, particularly of the push-VoD variety, will be increasingly made available to be viewed on television with a compatible set-top box and built-in PVR. It seems likely that at least a selection of catch-up and archive content will be made available via Freeview in this manner – for example, by 'pushing' versions of iPlayer and Kangaroo (should this be given regulatory approval) to compatible PVRs.

#### 4.2.3 Regulatory changes

The regulatory landscape governing the audiovisual sector is also changing. Key initiatives include digital switchover and spectrum auctions, Ofcom's review of public service broadcasting and the pay TV market and Ofcom's consideration of BSkyB's proposal to introduce a pay DTT service ('Picnic').

##### 4.2.3.1 Digital switchover and auctions

Digital switchover – the transition from analogue to digital terrestrial transmissions - is occurring on a region-by-region basis across the UK and is scheduled to be completed in 2012. Ofcom is planning on auctioning the spectrum that will be freed-up as a result in "Summer" 2009; spectrum will be available for use by auction winners after this on a regional basis as Switchover occurs.

Clearly it is difficult to predict the outcome of auctions, particularly where spectrum is being auctioned on a technology- and service-neutral basis. However, it is possible that some of this spectrum may be purchased and used to provide additional digital terrestrial television or mobile television services.

##### 4.2.3.2 PSB Review

Ofcom is currently conducting a review of the funding and remit of Public Service Broadcasting (PSB) in the UK. In Phase One of its review,<sup>57</sup> Ofcom set out four potential future funding models for PSB:

- PSBs retain their current role, either with reduced obligations or additional support
- BBC only: limited plurality only provided through content supplied by fully commercial broadcasters
- BBC/ Channel 4 and limited competitive funding: Channel 4 (only) retains PSB status with a remit extended into new areas. Any remaining purposes to be delivered through contestable contracts

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<sup>57</sup> Ofcom 2008b, Ofcom's Second Public Service Broadcasting Review, Phase One: The Digital Opportunity

- Broad competitive funding: no special institutional roles for the commercial PSBs. Long-term contracts for meeting particular purposes are awarded competitively. The BBC would have a core role in areas where the market is unlikely to deliver but where a competitive process would be difficult to specify.

Ofcom published phase two of its review on 25<sup>th</sup> September 2008.<sup>58</sup> It has put aside the 'BBC only' model but maintained its preliminary view that new funds need to be found to replace the declining value of implicit subsidies and to maintain plurality in the provision of public service content. It has also emphasised the importance of a multiplatform strategy towards public service content provision. Ofcom's review will be followed immediately by the Government's review of PSB funding.

Clearly any changes to the funding and remit of PSB will have substantial implications for platforms, channels and content, and hence can be expected to potentially change the analysis below.

#### 4.2.3.3 Pay TV Review

Ofcom is currently conducting a review of the pay-TV market, as a result of the joint submission it received from BT, Setanta, Top Up TV and Virgin Media.<sup>59</sup> Ofcom is examining in particular:

- Whether vertically-integrated firms have the incentive to make their premium content, such as sports and movies, available to other retailers and other platform operators;
- Whether firms are able to compete effectively at the wholesale level for premium content; and
- The enforcement of buy-through (the practice of requiring consumers to purchase a basic package before they are allowed to buy a premium service) at the retail level.

Ofcom recently published its preliminary conclusions for consultation.<sup>60</sup> Ofcom has focused on wholesaling of "Core Premium Sport" (i.e. FA Premier League football) and "Core Premium Film" (first run Hollywood Movies) as its key concern. It is consulting on its preliminary conclusions that Sky has market power in both markets, which distorts competition in platform and channel retailing, reduces consumer choice and keeps prices artificially high. Ofcom's proposed remedy is that a wholesaling 'must-offer' obligation be placed on Sky's Core Premium Film and Movie channels (including HD versions and red button offerings) at a regulated price. If Sky proceeds with Picnic, this would be accompanied by a requirement for Sky to utilise simulcrypt technology (which allows more than one conditional access technology to be attached to the same broadcast stream). Ofcom is suggesting that this remedy would not apply on Sky's satellite platform nor on the Virgin cable system but it would apply to current and future mobile, IPTV and pay-DTT platforms.

The finding and remedy are likely to strengthen non-satellite platforms, particularly pay-DTT. They would - if implemented - also facilitate the launch of Sky's proposed pay DTT offer (Picnic) - see below.

#### 4.2.3.4 Picnic

BSkyB (and National Grid Wireless - NGW) have applied to replace Sky's three channels on DTT (Sky Three, Sky News and Sky Sports News) with premium content (Sky Sports 1, Sky One and Sky Movies SD1 in the evening; Sky Sports 1, a Discovery factual channel and a Disney

<sup>58</sup> Ofcom 2008c Ofcom's Second Public Service Broadcasting Review Phase 2: preparing for the digital future (see [http://www.ofcom.org.uk/consult/condocs/psb2\\_phase2/](http://www.ofcom.org.uk/consult/condocs/psb2_phase2/)).

<sup>59</sup> Ofcom 2007 *Pay TV market investigation consultation*, 18 December 2007

<sup>60</sup> Ofcom 2008d

children's channel in the daytime), which will only be able to be watched by those with a Sky set-top box and a monthly subscription. (The proposal is known as "Picnic").

In its second consultation,<sup>61</sup> Ofcom has indicated that it is willing to approve Picnic as long as a workable "wholesaling must offer" remedy and simulcrypt (together with other unspecified ancillary remedies) are achieved through the pay TV review. If Ofcom approves Picnic, it is possible that Sky will launch a pay DTT offering consisting of Picnic plus on-demand content. If Ofcom were to reject Picnic, Sky could still go ahead with a set-top box combining free-to-air linear channels (only) plus IP delivered on-demand content.

### 4.3 Counterfactual description

To be able to assess the potential impact of launching the Canvas standard, we have to first identify how the world would develop without Canvas. This allows us to then identify the incremental impact of launching Canvas.

The counterfactual analysis is based primarily on the results of modelling undertaken for the project.<sup>62</sup> In our counterfactual, we assume that there is no Canvas standard and that Sky does not launch a DTT offering. We also assume that:

- households with set-top boxes containing built-in PVRs will be able to view a selection of catch-up and archive content on-demand (delivered via 'push-VoD' using broadcast technology to save content onto the PVR);
- IP connected set top boxes, from the likes of BT Vision, will continue to penetrate the market;
- any UHF spectrum bought at auction is unlikely to be used for DTT to any significant extent;
- Ofcom's public service broadcasting review does not change the television landscape significantly; and
- Ofcom's pay TV review causes Sky's premium channels to be licensed to other retailers.

We believe this is the most appropriate counterfactual for two reasons. First, it is the counterfactual that most clearly highlights the potential impacts of Canvas. Second, we do not believe that another player has the incentive to invest in similar technology and licence it to Freeview/box manufacturers.

In principle, anyone could consider developing their own open standard but, in practice, we do not believe that another party has the incentive to do so:

- Existing commercial pay TV retailers using IPTV (e.g. BT Vision) have already created their own technical solution to IP connectivity on DTT. However, they have created closed, proprietary standards that can be monetised (or allow their content to be monetised) and which differentiate them from other pay TV retailers. They do not provide open access to viewers for content providers that would compete for their pay customer's attention and for advertising revenue.
- Set-top box manufacturers might be in a position to develop an open standard, but it is difficult to understand why they would want to make it available to other set-top box manufacturers that are direct competitors. To date, they have not done so even though the market is completely horizontal and open; each has offered its own consumer experience (EPG etc) whilst meeting the Freeview standard. In addition, a set-top box manufacturer would not want to allow a rival set top box manufacturer to influence its EPG or technology.

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<sup>61</sup> Ofcom 2008e *Proposed BSkyB Digital Terrestrial Television Services Second consultation on Sky's 'Picnic' proposal* 30 September 2008

<sup>62</sup> Modelling from 3Reasons, September 2008

- Software companies, such as Google (Microsoft has previously introduced set top box software), might be in a position to facilitate and propagate an open standard to encourage broadband connectivity and to include an internet browser that they control – allowing them to use advertising around the browser to generate income. However, it does raise the question about why content providers (who are themselves trying to generate income from their content) would work with such a standard if Google is controlling the advertising around any IP delivered content).
- Broadly speaking, only companies that make their revenue from advertising (mainly content providers) and need to reach as many viewers as possible would have an incentive to encourage a standard open to all content providers. But, content providers historically have shied away from direct involvement in standard setting and platforms, with only the PSBs – e.g. through Freeview and Freesat – successfully working together to develop and propagate a technical solution that does not compromise the consumption experience of viewers.

It is therefore unlikely that a commercial third party would wish to develop an open standard similar to Canvas, making an alternative counterfactual (where a standard similar to Canvas is developed) unlikely.

Overall, we believe that the BBC/ITV partnership is best placed as a shareholder of both FTA platforms to lead this development, which will be an upgrade path for both existing platforms and provide benefits to wider UK plc (keeping it free and open, low barriers to entry for content providers). The partnership is not a player in the technology market; it has a proven track-record of working successfully with a horizontally competitive set-top box market (Freeview and Freesat) and can offer promotional opportunities for the Canvas standard that may not be available from other potential players.

Only the BBC (in partnership) can successfully co-ordinate the necessary activity because of:

- (a) its different funding model – it is not in direct financial competition with ITV or other PSBs – and can therefore be an honest broker; and
- (b) BBC and ITV are key Freeview and Freesat player and the power of principles (e.g. universality and free) behind Freeview and Freesat make them best placed to drive this.

The BBC can therefore act as a catalyst and a focal point for a joint approach to the delivery, propagation and promotion of an open technical standard such as Canvas.

However, given the potential impact of a successful launch of Picnic, we also highlight a potentially separate counterfactual describing a situation where Sky successfully launches a pay DTT offer that becomes the primary pay TV retailer on DTT.<sup>63</sup>

#### 4.3.1 Platforms

As described in the appendix, the CC found that basic-tier pay TV and free-to-air channels were likely to be in the same economic market in its analysis of Sky/ITV. Ofcom, however, did not believe that there was sufficient evidence to reach that conclusion. BBC<sup>64</sup> and Ofcom<sup>65</sup> research suggest that switching costs between free-to-air and pay platforms may be higher than suggested by the CC. The top reason given by those surveyed by the BBC for choosing Freeview over other platforms was “price/ cheaper to get started/ value for money”, and the third most popular reason was “wanted more channels but no subscription”. Similarly, Ofcom found that “it is too expensive”, “I can get all the TV channels I need already” and “it is a waste of money” were the three most popular reasons for not taking subscription services; “I don’t want to

<sup>63</sup> Many other potential counterfactuals may be possible. For instance, Sky may not launch a pay DTT offer but may instead concentrate on competing via its pay satellite packages, possibly with its IP connection enabled. A scenario where Sky competes with Canva via satellite has been included in the model.

<sup>64</sup> BBC’s Quarterly GfK Update Q1 ’08.

<sup>65</sup> Ofcom 2008d, *Annex 10*, figure 6 page 9

be tied to a contract” was fifth. Clearly the level of the up-front cost and entering into a contract requiring payment of a monthly subscription are key deterrents to free-to-air customers switching to pay-TV.

These findings suggest that, taken independently, the likely addition of on-demand content (via ‘push-VoD’) to free-to-air television platforms (i.e. satellite and DTT) will probably aid penetration of those platforms and may even further reduce switching to basic-tier pay-TV offerings.

Additional on-demand content may also induce some substitution to Canvas enabled boxes by those currently with basic-tier pay-TV as they can benefit from greater choice of content without a subscription. The extent of any switching to free-to-air Canvas enabled boxes will clearly depend on the competitive response of basic-tier pay-TV service providers: the greater their response, such as lowering the price of their basic-tier packages, the lower the extent of any switching.

It will also depend on the proportion of basic-tier pay-TV customers purchasing pay-television as part of a ‘bundle’: the greater the proportion of basic-tier pay-TV customers that also purchase fixed line telephony and/or broadband services from their pay-TV provider, the lower the switching to Canvas enabled boxes is likely to be. Ofcom notes that around 31% of customers by Q1 2008 take a ‘triple-play’ bundles (fixed voice telephony, broadband and multichannel television).<sup>66</sup> Virgin Media, for instance, claims that 53% of its subscribers purchased three services.<sup>67</sup>

The impact on pay TV platforms of growing VoD on free TV platforms will also depend on the proportion of customers consuming premium content; the greater the proportion of customers accessing premium content from pay TV retailers, the lower the impact of adding VoD to FTA TV platforms. Sky, for instance, reports that 65% of its 8.98 million subscribers took at least one Sky Premium Channel.<sup>68</sup> Virgin reports that c.50% of its television subscribers take its XL package (although defined as a non-premium package, it provides free access to premium content - Setanta Premier League Football).<sup>69</sup> Even without access to Premium content, pay TV platforms have a first mover advantage and benefit from consumer inertia; only one in five customers would switch to a different provider or to a FTA service if Sky Sports and Sky Movies were removed from their package.<sup>70</sup>

Ofcom’s consumer survey indicated that only 41% of Sky customers subscribe only to a basic channel package compared to 75% of Virgin Media customers that do not subscribe to premium packages. Sky subscribers also claim to pay significantly more per month than Virgin Media customers, with one third spending over £40 per month on their subscription.<sup>71</sup>

All this research suggests that due to the value placed on pay TV, the attractiveness of Premium content and the increased switching costs from bundled services, pay TV platforms are unlikely to lose significant numbers of subscribers to an improved offer on FTA TV.

