

**Ofcom may publish a response summary:**

Yes

**I confirm that I have read the declaration:**

Yes

**Additional comments:**

Satisfied with BT Business Support, BT Wholesale & Openreach; however, serious lack of action has occurred due to being located within 50 m of an Arqiva 61m 200ft antenna array with other 4G antennas & military equipment.

It is causing significant issues with our broadband and we have gone through 38 routers in 16 years of living in our home.

Fibre optic to my router will fix the issues for the 24 houses attached; however, I cannot contact the BT Wholesale Fibre Planners to make a case for the developments.

As a Computer Hardware & Software Designer & Engineer, Computer Science Degree & Master student & Photon Computing PhD researcher, I make a vast use of the Internet & my 20 Mbps connection is a big bottleneck considering my internal network is running between 1 Gbps Eth to 16 Gbps FC with dedicated 40 Gbps Infiniband.

**Question 1: Do stakeholders agree that promoting effective and sustainable competition remains an appropriate strategy to deliver efficient investment and widespread availability of services for the majority of consumers, whilst noting the need for complementary public policy action for harder to reach areas across the UK?:**

Not exactly.

I would suggest Openreach upholds a standard of professional network interconnectivity between home and LINX.

I find myself not understanding why each local exchange does not have a dedicated 100 Gbps fibre optic link.

LINX is expanding its Juniper & Extreme Networks networks to allow for the massive 400 Gbps port requests.

BT Wholesale & Openreach should be running 400 Gbps links to their data centres & 100 Gbps links to each local exchange.

**Question 2: Would alternative models deliver better outcomes for consumers in terms of investment, availability and price?:**

Fibre Optic For All.

More jobs in fibre optic cable laying, terminating & splicing.

Greater data expansion for the massive network the UK requires.

More routes for data to flow when under increasing load from DDoS from DNS, NTP & SSDP amplification techniques.

Availability needs to be done on a case by case basis, but should be delivered with a minimum standard which should be 99% of the time. Business require between 99.9% & 99.99% with leased lines on 99.999% of the time working perfectly.

Price appears to be reasonable, but with all of the cost cutting & set backs with finances with everyone, the price increases are hitting quite hard.

People should give up the extra bolt on TV packages, but they choose to complain instead.

**Question 3: We are interested in stakeholders? views on the likely future challenges for fixed and mobile service availability. Can a ?good? level of availability for particular services be defined? What options are there for policy makers to do more to extend availability to areas that may otherwise not be commercially viable or take longer to cover?:**

Fixed service availability:

Fibre optic SIPs are required for all business as the standard phone line & data line.

Fibre optic SIPs should be an option for home owners.

Fibre optic to the premises needs to be supported in every exchange.

Fibre optic to the premises in areas that have ancient pillars & telegraph poles need to be addressed as a high priority, not the farmers who go on the computer to email and not to run computations or simulations over home networks & super computers.

Mobile service availability:

4G everywhere, good price points, best data plans in EU & a fantastic deal on (real) unlimited everything - get most of the UK technology savvy citizen on an unlimited contract.

5G tests in areas with antennas - I have very good 3G signal, I would have very good 4G signal, I would hope to have good 5G signal.

I used to have interference with FreeView & terrestrial broadcasts; we run everything on FreeSat & used to have a satellite uplink, but it is so expensive for the low bandwidth attainable.

Security is paramount - VPNs are not the way forward, man in the middle is so easily done by GCHQ - they scan every single bit of data across the UK & most other countries in the world.

Encryption techniques need to be changed. A sync clock and a sync application could be used with a four way authentication with the cellular network controller.

**Question 4: Do different types of convergence and their effect on overall market structures suggest the need for changes in overarching regulatory strategy or specific policies? Are there new competition or wider policy challenges that will emerge as a result? What evidence is available today on such challenges?:**

Different types of convergence and their effect on overall market structure does suggest the requirement for a few alterations in overarching regulatory strategy & a few specific policies that could be extended to law.

