



UK -- Regulation of Leased Lines and Benefits for Consumers

July 2015



UK REGULATION OF LEASED LINES



- **UK regulator Ofcom and other EU regulators run market reviews of leased line services (including special access) every three years**
- **Ofcom's Methodology for Reviewing the Leased Lines Market**
 - Ofcom defines the retail product market by considering whether a product is substitutable by the consumer considering the product's pricing, characteristics and intended use. Using this retail product information, Ofcom derives the wholesale product markets.
 - Ofcom collects extensive supply and demand data much like the FCC has just done and uses it to analyze competitive conditions in 10k UK postal sectors (which are like US zipcodes but much smaller; 42k zip codes in the US v. 1.8 mil postcodes in the UK).

UK REGULATION OF LEASED LINES



- Ofcom maps on a postal sector basis the network reach of infrastructure-owning competitors (i.e. business sites that are 100-200m from a network ingress ‘flex point’) and plots the number of businesses that are within the network reach of rival infrastructure. Ofcom also considers incumbent’s pricing policies and service shares, and other structural indicators.
- Ofcom then determines whether the incumbent has significant market power in the relevant market. Using this analysis, Ofcom determines dominance.
- It then applies remedies which include obligations to supply wholesale services to other operators, not to unduly discriminate against them, to publish prices and reference offers, price controls, accounting separation and cost-accounting.
- May 2015: because of significant market power (SMP), Ofcom proposes that BT be subject to wholesale regulation of TDM services below and at 8Mbit/s throughout the UK (except Hull) and Ethernet and WDM services outside the Central London area (except Hull). Ofcom’s findings are based on the competitive criteria set forth on the next page.

Overview of relevant metrics in the four key geographic areas

Competitive indicators	Metric	CLA	LP	CBDs in other cities	Rest of UK (exc. Hull)	
Rival Infrastructure	Average network reach* (100 metres)	8.2	2.4	2.8	0.8	
	Average network reach (200 metres)	8.0	4.1	4.4	1.2	
	Average network reach (500 metres)	9.5	8.5	7.2	2.0	
	Depth of network reach – 100 metres (200 metres)**	1+	100% (100%)	96% (99%)	97% (99%)	81% (71%)
		2+	89% (100%)	68% (91%)	79% (85%)	15% (30%)
		3+	98% (100%)	40% (78%)	55% (84%)	5% (12%)
4+		93% (100%)	22% (59%)	30% (85%)	2% (5%)	
5+		83% (98%)	11% (37%)	15% (46%)	0% (2%)	
Distribution of service shares	BT share	Low bandwidth TISBO	63%	70%	88%	94%
		CISBO up to and including 1Gbit/s***	46%	50%	47%	57%
		- Low CISBO	41%	44%	40%	46%
		- Medium CISBO	55%	57%	54%	69%
		- High CISBO	34%	44%	47%	64%
	Very high CISBO****	8-11%	14-15%	21%	30-32%	
	CISBO Total** (by revenue)	37%	41%	44%	53%	
	CISBO Total** (by volumes)	44%	48%	47%	56%	
	Virgin Media share	CISBO up to and including 1Gbit/s	9%	25%	33%	30%
		Very high CISBO	16-17%	39-42%	57-58%	48-53%
		CISBO Total	10%	28%	33%	31%
	Combined BT and Virgin Media share	CISBO up to and including 1Gbit/s	55%	75%	80%	87%
		Very high CISBO	28%	53%	80-81%	84-85%
CISBO Total		54%	73%	80%	87%	
Concentration (HHI)	CISBO Total	2,773	3,100	3,395	4,154	
Pricing and profitability*****	BT pricing	AISBO	Free connections on EAD 1Gbit/s products between March 2013 and May 2014 uniform list prices otherwise		Uniform list prices	
		MISBO	[<]		Uniform list prices	
	BT profitability	AISBO	48%		21%	
		MISBO	-		32%	
Other structural indicators	Number of circuits	CISBO up to and including 1Gbit/s	30,624	11,640	13,634	251,518
		Very high CISBO (incl MNO backhaul)	2,142	798	224	7,814
	Number of businesses	4,239	3,378	4,428	154,244	
	Square kilometres	33	233	132	246,758	
	Business density (number of businesses per square kilometre)	1,767	232	62	14	
	Linkages to the centre of London	-	Strong	Weak	Weak	