The model shows that in the absence of Canvas and where there is no significant change in other market participants’ behaviour, the DTT platform, cable, Freesat and pay satellite continue to grow to 2012; FREESAT from Sky declines as Sky migrates customers to DSat. However, the

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<sup>66</sup> Ofcom 2008, page 134, Ofcom 2008d, *Annex 10*, page 7 and figure 5

<sup>67</sup> Virgin Media Q2 2008 results (see [http://media.corporate-ir.net/media\\_files/irol/13/135485/quarterly/FINAL\\_Q208\\_Presentation.pdf](http://media.corporate-ir.net/media_files/irol/13/135485/quarterly/FINAL_Q208_Presentation.pdf))

<sup>68</sup> BSkyB Annual Review 2008, page 8 (see [http://media.corporate-ir.net/media\\_files/irol/10/104016/reports/Annual\\_Report\\_2008.pdf](http://media.corporate-ir.net/media_files/irol/10/104016/reports/Annual_Report_2008.pdf))

<sup>69</sup> Virgin Media Q2 2008, page 14

<sup>70</sup> Ofcom 2008d, *Annex 10 to pay TV second consultation – consumer research*, paragraph 5.11

<sup>71</sup> Ofcom 2008d, *Annex 10*, paragraph 2.6

DTT platform becomes increasingly fragmented and less open as the penetration of pay-DTT (Top Up TV, BT Vision etc) grows.

Specifically, the model shows the following results by 2017:

- DTT platform as the primary television platform grows from 9.36 million homes currently to some 12.96 million homes – an increase of approximately 38.5%;
- Cable grows slightly (from 3.63 million to 3.67 million homes);
- Freesat grows from 220,000 homes currently to some 840,000 homes in 2017 – an increase of some 281.8% (from a low initial base);
- FREESAT from Sky declines significantly from 1.86 million homes to some 580,000 homes in 2017 – a decrease of some 68.8%.
- Pay digital satellite goes from being the platform of choice in 7.82 million UK homes to some 9.35 million homes in 2017 – an increase of approximately 19.6%.<sup>72</sup>

It is important to note that IP connections to DTT set top boxes already exist (Tiscali TV – IPTV – and BT Vision – known as hybrid IPTV) and will remain in the market place even if the Canvas standard is not launched. The model shows that around 1.92m IP connected set-top boxes on DTT primary sets capable of receiving pull VoD will be in the market by 2017; primarily pay DTT boxes.

The model also shows increased fragmentation of the DTT platform between “Freeview 1.0” homes (the current offer) and “Freeview 2.0” homes (homes with DTT PVRs, push- or pull-VoD and/ or High Definition (HD) functionality). Indeed, the number of Freeview 2.0 homes increases from 1.7 million or 18.2% of homes with DTT on primary-set televisions to around 5.5 million or 46% of homes. The number of homes with at least PVRs increases from 1.7 million to 5.5 million or 46% of DTT homes; the number of homes with at least HD increases from zero to 6.02 million or 46.5% of DTT homes. The number of homes with at least VoD on their primary set increases from 880,000 to 4.7 million or 36.3% of DTT homes.

#### 4.3.2 *Non-linear content*

Ofcom consumer research recently explored viewing of online content. It found that among people with multichannel TV, those with pay TV are more likely to use broadband (83%) than those with Freeview only (74%). Of those with internet access, nearly two in five have accessed user-generated (UGC) short form content and over one in ten have accessed programmes (with only 4% saying they have watched streamed content. There appears to be little correlation between premium subscriptions and the extent to which people watch or download online media content.<sup>73</sup>

The model shows DTT PVR penetration continues to grow, and hence so does the number of DTT homes able to view push-VoD content. Broadband subscriptions also continue to grow in homes with DTT as a primary set; the number of people with broadband-connected televisions (capable of viewing pull-VoD content on television in these homes) remains relatively low (although increases over time). Of those primary set DTT homes with VoD, the majority have access to push-VoD only: some 2.78 million by 2017 (59.1%); 620,000 (13.2%) have access to pull-VoD only (and have this connected), and 1.3 million (27.7%) have access to both push- and pull-VoD.

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<sup>72</sup> NB These figures are for UK households only. The figures cited in section 3.2.4.3 include both UK and non-Uk subscribers.

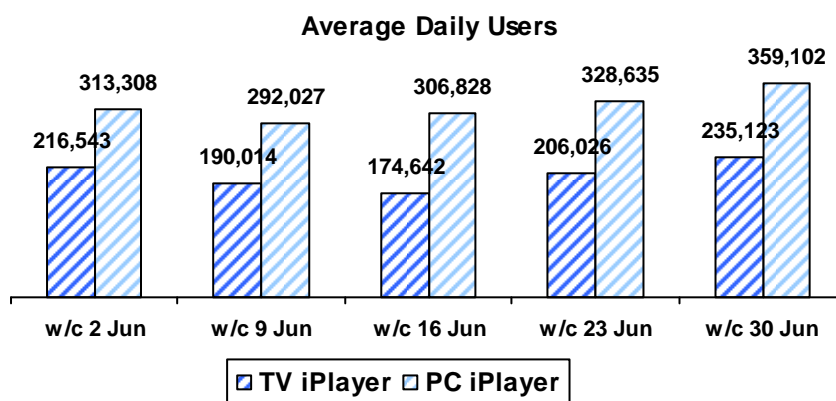
<sup>73</sup> Ofcom 2008d, Annex 10, page 52-53

The addition of VoD to free-to-air television platforms, and its availability on the television as opposed to the PC, will increase its consumption. In recent research 81% of respondents with access to VoD on their television indicated they prefer watching VoD content on their television than their PC.<sup>74</sup>

This is borne out by recent viewing figures for BBC iPlayer on Virgin Media, which launched on 30<sup>th</sup> May 2008. In the week commencing 30th June, an average of 235,000 Virgin Media 'unique users'<sup>75</sup> accessed TV iPlayer content each day, compared to 359,000 'unique users' accessing the PC iPlayer. This is an impressive performance for the TV iPlayer when we consider that only c3.4 million homes can access it, compared to c15 million homes which can access the PC iPlayer.<sup>76</sup>

Comparisons between TV and PC based iPlayer consumption are set out in figure 1.

**Figure 1: Comparison of PC and TV based iPlayer consumption 2008**



It is possible that the growth of on-demand content opportunities would allow broadcasters to introduce new and innovative advertising techniques, which could in turn improve their ability to earn revenues online and monetise their audience. At present we have insufficient evidence to judge the likelihood of this effect.

We would expect that greater connectivity and the resulting increased consumption of on-demand content in the counterfactual has the potential to increase consumption of on-demand films as they become more widely available to the consuming public. Indeed, Virgin Media recently announced that “*Virgin Media’s popular Movies on-demand service, operated and managed by FilmFlex, experienced a 15% month-on-month growth in August, following a 9% rise in July. This service has now totalled over 30 million buys and offers more first run on-demand movies than any other service in Europe.*”<sup>77</sup>

<sup>74</sup> Continental Research September 2008. Base: 1,014 short online self completion interviews amongst adults in cable households who use VoD

<sup>75</sup> By 'unique users' we mean 'set top boxes' for TV iPlayer and 'cookie count = computer browser count' for PC iPlayer

<sup>76</sup> BBC Research: TV iPlayer Usage 14 July 2008

<sup>77</sup> Virgin Media press release *Virgin Media’s on-demand TV tops 45 million views* 26/09/08 (see <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1202541&highlight=>).

However, the fact that in the counterfactual most on-demand content will be delivered via push-VoD rather than through IP connectivity, which puts broadcasters at an advantage vis a vis film distributors, may mitigate this effect.

Figure 2 below also suggests that viewing of DVDs/videos is also in decline. Over 75% of viewers able to access on-demand content on their television put use of pre recorded programmes on DVD/Video as only their third or worse choice for viewing audiovisual content. In its research, Ofcom also found that DVD consumption fell with on-demand availability.<sup>78</sup> From these statistics, it is difficult to determine the effect on the DVD sector of an increased tendency to consume on-demand rather than pre-recorded content, particularly as the DVD market is dominated by films rather than television output. We would expect, however, that increased on-demand availability of television series online (including limited series stacking from the BBC) in the counterfactual could have an adverse impact on sales and rentals of television series on DVD.

The impact of Canvas on the consumption of short form content is also unclear. If consumers spend less time consuming on-demand content online as it becomes available on the television the consumption of short form content may diminish. Even if short form content becomes available via the IP connection, it is unclear whether its lower quality will make it attractive to television viewers.

#### 4.3.3 Linear channels

The availability of VoD on television is a relatively recent phenomenon. Limited data is therefore available on the effect on linear viewing of adding VoD content to television platforms.

Compared to the time spent watching TV in general, people currently spend relatively little time watching simulcasts, downloaded TV programmes and films or short form video. On average, people spend the most time watching streamed content (2.92 hours per week) followed by downloading TV programmes and films (2.29 hours per week) and short form video (1.75 hours per week).<sup>79</sup>

Recent research<sup>80</sup> undertaken for the BBC and Channel 4 indicates that linear television remains the first choice viewing experience for viewers who have access to VoD on their television.<sup>81</sup> This is set out in figure 2 below.

The research also suggested that VoD content can be a complement, rather than substitute for, the watching of linear broadcast channels: over half respondents claimed to watch the same amount of live television as they had watched before consuming VoD content, and a small percentage claimed to watch more live TV. This result was corroborated by separate research, which showed that only one in four users of online on-demand content claimed to reduce their consumption of linear television. This is set out in Figure 3 below.

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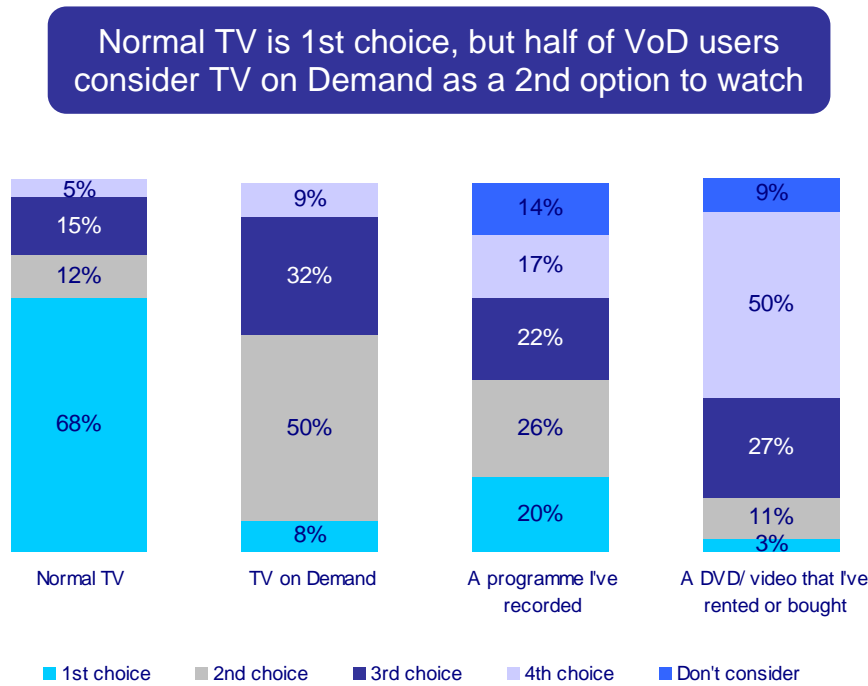
<sup>78</sup> Ofcom research showed that 53% said they would use DVDs if catch-up not available, 23% said DVD consumption decreased since using catch-up. Ofcom 2006 *BBC new on-demand proposals: Market Impact Assessment*. See [http://www.ofcom.org.uk/research/tv/bbcmias/ondemand/bbc\\_ondemand/bbc\\_ondemand.pdf](http://www.ofcom.org.uk/research/tv/bbcmias/ondemand/bbc_ondemand/bbc_ondemand.pdf)