ISP & MSP (Mobile Service Provider or Cellular Network Provider) convergence should be specifically governed by the overarching regulatory strategy & specific policies.

There will be wider policy alterations that will emerge as a result of the effects from the different types of convergence.

There is a lack in evidence, which is one of the main reasons why I am in support of the alterations; however, many may think it could be detrimental. Detrimental can only be determined when there is proof. Proof after development in the case where safety is proven.

**Question 5: Do you think that current regulatory and competition tools are suitable to address competition concerns in concentrated markets with no single firm dominance? If not, what changes do you think should be considered in this regard and why?:**

Competition needs to be governed to make sure cheap shots made between ISPs & MSPs are not slipping through to go to adverts to draw customers away from an ISP or MSP.

I do think single firm dominance is an issue; however, I do think that the way monopolies have been dealt with in the past (Microsoft & many others) has been terrible & severely detrimental to the organisations at the end of the monopoly break up.

I would like the whole anti-monopoly law to be changed to specify for different sectors, specifically technology as monopolies are a given in the personal technology boom that we are still in after the launch of the mobile phone, smart phone, tablet & now smart watch.

**Question 6: What do you think is the scope for sustainable end-to-end competition in the provision of fixed communications services? Do you think that the potential for competition to vary by geography will change? What**

**might this imply in terms of available regulatory approaches to deliver effective and sustainable competition in future?:**

Geography for ISPs should alter the costs, subsidised Internet connectivity should not be a mass wager for the geographical location.

The North is hilly, so the South will have to pay for the majority of it - I do not think so.

It is a case of, some of it should be divided evenly to a certain extent, but it should not be a case of you pay double so somebody else can have it for almost zero cost.

Sustainable competition requires continual monitoring & alterations, so it is not really sustainable; however, if the sustainability of competition is questioned, there will be an issue.

Competition will rise & fall depending on ISP, MSP & geography. Costs will rise and fall depending on ISP, MSP & geography.

**Question 7: Do you think that some form of access regulation is likely to continue to be needed in the future? If so, do you think we should continue to assess the appropriate form on a case by case basis or is it possible to set out a clear strategic preference for a particular approach (for example, a focus on passive remedies)?:**

Access regulation is a possible solution for the future; it does appear to go hand in hand with a single solution plan.

Openreach plan or no plan?

I do think Sky & Virgin need to compete with Openreach - it would be a shame to lose the two as cable in road competitors.

**Question 8: Do you agree that full end-to-end infrastructure competition in mobile, where viable, is the best means to secure good consumer outcomes? Would alternatives to our current strategy improve these outcomes, and if so, how?:**

End-to-end infrastructure is not really viable as such.

The ISP & MSP networks need to run custom back end infrastructure that is increasingly scalable from 100 Gbps to 400 Gbps to 1 Tbps and on.

It is an issue for a few ISPs & MSPs with back end infrastructure competition; this is why there are so many piggyback MSPs running on EE, 3, O2 & Vodafone.

A direct link mesh topology for infrastructure should be adopted with networking in the local area for mast to mast networking to decrease the amount of hops a packet needs to take between cellular networks, reducing the amount of packets traversing back to a main hub to go between O2 & 3 for example.

**Question 9: In future, might new mobile competition issues arise that could affect consumer outcomes? If so, what are these concerns, and what might give rise to them?:**

Initial lower bills = good for the people who change.

Lower phone costs for BT whole package customers.

BT Business Internet, BT Home Internet, BT Home Phone, BT Business Phone - all needs to be linked into one account to enable easy paying and sorting out with new mobile services being provided by BT & BT Business.

Higher bills for the people who stay on other MSPs due to the costs of the network & Internet connectivity through LINX, but the loss in revenue could be an issue and make prices rise.