* Average network reach concerns the average number of OCPs with a flexibility point within the buffer distance (100m, 200m, 500m) of businesses. Determined at postcode sector level

** Depth of rival infrastructure reflects the proportion of businesses in area that are located within the buffer distance (100m, 200m) of X+ OCPs with X varying from 1 to 5

*** We refer to Table 4.1 for the terminology used in categorising leased lines services. Low CISBO includes all Ethernet circuits up to and including 10Mbit/s. Medium CISBO corresponds to Ethernet services at bandwidths of more than 10Mbit/s and up to and including 100Mbit/s. High CISBO corresponds to Ethernet services of more than 100Mbit/s up to and including 1Gbit/s. CISBO up to 1Gbit/s includes Ethernet services up to and including 1Gbit/s (and thus covers low, medium and high CISBO). Very High CISBO concerns services capable of supplying bandwidth exceeding 1Gbit/s. CISBO Total covers CISBO of all bandwidths

**** Shares in the very high CISBO segment are presented as a range defined by very high CISBO shares excl. MNO and LLU backhaul and very high CISBO shares incl. MNO and LLU backhaul

Key UK Acronyms



- CLA – Central London Area
- LP – London Periphery
- CBD – Central Business District
- TISBO (traditional interface symmetric broadband origination) – TDM
- CISBO (contemporary interface symmetric broadband origination) – Ethernet and WDM
- AISBO (alternate interface symmetric broadband origination) – Ethernet

UK REGULATION OF LEASED LINES 2003- present



Date of Ofcom Market Review	Regulation of TDM Leased Line Access		Regulation of Ethernet Leased Line Access	Regulation of Multiple Interface / Optical
	Retail	Wholesale		
2003	Yes	Yes, up to 622Mb	No	No
2007	Yes, < 2Mb/s	Yes, up to 155Mb	Yes, ≤ 1Gb/s	No
2013	Yes, < 2Mb/s	Yes, up to 155Mb	Yes, ≤ 1Gb/s	Yes, no bandwidth limit
2016	Proposed withdrawal	Yes up to 8 Mbps	Yes single market with no bandwidth limit	

UK Regulation of Leased Line Access 2003- present



Date of Ofcom Market Review	TDM Leased Line Access Price Controls		Ethernet Leased Line Access Price Controls	Multiple Interface / Optical Price Controls
	Retail	Wholesale		
2003	Cost orientation	RPI – 4% low bandwidth RPI – 6.5	No	No
2007	Voluntary price cap increase limited to inflation	RPI – 3.25%	RPI – 7%	No
2013	RPI + 2.5% (analogue)	RPI + 2.5%	RPI – 11.5% RPI - RPI (WECLA)	No but cost accounting is required

Price control shown as inflation (RPI) and X reduction per annum. Note there are sub-baskets as well which limit price changes for particular services. WECLA is a deregulated zone consisting of West, East and Central London.

Ofcom's proposed remedies for 2016

Table 1.5: Overview of remedies proposals in wholesale markets CI markets in which BT would have SMP

Remedies	UK, except London and Hull	London Periphery
Network access on reasonable request	Yes	Yes
<u>Specific access remedies</u>		
Dark fibre	Yes	Yes
Ethernet	Yes	Yes
Minimum Quality Standards for Ethernet	Yes	Yes
WDM	Yes	No
<u>Price controls</u>		
Dark fibre	Yes	Yes
Ethernet <1Gbit/s	Yes	Yes
Ethernet >1Gbit/s and WDM	Safeguard cap	No
<u>Equivalence of Inputs</u>		
Dark fibre	Yes	Yes
Ethernet	Yes	Yes
WDM	Yes	n/a
Other general access remedies, including:		
- No undue discrimination		
- Publication of reference offers		
- Notification of changes to charges, terms and conditions	Yes	Yes
- Publication of technical information		
- Accounting separation		
Develop new products	Yes	Yes
Ethernet Quality of Service	Yes	Yes

Effective Regulation → Low UK Broadband Prices



Ofcom's regular review of the wholesale access market and imposition of remedies where dominance led to competition and innovation to the benefit of UK consumers. UK has lowest superfast broadband prices (24 Mbps & up).