<sup>79</sup> Ofcom 2008d, Annex 10, page 55

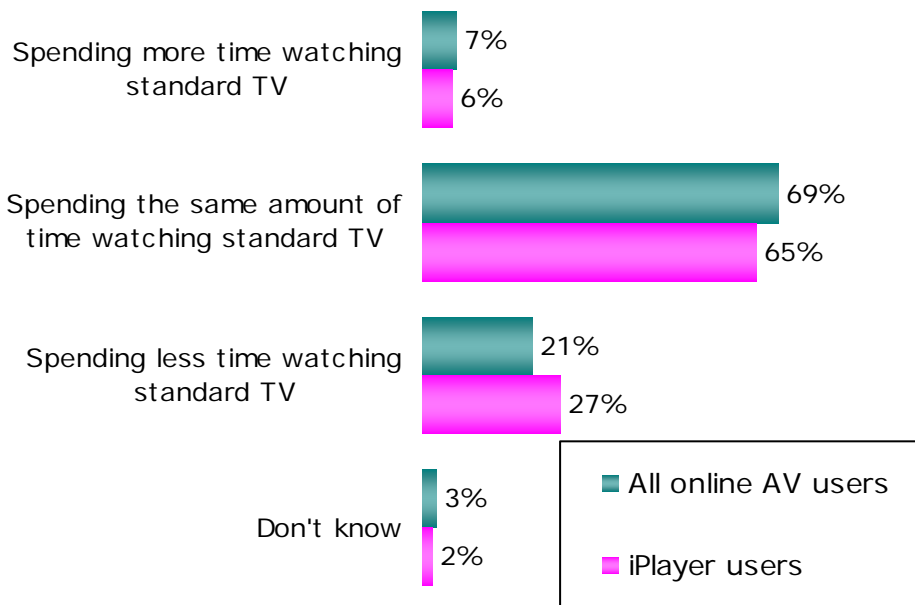
<sup>80</sup> Continental Research 2008

<sup>81</sup> Continental Research 2008, Base : All ever used VoD: 1014

**Figure 2: Viewers' preferences when viewing audiovisual content on the television**



**Figure 3: Claimed effect on linear TV of consuming audiovisual content online<sup>82</sup>**



In the model, we have suggested that the addition of VoD content to DTT in the counterfactual is unlikely to lead to any significant decrease in viewing of linear channels. The BBC's share of total viewing declines by less than one percentage point, while ITV's remains roughly constant. Specifically, the model predicts that the BBC's total viewing share across all platforms decreases from a predicted share of 33.4% by end 2008 to 32.5% by 2017.

<sup>82</sup> BBC iPlayer survey May 2008. Sample: 1636 people who have ever watched TV or listened to the radio online

It should be noted that current data is limited in that VoD, especially on TV, is a relatively new phenomenon and consumers' habits are not yet fully formed. It is possible in principle that increased VoD consumption could lead to a greater impact on linear viewing than currently modelled. Nonetheless, current research suggests consumption is complementary rather than substitutional to linear viewing

#### 4.3.4 *ISPs and broadband*

The model also shows that the number of homes that have DTT as their primary-set platform of choice and a broadband subscription rises from a predicted 5.19 million homes by end 2008 to some 10.5 million homes by 2017 (81.0% of total DTT homes).

The availability of VoD content on free-to-air TV platforms via Canvas enabled boxes using broadcast (push-VoD) functionality on PVRs, may lead to a decrease in the usage of ISP connections for accessing VoD (and possibly also linear) content as people substitute TV based VoD for PC based VoD. However, it is difficult to forecast net effect on traffic flows as consumption of all VoD content rises. We expect video internet traffic to continue to grow substantially in the next few years and we have modelled potential traffic until 2014. Even in a world without Canvas, the BBC estimates that internet traffic will increase by some 420% (from c. 1.7m to c. 8.8m TBs) between 2010 and 2014.

This traffic increase is already being planned for by broadband network providers and we expect that LLU ISPs will have already invested in sufficient capacity to ensure that this forecast traffic increase has little effect on their capacity cost base. Non-LLU ISPs, however, face a variable capacity cost model and we would expect our forecast traffic growth to generate over £500m of additional cost for them. They may, however, be able to mitigate this cost increase from increased subscriber numbers and from customers 'trading-up' to higher speed packages to improve their quality of service.

#### 4.3.5 *The effect of Sky launching a pay DTT service*

In the counterfactual, we assume that the existing mix of television platforms and retailers continues going forward – although we do allow for: Sky's premium channels to be wholesaled on pay DTT; wide adoption of push-VoD<sup>83</sup> technology and continual roll-out of IP connected proprietary set-top boxes and televisions on both free and pay platforms.

The most likely innovation in platform competition that can be foreseen at present is the successful launch of a pay DTT offer, e.g. Sky's Picnic proposal (see 4.2.3.4 above), which has the potential to become the primary pay TV offer on DTT. The model suggests that the greatest change to the counterfactual from such a launch would be seen in the platform landscape.

Sky's strategy to date when launching new products and services is to subsidise its set top box to encourage service subscriptions. It also has the opportunity to offer any new service as part of a bundle of services alongside fixed telephony and broadband. If Sky aggressively and successfully markets its offer, it could have a significant impact on the future.

Generally speaking, if Sky launches some sort of offering on DTT, we would expect switching toward free-to-air DTT by basic-tier pay-TV customers to be reduced, and any switching away from free-to-air DTT to basic-tier pay-TV offerings (particularly Sky's offering) to be increased compared to the counterfactual.

The modelling indicates that the DTT platform initially grows at an even faster rate due to the greater competition (from Sky) and associated increased levels of services and marketing focus

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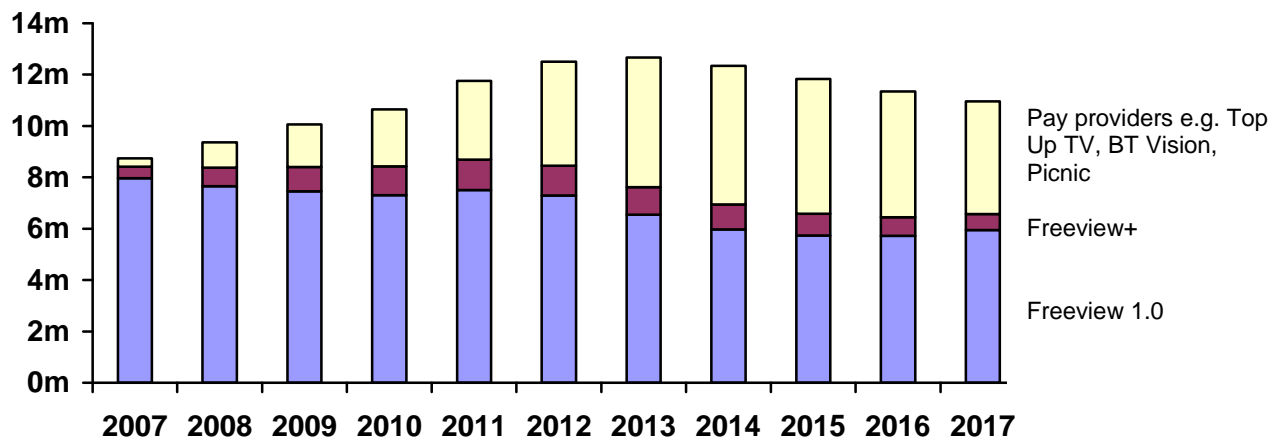
<sup>83</sup> Push-VoD utilises broadcast transmission of programmes to a reserved section of a digital personal video recorder (PVR) to offer on demand content to users.

on the platform, which attracts homes from analogue and other platforms at an increasing rate compared to the counterfactual. Eventually, however, growth declines as Sky becomes the primary pay TV retailer on DTT. At this point, competitive pressure diminishes and Sky begins to use its pricing and cross-promotional opportunities to migrate customers to its satellite offering. By 2017 DTT penetration is greater than currently, but some two million less homes than in the counterfactual described above.

In addition, DTT platform is more fragmented and less open and sales of non-Sky pay DTT offers are lower. Currently, 95% of the market is made up of 'open' and subscription free products (either standard Freeview boxes without PVR functionality called 'Freeview 1.0' or manufacturer led Freeview+ boxes). Modelling suggests that this proportion reduce significantly to ~60% in 2013. This is set out in figure 4.

It is possible that a significant decrease in the number of open DTT set top boxes could reduce the consumption of PSB content (both linear and on-demand) in favour of pay alternatives.

**Figure 4: Effect of a strong pay alternative on DTT<sup>84</sup>**



The modelling also indicates that pay satellite initially grows at a lower rate than in the counterfactual due to competition from Sky's DTT offering, but then increases at a higher rate as Sky migrates customers to its satellite offering. By 2017 pay satellite penetration is greater by some 2.35 million homes. Cable grows initially, but then declines to such an extent that by 2017 it is actually on fewer primary sets than currently. Freesat continues to grow over time, but by less than in the base case; FREESAT from Sky still declines, but by less than in the base case.

<sup>84</sup> Modelling from 3Reasons in September 2008

The impact on VoD viewing and ISPs is less clear and depends significantly on whether Sky includes an IP connection in its offer and whether it carries non-Sky on-demand content.<sup>85</sup> To the extent that the platform mix changes, linear viewing – particularly of PSB channels which do less well in multichannel homes – will also be affected.

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<sup>85</sup> It is difficult to predict with any certainty the impact on VoD viewing and ISPs from the launch of Picnic. This is because it is difficult to know whether a Picnic box would include an IP connection and it is not clear:

- what content would be available to consumers through the Sky IP portal;
- the level of consumption
- whether Sky would restrict its IP content only to customers of its own ISP

Overall, we felt that there were too many variables to allow us to forecast – other than extremely speculatively – the impact of an IP connection in Picnic boxes.

## 5. Impact of Canvas

Clearly it is difficult to predict what will happen to the audio visual sector if Canvas is given approval.

In summary, we expect by 2017 that a successful launch of the Canvas standard will have a positive market impact on:

- DTT penetration (which is good for consumption of PSB content), and
- The nature of the DTT platform – a more open platform provides more opportunities for content suppliers;
- Consumption of VoD content;
- Linear broadcast channels (the effect is almost negligible); content providers without DTT capacity are also likely to benefit from an enhanced, open route to market;
- Set top box manufacturers; and
- Growth of DTT broadband homes.
- Unit costs of LLU ISPs may also be positively affected.

### Negative impacts

The sectors/ areas potentially affected negatively by the Canvas proposal are likely to include:

- Pay satellite (there is considerable variance around our 'no response' case estimate - in some cases pay satellite penetration is higher – given the uncertainty around Sky's strategy for pay DTT. However, the modelling suggests that if Sky were to launch its own pay DTT offer, the loss of DSat subscribers would be almost exactly offset by new pay-DTT subscribers)
- Cable
- FREESAT from Sky (although this is due to Sky migrating its customers to its pay offering)
- Freesat (although in most cases impacts are relatively small, and these are likely to reduce over time as Canvas is introduced)
- Costs of non-LLU ISPs (e.g. BT Retail) - although ISPs are likely to have scope to pass on higher costs to end users and to benefit from new subscribers and 'trading-up by existing subscribers.
- DVDs.

## 5.1 Introduction and approach: various outcomes possible

In this chapter we examine the likely market impact of the Canvas proposal. Clearly it is difficult to predict what will happen to the audio visual sector in the presence of Canvas, particularly in the light of the likely market and regulatory changes discussed in the previous chapter. We therefore firstly compare an ambitious scenario in which Canvas thrives and faces no competitive response (the 'no response' case) against the counterfactual described previously. We adopt this ambitious scenario to emphasise the potential impact of widespread Canvas adoption. The description is based primarily on the results of independent modelling work undertaken for the project. The model focuses primarily on the potential adoption of Canvas on the DTT platform and this analysis similarly focuses on the impact of promoting an IP connection on the DTT platform.

We then take account of competitor responses, particularly from pay-TV providers. We add some sensitivity analysis by comparing the widely adopted canvas scenario against a variety of other scenarios. Specifically, we describe the following scenarios:

- A successful Canvas with a competitive response from pay satellite (DSat);
- A successful Canvas with a strong pay DTT response;
- An unsuccessful Canvas with a strong pay DTT response; and
- An unsuccessful Canvas launch with a weak pay DTT response.

## 5.2 Likely impacts of scenarios

### 5.2.1 *Canvas is successful and widely adopted, and there are no other significant market changes – the 'no response' case*

Under this scenario, Canvas is successful and widely adopted, and there are no significant responses from competitors on any platform. (For example, Sky does not get regulatory approval from Ofcom for its Picnic proposal, and decides not to go ahead with a DTT offering, or indeed respond in any other way). Canvas becomes the de facto standard for IP-connected set-top boxes and becomes incorporated into pay-DTT services (such as Top Up TV and BT Vision).