**Question 10: Does the bundling of a range of digital communications services, including some which may demonstrate enduring competition problems individually, present new competition challenges? If so, how might these issues be resolved through regulation, and does Ofcom have the necessary tools available?:**

BT Business Internet, BT Home Internet, BT Home Phone, BT Business Phone - all needs to be linked into one account to enable easy paying and sorting out with new mobile services being provided by BT & BT Business.

**Question 11: What might be the most appropriate regulatory approaches to the pricing of wholesale access to new and, risky investments in enduring bottlenecks in future?:**

Design with vast capabilities & deliver on speculation, not on requirement.

Bring in double the 400 Gbps ports required to support the networks tomorrow, not today.

That goes for every ISP, MSP & LINX.

**Question 12: How might such pricing approaches need to evolve over the longer term? For example, when and how should regulated pricing move from pricing freedom towards more traditional charge controls without undermining incentives for further future investment?:**

Pricing should move with the increase in wages, costs of the network & inflation factored into one increase range governed by Ofcom for each ISP & MSP.

**Question 13: Are there any actual or potential sources of discrimination that may undermine effective competition under the current model of functional separation? What is the evidence for such concerns?:**

The scale of BT as a whole.

The reputation of Virgin support.

EE lack of support & poor track record.

It can be awful, it should not be awful, but it could be awful.

Good reviewers on discrimination are required at regulators.

**Question 14: Are there wider concerns relating to good consumer outcomes that may suggest the need for a new regulatory approach to Openreach?:**

Yes, a sense of a job rather than a service to everyone.

The engineers have been trained for the job, not for the service provided.

Within the set time they work, they should be working hard and knowing that they are making a difference.

The BT Business Extended Support Team, REIN Team, Openreach Engineers & others involved have been fantastic, only let down by the lack of a customer forward facing Fibre Planning Team, which is a bit ridiculous in the circumstances.

Regulate the wasted time in road closure & removal.

Independent reviewers for all works is not necessary when a good trust worth workforce is created. Have a Twitter handle for the Openreach work being done, where users can tweet pics of shoddy work to be rectified – [redacted].

**Question 15: Are there specific areas of the current Undertakings and functional separation that require amending in light of market developments since 2005?:**

None that come to mind, my sincere apologies.

**Question 16: Could structural separation address any concerns identified more effectively than functional separation? What are the advantages and challenges associated with such an approach?:**

Neither form of separation would end well.

Personally, I am under the impression that very few people understand just how intertwined BT, BT Wholesale & Openreach are as one ecosystem that can share resources with other ISPs too.

**Question 17: What do stakeholders think are the greatest risks to continuing effective consumer engagement and empowerment?:**

The lack of real knowledge.

Irate customers due to the areas they live in expect the very best wherever they are and do not comprehend the amount of work developing a 4G network requires.

Consumer empowerment, I am all for - bring on the Twitter submissions to help tracking of poor workmanship & issues.

Consumer engagement with decisions of a serious technical impact, I am not a supporter for.

I would like to see Openreach outreach to people in the know about some of the issues & a lot of the technology powering the networks we rely on every minute of the day & night.

**Question 18: What indicators should Ofcom monitor in order to get an early warning of demand-side issues?:**

Ofcom should be tracking demand for every single ISP, MSP & LINX.

I would suggest Ofcom monitor the amount of data, the cost of each packet on any network, the links made & how much the packet cost the users - to send & receive.

I would like to see automatic weekly reports delivered via secure login for network experts & technology writers/reviewers.

I would also like to see more support for security experts & researchers within the Ofcom monitoring / indicator system.

**Question 19: What options might be considered to address concerns about consumer empowerment at each stage of the decision-making process (access, assess, act)? What more might be required in terms of information provision, switching and measures to help consumers assess the information available to them? What role may Ofcom have to play compared to other stakeholders (including industry)?:**

Consumer empowerment for decision making should be from local exchange to home - no further into the network.

The further / deeper networks should be hidden from the consumer, but explained on BT web sites.