Source: International Communications Market, December 2014, Ofcom

Notes: Comparative single service 'lowest available' fixed-line broadband pricing monthly prices (excluding telephone line rental); PPP adjusted.

Effective Regulation → Low UK Ethernet Prices



Effective Regulation → Low UK Wholesale Ethernet Prices on Open and Transparent Terms and Conditions

- A UK competitive provider (CP) can purchase a 100 Mbps Ethernet link from BT openreach to connect its POP to openreach's facilities in the same exchange for as little as £254/month or \$382/month (\$363 PPP adjusted). The terms and conditions are open and transparent – for example, unlike the case in the US, CPs do not have to meet a percentage of previous spend to obtain reasonable discounts on supranormal prices, nor are purchases of dominant services tied to the purchase of competitive services. openreach's prices are standard, open, transparent and available to all CPs.

Annual charges for nine 100 Mbps Ethernet Access Direct (EAD) links with 1Gbps handover (Year 1)	£ 39150	Year 1 includes nonrecurring connection charges plus year 1 total rentals
Annual charges for nine 100 Mbps links with 1Gbps handover (Years 2&3)	£ 43200	
Charges for 36 months	£ 82350	
Monthly charges	£ 2287.50	
Monthly charge per 100 Mbps EAD link	£ 254.17	

Above price based on CP purchasing nine 100 Mbps links aggregated over a 1 Gbps handover amortized over 3 years

Effective Regulation → Vibrant UK E-Commerce

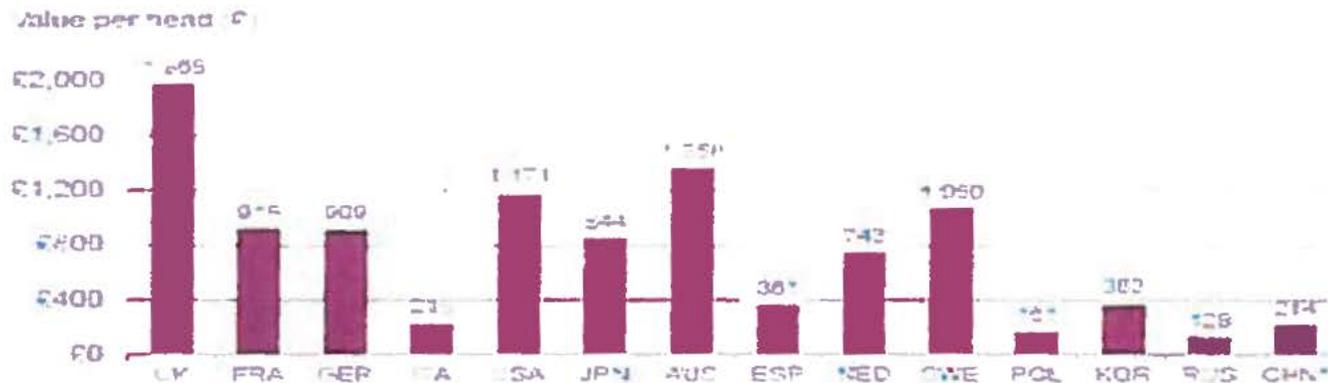


UK has a highly developed e-commerce market with the value of business-to-consumer e-commerce at almost £2000 per person in 2013 which is significantly higher than in Australia or the US.



Figure 5.7

Value of B2C e-commerce per head 2013



Source: European B2C e-commerce report 2014, Ecommerce Europe

Notes: Values converted from Euros to British Sterling (£1 = €1.1769896). Population figures from OfcomVMS. *China also includes C2C goods and services