The independent modelling work undertaken for the project suggests that in this scenario and relative to the counterfactual:

- The DTT platform outperforms its rivals and grows by almost 9% by 2017. It also remains 'open'.
- Pay satellite faces a decline of approximately 7%.
- Cable similarly declines by some 10%.
- FREESAT from Sky declines by around 15%; Freesat penetration remains roughly constant.

A successful and widely adopted Canvas also has a positive effect on VoD consumption, as the number of homes capable of receiving VoD increases significantly compared to the counterfactual. The modelling work shows that the number of primary-set DTT homes capable of receiving VoD increases to 6.48 million.

The model estimates little impact on total linear viewing: the BBC's share of linear viewing across all platforms increases by half of a percentage point, and ITV's share increases by two-tenths of a percentage point. However, the more open DTT platform may offer new opportunities to channels that do not have DTT capacity currently to reach viewers through the IP connection.

The key impact of a successful and widely adopted Canvas is on broadband network providers and ISPs. On the one hand, broadband subscriptions in DTT homes can be expected to increase

by some 10-15%, and subscribers may “trade-up” (to more expensive packages) than they would have done in the counterfactual. However, increased VoD consumption is likely to place increased demands on broadband networks. This is likely to be particularly the case for non-LLU ISPs, as their capacity costs tend to rise in line with traffic volumes, whereas unit capacity costs for LLU ISPs tend to decrease as traffic volumes increase (due to economies of scale)<sup>86</sup>.

Indeed, the BBC estimates that Internet traffic increases by 2.67 million TBs or approximately 30% by 2014; non-LLU ISP costs increase by £164 million or approximately 30%, whereas there is no significant change in capacity costs for LLU ISPs. However, non-LLU ISPs are likely to have some scope to pass on higher costs to end users.

### *5.2.2 Canvas is successful and widely adopted, and there are competitor responses on DSat*

Under this scenario, Canvas is again successful and widely adopted, but there are competitor responses on DSat. The model assumes that DSat will compete through, for instance, reducing prices and heavily market triple-play offers in this scenario.

The independent modelling work undertaken for the project suggests that in this scenario and relative the ‘no response’ case:

- The DTT platform still outperforms its rivals, and remains open, but penetration is around 6% lower;
- Pay satellite is also considerably higher (around 18%);
- Cable penetration is 9% lower;
- FREESAT from Sky declines by 39%; and
- Freesat penetration is 26% lower.

Competitor responses on DSat decrease VoD consumption, as the number of homes capable of receiving VoD decreases by almost 7% compared to the scenario where there are no other significant market changes. The number of primary-set DTT homes capable of receiving VoD decreases to 6.03 million.

The model estimates that the BBC’s share of linear viewing across all platforms is lower by two-fifths of a percentage point; ITV’s share is lower by one-fifth of a percentage point.

Broadband subscriptions in DTT homes are lower by around 6% than in the ‘no response’ case. Our modelling work also shows that Internet traffic is 0.26 million TBs or almost 10% lower by 2014 and non-LLU ISP costs are £16 million or approximately 10% lower. Again, LLU ISPs are expected to have enough capacity to accommodate increased internet traffic generated from the widespread adoption of the Canvas standard and hence face no increase in capacity costs.

### *5.2.3 Canvas is successful and widely adopted, and there are competitor responses on DTT*

Under this scenario, Canvas is again successful and widely adopted, and there are again competitor responses but this time the responses are from pay DTT. For example, Sky obtains regulatory approval from Ofcom for its Picnic proposal, and decides to go ahead with a DTT

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<sup>86</sup> Clearly, over time, unit costs of LLU ISPs will start to increase as total industry demand reaches levels which require such ISPs to invest in additional tranches of capacity. However, independent modelling shows that LLU ISPs currently have enough capacity to accommodate additional traffic generated through the widespread adoption of the Canvas standard.

offering whereby set-top boxes are subsidised, and the offering is heavily marketed and part of a triple-play offering.

The independent modelling work undertaken for the project suggests that in this scenario and relative the 'no response' case:

- The DTT platform far outperforms its rivals, and penetration is around 3% higher. However, the DTT platform is dominated by proprietary systems and is significantly less open.
- Pay satellite is slightly lower (around 4%).
- Cable penetration is around 4% lower;
- FREESAT from Sky penetration is broadly unchanged, and
- Freesat penetration is nearly 5% lower.

Competitor responses on DTT increases the number of homes capable of receiving VoD increases compared to the 'no response' case. The number of primary-set DTT homes capable of receiving VoD increases to 7.21 million by 2017.

The model estimates that the BBC's share of linear viewing across all platforms is greater by one-fifth of a percentage point; ITV's share is greater by one-tenth of a percentage point.

Broadband subscriptions in DTT homes are greater by about 7% than in the 'no response' case. The BBC estimates that Internet traffic is 0.79 million TBs or almost 30% lower by 2014 and non-LLU ISP costs are £49 million or approximately 30% lower. There is no change in capacity costs for LLU ISPs.

#### *5.2.4 Canvas fails to achieve wide adoption, and there are strong and successful competitor responses on DTT*

Under this scenario, Canvas fails to achieve wide adoption, and there are strong and successful competitor responses via pay DTT. Canvas does not become the de facto standard for IP-connected set-top boxes and does not become incorporated into pay-DTT services (such as Top Up TV and BT Vision).

The independent modelling work undertaken for the project suggests that in this scenario and relative the 'no response' case:

- The DTT platform still outperforms its rivals, but penetration is over 8% lower. It is also more proprietary and less open.
- Pay satellite numbers are also considerably higher (nearly 15%).
- Cable penetration is around 3% lower;
- FREESAT from Sky declines by over 22%, and
- Freesat penetration is almost 6% lower.

The combination of Canvas failing to achieve wide adoption and competitor responses via pay DTT decrease VoD consumption, as the number of homes capable of receiving VoD decreases compared to the 'no response' case. The number of primary-set DTT homes capable of receiving VoD decreases to 5.72 million.

The model estimates that the BBC's share of linear viewing across all platforms is lower by three-fifths of a percentage point; ITV's share is lower by three-tenths of a percentage point.

Broadband subscriptions in DTT homes are lower by almost 7% than in the 'no response' case. The BBC estimates that Internet traffic is some 2.2 million TBs or 82% lower by 2014 and non-LLU ISP costs are £135 million or approximately 82% lower. There is no change in capacity costs for LLU ISPs.

#### *5.2.5 Canvas fails to achieve wide adoption, and there are weak competitor responses on DTT*

Under this scenario, Canvas fails to achieve wide adoption, and there are only weak competitor responses on DTT, less significant than above. For example, Sky obtains regulatory approval from Ofcom for its Picnic proposal and decides to go ahead with a DTT offering, but does not subsidise set-top boxes, does not heavily market its offering, and is not part of a triple-play offer.

The independent modelling work undertaken for the project suggests that in this scenario and relative the 'no response' case:

- The DTT platform still outperforms its rivals, but penetration is 3.8% lower than in the 'no response' case. The DTT platform is also considerably more proprietary and less open.
- Penetration of all other platforms is higher:
  - pay satellite is higher by almost 4%,
  - cable is higher by nearly 5%, and
  - FREESAT from Sky is higher by just over 10%.
  - Freesat penetration is unchanged.

VoD consumption is decreased, as the number of homes capable of receiving VoD decreases by almost a third compared to the scenario where Canvas is successful and widely adopted and there are no other significant market changes. The number of primary-set DTT homes capable of receiving VoD decreases to 5.57 million.

The model estimates that the BBC's share of linear viewing across all platforms is lower by three-tenths of a percentage point; ITV's share is lower by one-tenth of one percentage point.

Broadband subscriptions in DTT homes are lower by almost 6% than in the 'no response' case. The BBC estimates that Internet traffic is 2.2 million TBs or nearly 85% lower by 2014 and non-LLU ISP costs are £137 million or nearly 85% lower. (There is no change in capacity costs for LLU ISPs).

### 5.3 Summary of effect of above scenarios on each of the affected sectors

In summary, the scenarios<sup>87</sup> described above suggest that the introduction of the Canvas standard would have the following market impacts compared to a world without Canvas:

#### 5.3.1 Television platforms

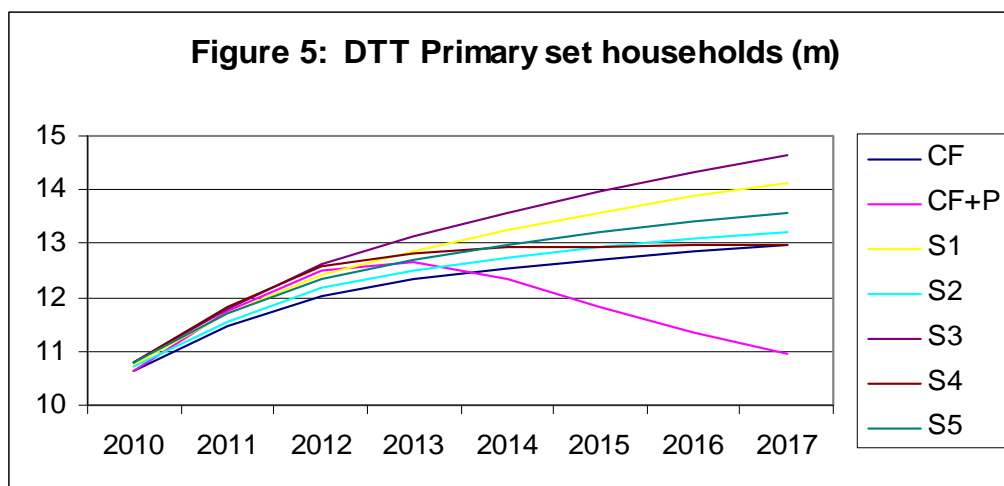
##### 5.3.1.1 DTT

In our ‘no response’ case, where Canvas is successful and widely adopted, and there are no other significant market changes, the DTT platform outperforms its rivals and grows by almost 9%. The open Canvas technical specification becomes the de facto standard for IP-connected set-top boxes and is adopted by pay DTT services, such as Top Up TV and BT Vision, and hence the DTT platform becomes almost completely non-fragmented and open.

When there are aggressive competitor responses, the DTT platform still outperforms its rivals and grows. However, penetration is 6.3% lower when the response is on DSat and 3.7% higher when the response is on DTT. The DTT platform is also significantly more proprietary and less open than when the competitive response is on DTT.

If Canvas fails to achieve wide adoption, the DTT platform still outperforms its rivals and grows, but penetration is lower and the DTT platform is even more fragmented and gated. Penetration is 8% lower when there are significant competitor responses on DTT and 3.8% lower when such responses are less significant.

Figure 5 summarises the impact of the various scenarios on the number of DTT households up to 2017.



##### 5.3.1.2 DSat

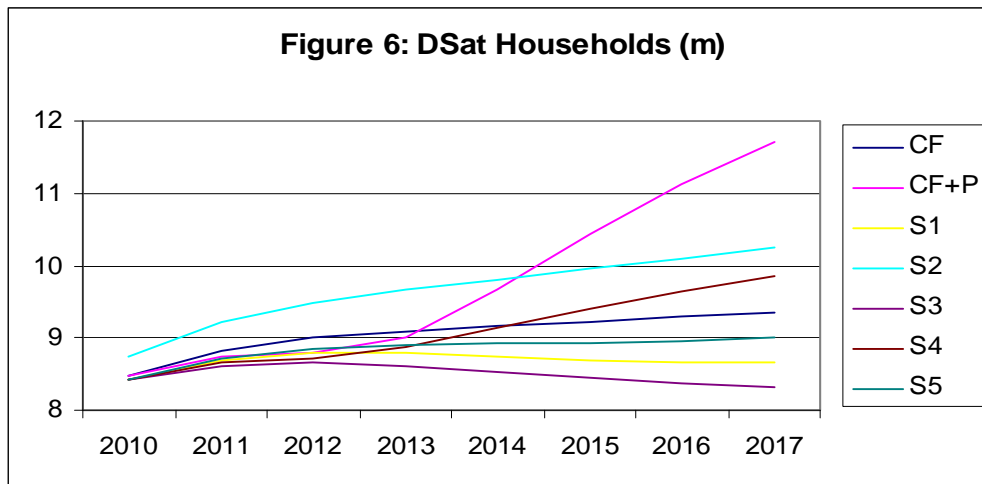
In our ‘no response’ case, pay satellite faces a decline of approximately 7.4%. When there are aggressive competitor responses to a widely adopted Canvas, the impact on pay satellite depends crucially on the source of the response: when it occurs on DSat, pay satellite penetration is 18.4% higher, whereas when it occurs on DTT DSat penetration is 3.8% lower.