I do not think it is hiding as such, it is more a high end complex network that does not require consumer involvement.

If a consumer has a valid reasons to have fibre to the router, fibre to the router should be supplied. In all other circumstances, fibre to the cabinet or fibre to the premises should be suitable.

Information provisioning should be clearly configured.

Information needs to be fully shown and in depth enough to inform the consumer what is on offer, what they will see as a difference & how they can get the services.

Ofcom could be involved in the making sure that the ISPs & MSPs are being honest with bandwidth reports for the local area and make sure that targets are being met.

Ofcom needs to tighten up the range in bandwidths allowed for ISPs. 200 Kbps to 20 Mbps is a vast range that can mean the difference between an email being sent or 1080p four movies being streamed simultaneously.

**Question 20: Are there examples in competitive or uncompetitive sections of the market where providers are not currently delivering adequate quality of services to consumers? What might be causing such outcomes?:**

Piggyback ISPs are charging more than the ISP they are piggybacking on, which is ludicrous.

Some often suggest better results, but then state no equipment changed from Openreach standard business spec equipment - it is all lies & hot air.

Ofcom should be governing the adequate quality of ISPs & MSPs.

Quality of Service (QoS) needs to be upheld at all times.

A rule of service is not to be broken or changed unless both parties are happy.

**Question 21: What further options, if any, should Ofcom consider to secure better quality of service in the digital communications sectors?:**

Higher bandwidth links from premises to LINX.

Higher bandwidth links from ISP data centres to LINX.

Better support, newer equipment, faster spares & supplies for broken parts in exchanges.

**Question 22: Might there be future opportunities to narrow the focus of ex ante economic regulation whilst still protecting consumers against poorer outcomes?:**

It could be likely in the future, but it is not applicable for the next twenty years or so.

It would be a disaster now.

**Question 23: Where might future network evolutions, including network retirement, offer opportunities for deregulation whilst still supporting good consumer outcomes?:**

Some of the local exchanges need to be modernised with new edge networking systems & topologies.

Legacy equipment should be banished.

Anything that is not current generation needs to be retired.

We live in a very complex digital era and require the very best technology we can to keep ahead of the worldwide competition.

We let Labour send the vast majority of our manufacturing to China, do not let any Government lose touch with our digital prowess as a nation.

Deregulation when it comes to our networks & Internet connections should not be taken lightly; deregulation only when new regulation replaces it.

**Question 24: What are the potential competition and consumer protection implications of the rise of OTT services? Might the adoption of such services enable future deregulation without raising the risk of consumer harm?:**

OTT - yes, OTT is a big risk, it will help with the ever growing abundance of DDoS attacks. Reroute and re-engineer the network to mitigate the DDoS attacks.

OTT when it comes to home network, no ISP should have to say NO when it comes to fibre to the premises bandwidth. If they want it, the fibre supports it & they can pay for it, there should be zero issue.

Very little future deregulation will help the consumer, I do not think it will put too much risk for consumer harm, but it could be detrimental to the network in small localised sections.

**Question 25: Are there any areas where you think that regulation could be better targeted or removed in future? What would be the benefit of deregulation as well as the main risks to consumers and how these could be mitigated? Please provide evidence to support your proposals.:**

The amount of time required on site for testing should be looked at. It might be a case of regulating or deregulating slightly, but it is missing out on what it should be.

I would like to see a deregulation for VPN traffic.

I have seen specific ISPs & MSPs, particularly MSPs, throttling VPN connections & custom development protocols piggybacking on public protocols.

I am growing tired of the Fibre Planners connecting farms and not towns & cities. Farmers do not need 300 Mbps Internet connections, people working in the technology world that can only have BT at their home require the 300 Mbps fibre optic connections.

Further on from the above, customers with serious issues need to be fixed within a set time. It is Openreach's network, Openreach's cables having the problem, so it should be Openreach's problem to resolve with fibre optic cabling to 24 homes in one area, especially as we live opposite the exchange.