<sup>87</sup>

The following key scenarios are charted in the following section:  
 CF = Counterfactual (No Canvas, No Strong Pay DTT response - described in section 4.3)  
 CF+P = No Canvas but a strong pay DTT launch (described in section 4.3.5)  
 S1 = Widely adopted Canvas, no competitive response (section 5.2.1)  
 S2 = Widely adopted Canvas, competitive response from DSat (section 5.2.2)  
 S3 = Widely adopted Canvas, competitive response from Pay DTT (section 5.2.3)  
 S4 = Weakly adopted Canvas, competitive response from Pay DTT (section 5.2.4)  
 S5 = Weakly adopted Canvas, weak competitive response from Pay DTT (section 5.2.5)

When Canvas fails to achieve wide adoption, DSat penetration is higher than in the 'no response' case, by 13.7% when there are significant competitor responses on DTT, and by almost 4% when such responses are less significant.

Figure 6 summarises the impact of the various scenarios on the number of DSat households up to 2017.

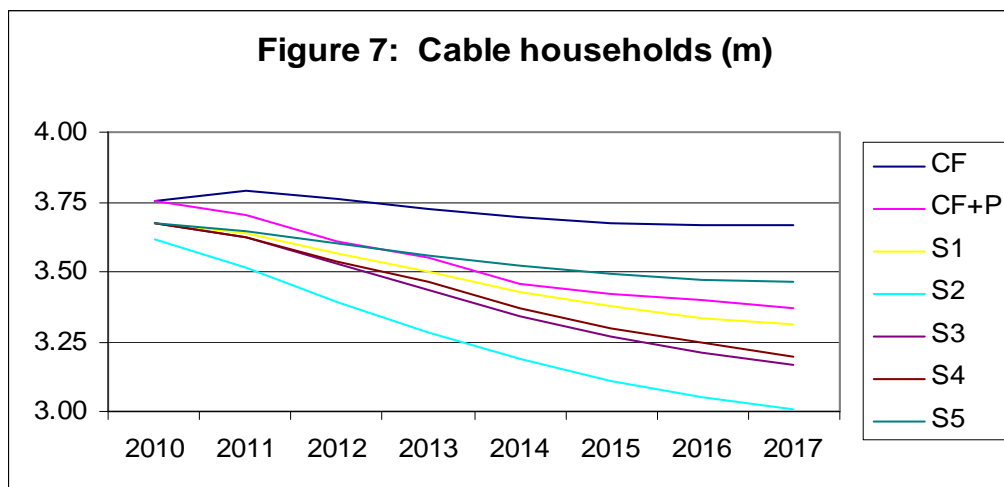


### 5.3.1.3 Cable

In our 'no response' case, cable platform penetration declines by some 9.8%. Where there are aggressive competitor responses, cable declines further: by 9% when the response occurs on DSat, and by 4.2% when the response occurs on DTT.

When Canvas fails to achieve wide adoption, the impact on cable depends on whether competitor responses on DTT are significant or less significant: in the case of the former, cable penetration is 3.3% lower, whereas in the case of the latter, cable penetration is actually higher by some 4.8%.

Figure 7 summarises the impact of the various scenarios on the number of Cable households to 2017.

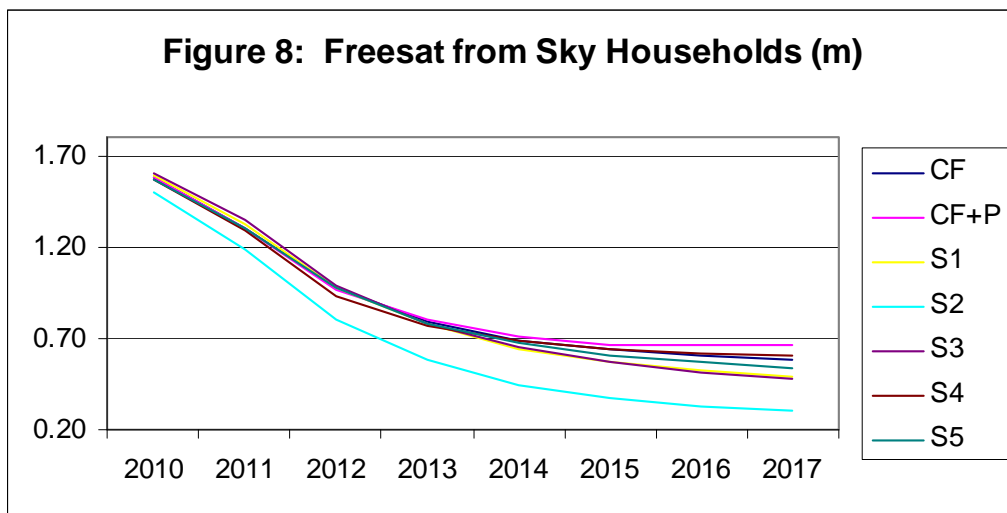


### 5.3.1.4 FREESAT from Sky

In our 'no response' case, FREESAT from Sky penetration declines by 15.5% by 2017. Where there are aggressive competitor responses, the impact on FREESAT from Sky depends significantly on where this response occurs: when it occurs on DSat, penetration is 39% lower by 2017, as Sky reduces churn and customers migrate to its pay offering; when it occurs on DTT, penetration is broadly unchanged.

When Canvas fails to achieve wide adoption, the impact on FREESAT from Sky depends on whether competitor responses on DTT are successful or unsuccessful: in the case of the former, penetration declines by over 22%, whereas in the case of the latter, penetration increases by just over 10%.

Figure 8 summarises the impact of the various scenarios on the number of FREESAT from Sky households at 2017.

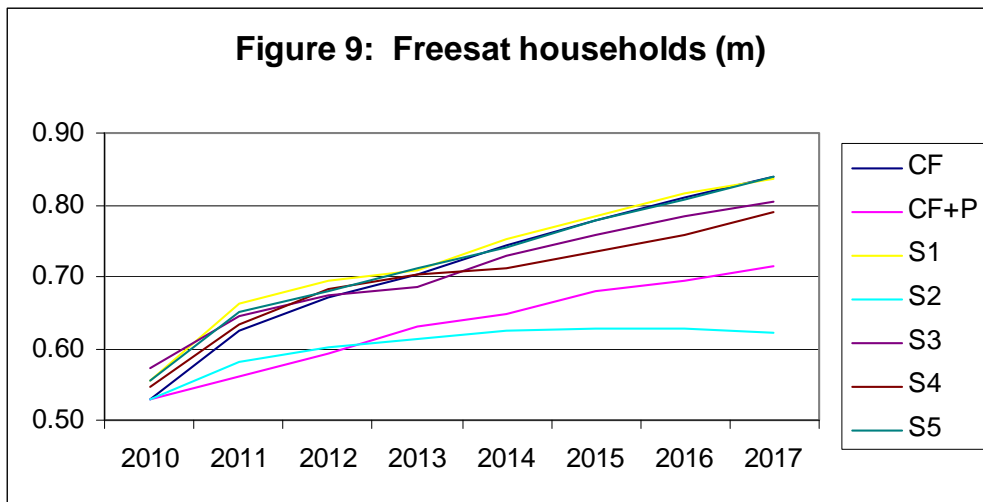


### 5.3.1.5 Freesat

In our 'no response' case, Freesat penetration remains roughly constant. Where there are aggressive competitor responses, Freesat penetration decreases, by 26% when it occurs on DSat, and by 4.8% when it occurs on DTT.

When Canvas fails to achieve wide adoption, Freesat penetration is 6% lower when competitor responses on DTT are successful; and broadly unchanged when such responses are unsuccessful.

Figure 9 summarises the impact of the various scenarios on the number of Freesat households at 2017.



### 5.3.2 On-demand content

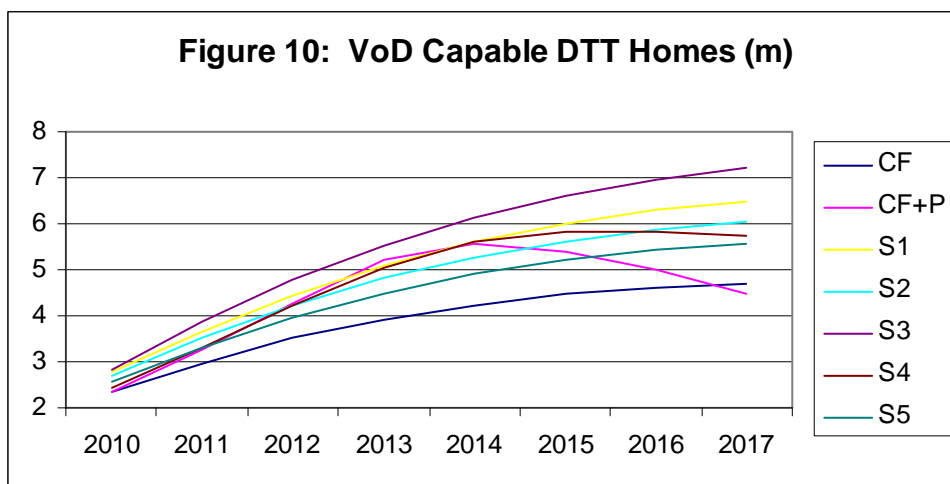
Compared to the counterfactual, a successful and widely adopted Canvas, in the absence of any other significant market changes (the 'no response' case), has a positive effect on VoD consumption. The number of homes capable of receiving VoD increases significantly; the number of primary-set DTT homes capable of receiving VoD increases by 37.9% to 6.48 million.

Where there are aggressive competitor responses, the modelling work suggests that the impact on VoD penetration relative to the 'no response' case depends on where this response occurs. When on DSat, the number of homes capable of receiving VoD decreases by almost 7% to 6.03 million. When on DTT, the number of home capable of receiving VoD increases by around 11% to 7.21 million.

When Canvas fails to achieve wide adoption, VoD consumption is likely to decrease. When the response on DTT is successful, the number of homes capable of receiving VoD decreases by around 11% to 5.72 million. When competitor responses are unsuccessful, the number of homes decreases by around 14% to 5.57 million.

We have been unable to estimate the effect of a widely adopted Canvas proposition on the DVD market. As discussed in the counterfactual, the research suggests that DVD consumption may decline as the availability of on-demand content on the television increases. The impact of Canvas on the consumption of short form content is also unclear.

Figure 10 summarises the impact of the various scenarios on the number of VoD capable DTT households up to 2017.



### 5.3.3 Linear broadcast channels

The impact of increased VoD consumption on linear viewing is less clear and difficult to identify. We estimate little impact on total linear viewing: the BBC's share of linear viewing across all platforms increases by half of a percentage point, and ITV's increases by two-tenths of a percentage point. If over time new, innovative linear content is made available over the IP connection, linear consumption may even increase.

Where there are competitor responses, the impact on the BBC's and ITV's shares of total linear viewing are less than one percentage point; similarly for the scenarios in which Canvas fails to achieve wide adoption.

### 5.3.4 Broadband network providers and ISPs

The key impact of a successful and widely adopted Canvas is likely to be on broadband network providers and ISPs. A successful Canvas will drive demand for:

- Broadband subscriptions – the model suggests that the number of broadband connected DTT homes could increase by 13.3% in 2017, and
- Bandwidth from new and existing broadband subscribers that have a product incorporating the Canvas standard.

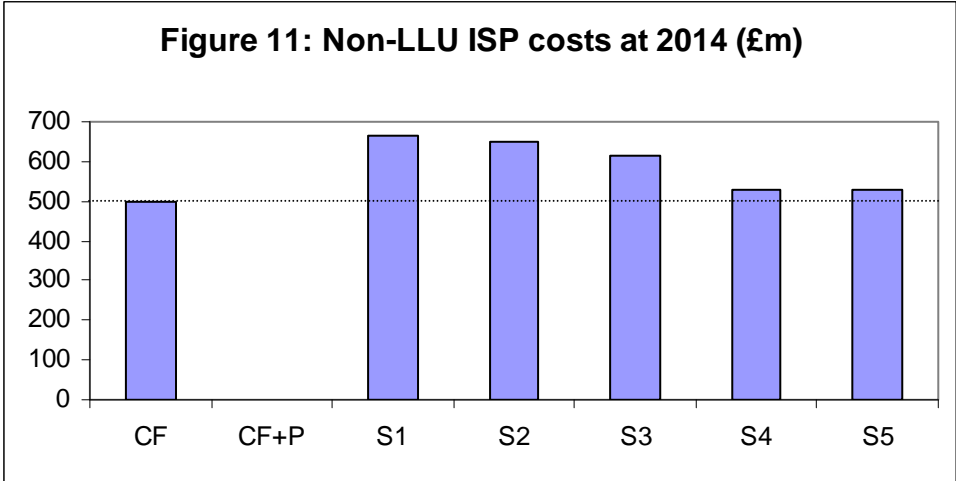
Increased VoD consumption is likely to place increased demands on broadband networks. ISPs are likely to face increased costs; both in provisioning new subscribers and procuring enough network capacity to accommodate increased bandwidth demand. Some ISPs will be better prepared than others to meet this increase in demand, and those who cannot may suffer. This is likely to be the case for ISPs who have little or no investment in LLU (or cable), as their costs tend to rise in line with traffic volumes, whereas under LLU unit costs for bandwidth are far lower and increase much more slowly. In the 'no response' case, the BBC estimates that Internet traffic increases by approximately 30% by 2014, and as a result ISP costs to deliver this to non-LLU households increase by £164 million or approximately 30% - costs for LLU households are largely unaffected.

However, non-LLU ISPs are likely to have some scope to pass on higher costs to end users. There is no reason, in principle, why ISPs should be unable to recover at least some of these costs in a competitive industry where retail prices are not regulated. If necessary, ISPs may for example, increase sign-up fees, introduce metered pricing, or invite subscribers to "trade-up" to more expensive packages with unlimited data or higher bandwidth. LLU ISPs are expected to have enough capacity to accommodate incremental traffic generated from the widespread adoption of the Canvas standard and hence are likely to face no increase in capacity costs. Both should benefit from subscribers 'trading-up' to higher speed packages and from new subscribers.

Where there are competitor responses, the impact of Canvas depends significantly on where this response occurs. When it occurs on DSat, broadband subscriptions in DTT homes are 6.3% lower, Internet traffic is almost 10% lower by 2014 and non-LLU ISP costs are £16 million or approximately 10% lower by 2014. When competitors respond on DTT, on the other hand, broadband subscriptions in DTT homes are 7.2% higher, Internet traffic is almost 30% lower by 2014 and non-LLU ISP costs are £49 million or approximately 30% lower. The exception is costs to LLU ISPs, which are broadly the same as in our 'no response' case.

When Canvas fails to achieve wide adoption, broadband subscriptions in internet homes, Internet traffic and non-LLU ISP costs are lower. Where competitor responses on DTT are significant, broadband subscriptions in DTT homes are lower by almost 7%, Internet traffic is 82% lower by 2014 and non-LLU ISP costs are £135 million or 82% lower; where competitor responses are less significant, the estimates are 6%, 83.7%, £137 million and 83.5%. However, once again, costs to LLU ISPs are broadly the same as in our 'no response' case.

Figure 11 summarises the impact of the various scenarios on the capacity costs of non-LLU ISPs at 2014.<sup>88</sup>



It is important to note two important caveats that apply to the above cost estimates:

- As mentioned above, non-LLU ISPs can be expected to pass on at least part of their cost increases to users even in the presence of competitors with lower variable costs. Although LLU does have lower marginal costs, it also involves high upfront costs that must be recovered.
- ISPs' investment decisions (when considering whether to invest in, e.g., LLU infrastructure) can be expected to depend, among other things, on expected demand for subscriptions and bandwidth. The higher the expected demand, the higher the expected net present value of investment. The model on which our estimates are based does not take this into account – that is, it assumes a given, set speed in ISPs' migration to LLU independent of the launch of Canvas. To the extent that expectations of increased demand can be published by the BBC and its partners well in advance of Canvas' launch, ISPs can be expected to alter their investment strategies accordingly, resulting in higher profits for ISPs

<sup>88</sup> Note that we have not modelled CF+P as it is unclear how IP connected a strong DTT play would be. We have therefore left CF+P blank – this does not imply that there would be no non-LLU costs and no pull VoD in the CF+P scenario.

### 5.3.5 *Set-top box manufacturers*

Canvas is likely to have a positive impact on set-top box manufacturers as existing Freeview customers trade-up to benefit from new functionality. Customers from other platforms may also purchase new boxes containing the Canvas standard to either trade up on their existing platform (where that platform adopts Canvas) or, possibly, switching to a Canvas enabled platform.

## Appendix 1

### Competition law and regulatory precedents

#### A1. TV distribution platforms/retailers

##### A1.1 Competition between platforms

There is little current precedent that explicitly addresses competition between platforms in isolation from retail competition. Generally speaking, market definition has been discussed in terms of whether the provision (retail) of FTA and pay-TV are in competition – the underlying assumption therefore being that all platforms offering pay-TV (satellite, cable, IPTV or DTT) must be in competition for subscribers.

The Competition Commission (CC) looked at whether it might be appropriate to segment the market by distribution platform in its report on Sky/ITV.<sup>89</sup> It concluded that as a viewer who is watching a channel over a particular platform will not necessarily be able to distinguish the distribution platform, it would be inappropriate to segment the market purely on the grounds that some packages are delivered over different platforms.

The European Commission (EC) held in Nordic Satellite Distribution<sup>90</sup> that TV supplied by satellite was in a separate market from the cable distribution technology. However, in the more recent Telia/Telenor<sup>91</sup> case, the EC noted that there was significant substitution between platforms, although it left the market definition open.

In its decision on NTL/Telewest<sup>92</sup> the Office of fair trading (OFT) chose not to define cable separately from other pay-TV operators. Most recently, Ofcom concluded in its Pay TV review<sup>93</sup> that “[O]n balance, the lack of strong evidence of platform-specific preferences leads us to conclude that the alternative retail platforms compete in the same relevant market”, i.e. that all pay TV platforms<sup>94</sup> are in the same market.

##### A1.2 Bundling of TV, telephony and internet access

To date, UK precedent suggests that bundling of TV with telephony and/or internet services is unlikely to create a separate product market. The OFT – in its merger decision on BSkyB’s acquisition of Easynet<sup>95</sup> - considered the interaction between pay TV and internet service provision. It reached no conclusions on platform competition between IP and satellite delivery of television services although it did consider (but reached no market definition

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<sup>89</sup> Competition Commission *Acquisition by British Sky Broadcasting Group Plc of 17.9 Per Cent of the shares in ITV Plc*, 14 December 2007, paragraph 4.21.

<sup>90</sup> Commission Decision 96/177/EC in case No IV/M.490 - Nordic Satellite Distribution, 19 July 1995 OJ L 053 , 02/03/1996 P. 20

<sup>91</sup> Commission Decision, 2001/98/EC, *Telia/Telenor* (Case IV/M.1439), [2001] OJ L 40/1, paras. 269 et seq.

<sup>92</sup> OFT *Anticipated merger of NTL Incorporated and Telewest Global Inc* 30 December 2005

<sup>93</sup> Ofcom 2007 *Market definition and market power in pay TV: Annex 13 to pay TV market investigation consultation* paragraph 6.21

<sup>94</sup> Ofcom defines the term “platform” as being the set of conditional access technology used to deliver pay TV services to consumers. Often a “platform” will include the consumer equipment used to receive programming as well, as in the case of Virgin or Sky. However, this is not always the case – consumers can receive channels encrypted using Top Up TV’s conditional access platform on a box provided by BT Vision.

<sup>95</sup> OFT Decision (given on 30 December 2005 and published on 13 January 2006) *Anticipated acquisition by BSkyB Broadband Services Limited of Easynet group plc* (see [http://www.offt.gov.uk/shared\\_offt/mergers\\_ea02/2005/bskyb.pdf](http://www.offt.gov.uk/shared_offt/mergers_ea02/2005/bskyb.pdf)).

conclusion on) internet and pay-TV as part of an analysis of whether triple play<sup>96</sup> is a separate market.

Ofcom also discusses bundling in its first Pay TV consultation document.<sup>97</sup> It does not analyse explicitly whether bundled (TV, telephony and internet/broadband) services are in a separate market from television only services, but its approach to the analysis of individual television elements<sup>98</sup> suggests that it does not believe that bundled services are in separate markets to individual elements of the bundle.

### A1.3 FTA TV and pay-TV

The UK competition authorities have generally held that at a retail level pay TV and FTA TV are in separate markets, although it has been recognised that FTA TV imposes some competitive constraint on basic-tier pay TV retailers. Relevant UK judgments include the following:

- In 1996, the Director General of Fair Trading conducted a review of the wholesale pay TV market.<sup>99</sup> This concluded that the relevant market for the review was that for pay TV in the UK.
- In April 1999, the Monopolies and Mergers Commission published its report into the proposed merger between Sky and Manchester United Football Club.<sup>100</sup> This report concluded that pay TV is a separate market from FTA TV, whilst recognising that the existence of FTA broadcasters will place some upper limit on the prices of pay TV broadcasters.
- In 2002, The OFT conducted a Competition Act investigation into Sky.<sup>101</sup> It concluded that the relevant markets for the investigation were the wholesale and retail supply of channels containing sports content that is unique to pay TV (characterised for the purposes of this investigation as live FA Premier League football) and the wholesale and retail supply of premium film channels, (characterised as first run Category A and Category B films shown on the pay TV Window); FTA channels were not considered to be in the same market.

However, in its findings on the Sky/ITV merger, the CC suggested that this competitive constraint is now sufficiently strong for basic-tier pay TV and FTA TV to be included in the same relevant market. It concluded that ITV and Sky operate within a UK market for all-TV, which includes both pay TV and FTA services as well as video on-demand, but that this all-TV market is highly differentiated. Within this differentiated market the CC suggested that FTA services are likely to be a closer substitute to packages which include only basic channels than those which include basic and premium channels.

Ofcom subsequently published its preliminary analysis of various market definitions in the pay TV sector as part of its Investigation of the Pay TV Market.<sup>102</sup> It concluded that stand-alone basic-tier pay TV is likely to be in a separate market from FTA television channels at the retail level but notes that this conclusion is considerably weaker than those for premium sports and movies. Ofcom

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<sup>96</sup> Triple play services involve the supply of voice, data and TV as a one-stop service to consumers with integrated billing, customer care, etc.

<sup>97</sup> See [http://www.ofcom.org.uk/consult/condocs/market\\_invest\\_paytv/](http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/)

<sup>98</sup> See paragraphs 3.13 et seq. of Annex 13,

<sup>99</sup> OFT *The Director General's review of BSkyB's position in the wholesale pay TV market* December 1996

<sup>100</sup> Competition Commission *British Sky Broadcasting Group plc and Manchester United PLC: A report on the proposed merger* April 1999

<sup>101</sup> Decision of the Director General of Fair Trading, No CA98/20/2002 - BSkyB investigation: alleged infringement of the Chapter II prohibition, 12 December 2002.

<sup>102</sup> Ofcom 2007 *Market definition and market power in pay TV: Annex 13 to pay TV market investigation consultation*, 18 December 2007 at [http://www.ofcom.org.uk/consult/condocs/market\\_invest\\_paytv/an13.pdf](http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/an13.pdf)

accepted that FTA channels provide a growing constraint on basic-tier channel retailers but was not convinced that this constraint was sufficient to include them in the same market definition.

In its subsequent analysis, Ofcom's analysis shifted specifically to considering sports and film content from a wholesale perspective rather than all content and in that context it believes that FTA content does not provide a constraint on sport and film content.<sup>103</sup>

The EC has similarly and consistently found there to be separate markets for pay TV and FTA TV at both the wholesale and retail level (see, for example, *Newscorp/Telepiù*,<sup>104</sup> and *Newscorp/premiere*<sup>105</sup>). Pay-per-view has also been consistently deemed to be in a separate market from subscription pay TV services (see for example, *Telenor/Canal +/Canal*<sup>106</sup>).

## A2 On-demand content

Given the relatively recent advent of on-demand content, there are few competition law precedents which examine on-demand content in detail. The notable exceptions are the analysis contained in:

- (a) The BBC Trust's decision<sup>107</sup> on the BBC's proposal for an on-demand service, which included a Market Impact Analysis by Ofcom.<sup>108</sup> This examined the provision of catch-up content over the Internet (to home computers) and over cable (to televisions); and
- (b) The OFT's – and subsequent CC's - consideration of the proposed joint venture between BBC Worldwide, ITV and Channel 4 (commonly known as "Kangaroo") to offer catch-up and archive content, and possibly also films, over the Internet<sup>109</sup>; and
- (c) The CC's report on Sky/ITV.<sup>110</sup>

Ofcom also briefly discussed whether VoD film content was a constraint on Premium Film content in its second Pay TV consultation.<sup>111</sup>

### A2.1 Ofcom's analysis of the BBC's on-demand proposition

In its analysis, Ofcom set out a summary of current and likely future viewing habits to set the scene for its analysis. Whilst noting that most people still watch television programmes as they are broadcast, in real time, over established terrestrial, cable and satellite networks – i.e. conventional linear broadcasting, non-linear viewing – for example, using a personal video recorder such as Sky+ to watch programmes after they have been transmitted or downloading a video onto a mobile device – is growing quickly but currently remains the preference of a minority of the overall UK audience. However, Ofcom then set out how people's habits are changing.

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<sup>103</sup> Ofcom 2008d *Pay TV second consultation: Access to premium content* 30 September 2008

<sup>104</sup> Commission Decision, Case COMP/M.2876, 2 April 2003, *Newscorp/Telepiù*.

<sup>105</sup> COMP/M.5121/*Newscorp/Premiere*: An investigation in relation to a merger between News Corp and Premiere.

<sup>106</sup> Commission Decision, Case COMP/C.2.-38.287, 29 December 2003, *Telenor/Canal +/Canal Digital*, paragraphs 51 et seq

<sup>107</sup> See [http://www.ofcom.org.uk/consult/condocs/market\\_invest\\_paytv/an13.pdf](http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/an13.pdf)

<sup>108</sup> Ofcom 2006 *BBC new on-demand proposals: Market Impact Assessment*. See [http://www.ofcom.org.uk/research/tv/bbcmias/ondemand/bbc\\_ondemand/bbc\\_ondemand.pdf](http://www.ofcom.org.uk/research/tv/bbcmias/ondemand/bbc_ondemand/bbc_ondemand.pdf)

<sup>109</sup> Office of Fair Trading, *Anticipated joint venture between BBC Worldwide Limited, Channel Four Television Corporation and ITV plc*, ME/3634/08. July 2008.

<sup>110</sup> Competition Commission *Acquisition by British Sky Broadcasting Group Plc of 17.9 Per Cent of the shares in ITV Plc*, 14 December 2007

<sup>111</sup> Ofcom 2008d, e.g. paragraph 4.234

Audiences are interested in greater control and choice; not only over what they watch, but also when, where and how they watch it. This growing enthusiasm for on-demand viewing is accompanied by a rapid growth in the use of the internet as, in effect, a broadcasting medium in its own right – from vodcasting to internet protocol television (IPTV).

Ofcom observed that the markets for on-demand services, especially over the internet, are still at a very early stage in their development. The established broadcasters are all in the process of rolling out their plans for on-demand services, and a number of new providers are looking to exploit the potential of the new platforms. However, the markets for on-demand services are growing rapidly and are expected to continue to grow. There is also likely to be a significant increase in the overall level of viewing, as audiences make greater use of PCs and portable devices outside the home.

When analysing catch-up TV over cable, Ofcom concluded that the provision of BBC catch-up TV services on cable (ntl:Telewest now VirginMedia) and IPTV (Homechoice now Tiscali) would involve changes in the viewing patterns of existing subscribers, away from the linear TV schedule, VoD, PVR usage and DVDs. In addition, the availability of the BBC catch-up service may induce a limited number of consumers to switch to these platforms and away from other platforms such as DTT or satellite TV.

When analysing Internet catch-up on TV, Ofcom concluded that its provision would generate substitution away from internet services, such as streamed and downloaded video-on-demand (VoD), and from DVDs. Over time, as home hubs (i.e. devices that enable viewers to watch internet content on their TVs) become more popular, there is likely to be a growing amount of substitution away from broadcast, cable and satellite TV services, and from PVRs.

Ofcom also noted that the BBC's on-demand proposals would have an impact on broadband Internet Service Providers (ISPs).

## A2.2 OFT's and CC's analysis of VoD in its Kangaroo decision

### *A2.2.1 The OFT's analysis*

The OFT considered the interaction of on-demand content with various other forms of content in its decision to refer Kangaroo to the CC.<sup>112</sup> Although the OFT did not come to conclusions<sup>113</sup> on many of the issues it considered, its analysis is informative for identifying sectors potentially affected by the on-demand elements of Canvas. It should be noted, however, that its conclusion that Kangaroo needed to be referred to the CC has no direct bearing on whether the Canvas proposal will face merger control challenges. Its decision document did, however, usefully analyse many types of on-demand content over the internet.

The OFT considered the extent of substitutability between on-demand content and near-Video On-demand (NVOD)<sup>114</sup> and push-VoD,<sup>115</sup> and it noted that third parties tended not to consider NVOD or push VoD as substitutes for VoD content.<sup>116</sup>

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<sup>112</sup> Kangaroo is a proposed joint venture between BBC Worldwide, ITV and Channel 4 to deliver on-demand content to IP enabled devices

<sup>113</sup> The OFT did not reach firm conclusions as it concluded that there was insufficient evidence to dismiss its satisfaction certain plausible theories of harm suggested by third parties, and it considered that a more detailed analysis by the Competition Commission was required. In the OFT's view, in the absence of further evidence in a nascent market, it was neither useful nor possible to reach firm conclusions in the OFT's view. We would expect the CC report would reach more robust conclusions.

<sup>114</sup> NVOD is defined by the OFT as linear television, but with a particular programme scheduled on a number of channels with staggered start times (typically every 15 minutes), which allows some measure of choice with regards to when the viewer chooses to watch.

The OFT also considered – but did not reach firm conclusions on - the extent of substitutability between on-demand content and PVRs. The OFT noted<sup>117</sup> that Ofcom's impact assessment report on the BBC's on-demand proposition (see above) suggested that PVRs offer many of the benefits of VoD, given PVRs can be used to mimic catch-up VoD, where users can select programmes that they want to watch and record them to watch at a time of their choosing. Nonetheless third parties generally disagreed that VoD would substitute for PVRs.<sup>118</sup> Overall, the OFT considered it an open question as to whether PVR usage would constrain pricing and other retail terms offered by VoD suppliers.

The OFT decision also discussed the extent of substitutability between on-demand content and DVD rental and retail sales.<sup>119</sup> It notes that third parties did not consider DVDs to form a constrain on VoD, particularly given the later release windows, and tended to point out that DVDs utilised different pricing models (such as box sets for television series, rather than individual episodes).

With regards to substitutability between on-demand content and linear broadcast channels, the OFT noted the view of the CC in *BSkyB/ITV* that "... television-based VoD was a constraint on broadcast television services sufficient to warrant inclusion in the CC's definition of an all-TV market..."<sup>120</sup>

The OFT also considered the potential substitutability of various forms of on-demand content. Whilst the OFT did not reach firm conclusions on the extent of substitutability between catch-up and archive VoD, it clearly considered that there were significant links between the two.<sup>121</sup> The OFT considered whether previous precedent, which found separate markets for premium films and non-premium content, was also applicable in an on-demand world. Although it reached no

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<sup>115</sup> Push VoD allows broadcasters to deliver content to PVRs without it first being requested by viewers (content requested by viewers is usually referred to as pull VoD).

<sup>116</sup> In paragraph 42 of its referral, the OFT states: "... third parties tended not to consider push-VoD of itself to be substitutable with true-VoD, mainly due to capacity constraints with respect to how much programming can be stored on a hard drive limiting the content available... Nor did third parties agree that near-VoD should be considered as its characteristics were too far removed from true-VoD."

<sup>117</sup> See paragraph 46 of the OFT's referral document.

<sup>118</sup> In paragraphs 47 and 48 the OFT states that: "Third parties generally disagreed with the arguments that PVRs are substitutable for VoD, noting that storage capacity is relatively limited (although it should be noted that the size of hard drives continues to increase) compared to the potential amount of VoD content that could be accessed... In addition, it should also be considered that PVRs rely on the user to know what programmes they wish to watch, and to take steps to ensure recording. This differs from VoD which allows users to browse through content for programming they may not have considered or missed due to unforeseen circumstances."

<sup>119</sup> In paragraphs 55 and 56 the OFT stated: "... it can be argued that insufficient consumers would switch to DVD rental or purchase in response to relative price increases for DTO and DTR because – with the exception of certain VoD services – DVD rental pursuant to the LOVEFiLM model is not instantaneous, and bricks and mortar rental requires a trip outside the home. DVD purchases, meanwhile, often relate to box sets of entire series, which are considerably more expensive (£20-£40 per set, for example) and arguably a very differentiated purchasing decision from downloading one or more TV episodes to rent for prices in the range of, say, 99p to £1.99, for example. These extra costs may limit the substitutability of DVDs for VoD."

<sup>120</sup> See paragraph 43 of the OFT's referral document

<sup>121</sup> In paragraph 22 of its decision, the OFT states that ""While for market definition purposes it may be inappropriate to segregate catch-up and archive, the ultimate assessment of competitive effects may distinguish between the two, because the parties intend catch-up television to be free, in line with current supply and consumer expectations that catch-up is free on websites and/or generally comes at no incremental cost to their TV subscription package. Moreover, the BBC's free iPlayer catch-up service is outside the joint venture."

firm conclusions, the OFT seems to indicate a distinction in the likely consumption of films and shorted (largely TV-based) on-demand content.<sup>122</sup>

The OFT did conclude that short form content (defined as VoD content approximately 5 to 10 minutes in duration<sup>123</sup>) was unlikely to constrain – and hence was unlikely to be in the same market as – long form content such as TV programmes.<sup>124</sup>

#### A2.2.2 *The Competition Commission's analysis*

The Competition Commission published its final report on 4 February 2009.<sup>125</sup> It concluded that the markets for the supply of VOD content should include long-form VOD content (i.e. full length television programmes) delivered by both open (typically Internet-based) and closed (typically proprietary TV-based) services.<sup>126</sup>

The CC found that an important characteristic of successful VOD content is that it has previously been broadcast on linear TV; viewers prefer content with which they are familiar.<sup>127</sup> Whilst acknowledging that there is a degree of differentiation between catch-up and archive content, the CC decided that they should be treated as part of the same market as it was difficult to distinguish meaningfully between them.<sup>128</sup>

In terms of delivery mechanisms, the CC acknowledged that consumers prefer to view content on a TV rather than a PC but noted that many devices existed – or were likely to be introduced in the near future – that would allow PC VoD to be viewed on the TV. The CC therefore found it unnecessary to draw a distinction between TV and PC VoD.<sup>129</sup>

The CC did, however, exclude film VOD, short-form and user-generated content, DVDs and the use of PVRs, and the supply of linear broadcast TV from the market. The CC also took the view that non-UK VoD content is an imperfect substitute for UK VoD content, particularly for certain genres of programmes and/or if it has not previously been broadcast on linear TV.<sup>130</sup>

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<sup>122</sup> In paragraphs 33 and 34 of its referral decision, the OFT notes “...that previous cases have consistently established that premium film content available on pay television platforms is not closely constrained by what might be termed non-premium or mainstream FTA programming. This was confirmed by Ofcom’s consultation document for its pay television investigation, which noted that ‘the retailing of premium movies has been considered on a number of occasions by economic regulators in the UK. The consistent conclusion of these investigations has been that there is a separate market (both at the retail and wholesale level) for the provision of premium movie rights.’ The Ofcom then went on to observe that “... it is equally possible that the weight of VoD will be consumption of shorter – say, 25 minutes to one hour – programmes consistent with most TV content, rather than film content which is typically between one and a half and three hours in length, and which may primarily be viewed by other delivery means, such as linear broadcast, subscription channels, and DVD rental or purchase. Overall, the limited evidence of UK consumers’ elasticity of demand in the VoD sector renders this an open question.”

<sup>123</sup> The OFT identified the primary example of short form VoD content is user-generated content, or clips from professionally produced shows, found on YouTube.

<sup>124</sup> See paragraph 37 of the OFT’s referral decision.

<sup>125</sup> Competition Commission 2008 [Anticipated joint venture between BBC Worldwide Limited, Channel Four Television Corporation and ITV PLC: Final Report](#) 4 February 2009.

<sup>126</sup> Ibid paragraphs 4.42.

<sup>127</sup> Ibid paragraph 4.17

<sup>128</sup> Ibid paragraphs 4.29-4.31

<sup>129</sup> Ibid paragraphs 4.32-4.36

<sup>130</sup> Ibid paragraphs 4.42

### A2.3 Competition Commission report on Sky/ITV

The CC considered whether VoD should be in the same market as FTA and pay-TV. Many retailers offer both linear broadcast channels and VoD. For example, viewers may watch a programme at the time it is broadcast or through a VoD catch-up service. Most content is suitable for both means of delivery to viewers (exceptions include content that is typically watched live, such as sport or news) and the CC considered that if a provider of audiovisual services possesses suitable content and sufficient capacity, it can choose the form of delivery that suits its commercial offer best. Therefore it concluded that there is sufficient demand- and supply-side substitution between VoD and linear broadcasting that VoD should form part of the same market.

The CC also looked at whether the market should cover audiovisual services delivered over the Internet (television-over-the-Internet as distinct from IPTV services). In concluding they were in separate markets, it noted that this content cannot yet be readily viewed on main television sets, suggesting that it may not be a good substitute for many viewers. Although devices are starting to come to market that facilitate this, they are not yet widespread and the quality of the service is dependent on the quality of the underlying broadband network.<sup>131</sup>

Ofcom briefly considered whether on-demand films provided a constraint on the wholesale and retail of premium film channels and concluded that the constraint was weak at best, implying that they were not in the same market.<sup>132</sup>

### **A3 Linear channels**

Generally speaking, the focus of competition law analysis in the context of channels has been on whether pay and free channels compete at a retail level (and this is discussed above in section 3.2.2.2). In addition, there has been a focus on whether there are separate markets for channels carrying premium content (i.e. sport and films).

All precedents have determined premium content to be in a separate market from non-premium content. These include:

- The Director General of Fair Trading conducted a review of the wholesale pay TV market in 1996, which concluded that the pay TV market could be subdivided into distinct and separable markets for premium sports and movie channels;
- In April 1999, the Monopolies and Mergers Commission concluded in its report on the proposed merger between Sky and Manchester United Football Club that the relevant broadcasting market for consideration in the context of this merger was a market for pay TV sports premium channels;
- In 2002, the OFT concluded<sup>133</sup> that the relevant markets for its investigation were the wholesale and retail supply of channels containing sports content that is unique to pay TV (characterised for the purposes of this investigation as live FA Premier League football) and the wholesale and retail supply of premium film channels, (characterised as first run Category A and Category B films shown on the pay TV Window);

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<sup>131</sup> It noted that the picture quality of television-over-the-Internet can often be inferior to that available on other digital platforms, and there can be delays while material is downloaded. Television-over-the-Internet is currently less well adapted than conventional broadcast technologies to situations where a large number of viewers attempt to watch content simultaneously, as they might in the case of primetime drama, soap operas or major sports events.

<sup>132</sup> Ofcom 2008d, paragraph 4.234: “*although downloading films may become a more important factor, relatively few consumers currently use it.*”

<sup>133</sup> *Decision of the Director General of Fair Trading, No CA98/20/2002 - BSkyB investigation: alleged infringement of the Chapter II prohibition, 12 December 2002.*

- In its report on Sky/ITV, the CC found an ‘all-TV market’, which included pay channels, free channels and VoD.<sup>134</sup>
- In its original pay-TV review<sup>135</sup>, Ofcom concluded that:
  - There is a narrow economic market for premium sports channels at both the wholesale and retail level, which does not include FTA or basic-tier TV channels. Ofcom confirmed this view in its second pay TV consultation document, defining these channels as “Core Premium Sports” (primarily FAPL football).<sup>136</sup>
  - Premium movie bundles are likely to be in a separate market from FTA or basic-tier movie content (as well as being separate from DVD and VoD movie content) at both the wholesale and retail levels. Ofcom confirmed this view in its second pay TV consultation document, defining these channels as “Core Premium Films” (primarily first run Hollywood movies).<sup>137</sup>
  - Stand-alone basic-tier pay TV is likely to be in a separate market from FTA television channels at the retail level but note that this conclusion is considerably weaker than those for premium sports and movies. Ofcom accepted that FTA channels provide a growing constraint on basic-tier channel retailers but was not convinced that this constraint was sufficient to include them in the same market definition.
- The EU has also held there to be separate markets for the supply of premium content, with premium sports and premium movies channels being in separate markets (Newscorp/Telepiù,<sup>138</sup> Newscorp/premiere,<sup>139</sup> EU v Football Association Premier League (FAPL<sup>140</sup>), UEFA Champions League exemption decision,<sup>141</sup> DFB Commitment decision<sup>142</sup>).
- The EU has also consistently deemed Pay-per-view to be in a separate market from subscription pay TV services (see for example, Telenor/Canal +/Canal<sup>143</sup>).

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<sup>134</sup> Competition Commission *Acquisition by British Sky Broadcasting Group Plc of 17.9 Per Cent of the shares in ITV Plc*, 14 December 2007, paragraph 4.30

<sup>135</sup> Ofcom 2007 *Pay TV market investigation consultation*, 18 December 2007

<sup>136</sup> Ofcom 2008d *Pay TV second consultation: Access to premium content* 30 September 2008

<sup>137</sup> Ofcom 2008d,

<sup>138</sup> Commission Decision, Case COMP/M.2876, 2 April 2003, *Newscorp/Telepiù*.

<sup>139</sup> COMP/M.5121/Newscorp/Premiere: An investigation in relation to a merger between News Corp and Premiere.

<sup>140</sup> Commission Decision, Case COMP/C-2/38.173, 22 March 2006, Joint selling of the media rights to the FA Premier League

<sup>141</sup> European Commission Decision 2003/778/EC in Case COMP/C.2-37.398, 23 July 2003, *Joint selling of the commercial rights of the UEFA Champions League*. OJL 291 8.11.2003 p. 25

<sup>142</sup> European Commission Decision 2005/396/EC in Case COMP/C.2-37.214, 27 May 2005, *Joint selling of the media rights of the German Bundesliga*. OJL 134 27.5.2005 p 46.

<sup>143</sup> Commission Decision, Case COMP/C.2.-38.287, 29 December 2003, *Telenor/Canal +/Canal Digital*, paras. 51 et seq

## Annex 8 – Canvas and the UK ISP community

### *Context*

As part of developing the proposals for project Canvas, the BBC, with ITV, have spent a significant amount of time exploring the opportunities and implications for UK ISPs and have engaged widely with the IP distribution community.

The reaction of these groups has helped the BBC and ITV evolve its thinking as to how the Canvas standards and venture could maximise the positive opportunities arising, in particular for UK ISPs. These discussions have led to a public commitment from BT and discussions are ongoing with other parties.

This annex recaps the BBC's overall position on IP distribution and summarises the elements of the proposal that we believe represent opportunities for UK ISPs. We would welcome comments on these proposals and continue to discuss them with the UK ISP community.

### *The BBC's position on IP distribution*

The BBC's position with Canvas is consistent with its overall position in respect to the UK's network infrastructure, in that we take responsibility for putting our content on the internet (via our own servers, or for large data volumes via Content Delivery Networks) but not the cost of onward carriage to the consumer. These costs are typically recouped from the consumer by the ISP.

Within this wider framework, the BBC's approach to the market has been to:

1. Maximise availability of content by ensuring it is available via all ISPs
2. Secure the lowest possible unit cost for putting content on the internet
3. Encourage plurality of supply – the competitive nature of the CDN market has delivered significant annual unit price reductions over the last five years

### *Principles guiding the approach to Canvas*

The result of this work can be summarised in a set of proposals that we have gathered under three headings (principles), which are intended to express the broad ambitions of Canvas as it affects the business models of ISPs.

### *Principles*

1. Canvas is open to all ISPs that can offer a quality experience
2. Canvas will work with ISPs to help identify opportunities arising
3. Canvas will ensure that the interests of ISPs continue to be reflected in any resulting Canvas venture or standards body

Underpinning these principles is a desire to protect the 'open' nature of Canvas by ensuring equitable models for involving and reflecting the commercial realities facing UK ISPs. This should be informed by the desire to create a simple, quality audience proposition.

### *Proposals under each principle*

1. Canvas is open to all ISPs that can offer a quality experience. Specifically:
  - No commitment to any exclusive period for Canvas for any one or number of ISPs
  - The promotion of a technology neutral 'minimum quality threshold' for long form PSB content

- The creation of a Canvas brand, to signpost to existing or potential subscribers the opportunity to buy or be offered a TV product (set top box etc) that meets the Canvas standard
2. Canvas will work with ISPs to help identify opportunities arising. Specifically:
    - By exploring ways that promoting a quality viewing experience can help ISPs recoup distribution costs – for example by differentiating tariffs
    - To understand what is needed to deliver a quality viewing experience
    - By creating opportunities for ISPs as content retailers via the Canvas platform (most of the UK's top ISPs are also on demand content aggregators and Canvas increases the addressable base for these services)
    - By exploring ways of minimising 'peak loading' of the network – most significantly, by specifying a hard drive to allow broadcast 'push' delivery of content likely to receive high levels of on demand consumption
  3. Canvas will ensure that the interests of ISPs continue to be reflected in any resulting Canvas venture or standards body
    - We suggest that the governance structure for Canvas should include a mechanism which enables ISP representation. This could take the form of either 'shareholder' participation, subject to qualifying criteria (e.g. support for the canvas standard, a minimum share of the UK ISP market and as Canvas matures, a minimum number of subscribers) or a separate forum for ISP representation

It is in the interests of the BBC to encourage ISPs to upgrade their networks in order to cope with increasing user demand. It is for the market to determine the most profitable business models which will support this investment.

Close working with UK ISPs in the development of the Canvas proposals is intended to maximise the opportunities that may arise.

## Annex 9 – Venture Structure for Canvas

### Purpose of this annex

As detailed in the full NSA paper (see Section 6: Venture Strategy), the Canvas proposal includes the promotion of standards for IP connected television, via a new venture and brand. This note recaps why a new venture is necessary, its proposed scope and the implications for consumer brands.

The overarching objective is a simple, clear audience proposition across free to air DTT and DSat platforms providing a functionality upgrade path for the existing Freeview (DTVSL) and Freesat ventures.

### Context

[REDACTED]

[REDACTED]

[REDACTED] in their recent consultation document on Picnic Ofcom commented, “We do have a concern regarding BSkyB’s position on the board of Digital Television Services Ltd given that their interests may be increasingly misaligned with those of Freeview as both services develop further.”

The NSA outlines the BBC’s decision following this process to pursue a second option. This is the only alternative which enables the UK’s biggest digital TV platform to keep pace with the evolution of other platforms, aligns with the arrival of HD on DTT and ensures that any new venture is capable of evenly reflecting the interests of all UK ISPs.

The BBC believes that the most coherent and cost efficient route would be for any new venture to include the Freesat proposition; protecting the objectives agreed for that proposal and enabling a single governance framework and brand architecture for free to air TV platforms in the UK, regardless of distribution technology. This ambition is subject to existing approvals and any further regulatory constraints.

### Ambition and scope of the proposed venture

The key principles behind the creation of a new venture are as follows:

- Ambition to create a **single venture** to develop the Canvas standard, include the Freesat venture and promote High Definition (HD) across free to air ventures
- **Simple governance structure** with a single leader and shareholders made up of interested PSBs, with scope to represent the views of UK ISPs (as set out in Annex 8: Canvas and the UK ISP community)

- **Single brand architecture**, within which ingredient brands such as ‘Freeview’ and ‘Freesat’ may be licensed or used as applicable (this will be defined based on further marketing research into consumer messaging)
- **Align operations** to create development and financial efficiencies

### Implications

#### **For the UK audience:**

- A simple and cohesive platform neutral free to air offer for UK consumers
- Value for money through operational synergies

#### **For Freesat:**

- The BBC remains committed to delivering the Freesat’s objectives as outlined to the Trust in 2007 i.e.:
  - Driving digital take up in analogue homes, predominantly those outside of digital terrestrial television coverage areas; and
  - Offering a free-to-view digital upgrade path to ensure that licence fee payers can be offered all the benefits of digital including those which may not be fully available on digital terrestrial television, notably HD, guaranteed free of subscription in perpetuity
- The BBC’s ambition is to, subject to existing approvals and regulatory constraints, include the existing Freesat operation (including platform, technology, supply chain, content offer and marketing) in the new venture
- Once included, decisions regarding the architecture of all the brands included within the new venture and operations of the company will be taken by the NewCo MD

#### **For Freeview:**

- The BBC will continue to invest in Freeview within the terms of its Multiplex License commitments
- Freeview will continue as the low-cost DTT alternative
- The new venture could seek to licence the Freeview brand, on the same terms as other operators do currently

#### **For the BBC:**

- Financial efficiencies through a shareholding in two ventures (Freeview and the new venture) as opposed to potentially three, delivering value for money improvements:

[Redacted text block]

- [Redacted and replaced with the following non-confidential statement] It should be noted that, whilst the Executive has determined that it is not currently possible to implement through Freeview for commercially sensitive reasons, in the event that those circumstances were to change there would be an ambition to also align Freeview operations with the new venture subject to shareholders agreement.”
- Ability to deliver simple messages with regard to the availability of free to air viewing to the UK audience
- Maximise investment, innovation and development across platforms to provide wider access to new BBC services and to reduce reversioning costs where applicable

**For the wider industry:**

- A single, united point of contact around standard setting, testing, licensing and quality assurance
- A single entity to drive innovation and development to deliver consumer benefits
- A more efficient and clearly branded communication to retailers, manufacturers and consumers