

Exchange closure Issues for the Telecoms Access Review

INCA

July 2024

Non-confidential

Table of Contents

1	Executive Summary.....	1
2	Introduction.....	2
2.1	Why are exchange closures important to Altnets?	3
3	Impact of Openreach exchange closures	4
3.1	Transparent long-term closure programme.....	5
3.2	Impact on PIA users of Openreach exchange closures.....	6
3.2.1	Certainty on the availability of PIA elements.....	6
3.2.2	Lack of a copper removal programme and the impact on duct congestion.....	7
3.3	Third party products and pricing.....	9
3.4	Availability of the DFX products.....	9
3.5	Availability of active or dark fibre products to help mitigate the effect of exchange closures 12	
3.6	Impact of limited space and power in enduring exchanges	13
4	Openreach support	14

1 Executive Summary

- 1 Openreach intends to close nearly 4500 exchanges over the next 10-12 years relocating its activities to 986 enduring exchanges. INCA is concerned that the exchange closures could impact future levels and nature of competition in the UK telecoms market. It is essential that Ofcom sets out a framework for ensuring that the closure programme will not harm infrastructure competition.
- 2 PIA users rely on ducts, poles, and ancillary facilities that Openreach may no longer require once exchanges are closed. The WFTMR mandated Openreach to provide access to existing passive infrastructure (PI) elements. It is understood that Openreach has no obligation to build new PI for PIA users. INCA requests that Ofcom ensures that Openreach engages proactively with PIA users in developing mechanisms and solutions to address this issue. This activity should be initiated as soon as possible and should not wait for the TAR to be completed.
- 3 Ofcom should require Openreach to recognise Altnets' requirement for increased duct capacity on existing inter-exchange routes and to provide a plan to remove redundant inter-exchange copper cables in advance of exchange closures to make duct space available in time for PIA users to connect to enduring exchanges, before the relevant exchange is closed.
- 4 Openreach exchanges act as 'meet-me' points and are key for the third-party supply of backhaul and other services to Altnets. Exchange closures could result in a reduction in the third party backhaul market. Openreach should be required to provide the equivalent of a DFX connectivity from all exchange areas where there is not commercial backhaul supply and that Openreach should consult with its current DFX customers and CPs overall to understand their mid to long-term needs and develop proposals for substitute products(s).
- 5 For Altnets to be able to relocate to an enduring exchange it will require space, power, and other ancillary services to be available at that exchange. Altnets are

concerned that increased demand at Openreach's enduring exchanges could result in a shortage of space and power which could lead to restrictions on Altnets' ability to relocate in a timely manner.

- 6 Ofcom should impress on Openreach the extremely wide-ranging impact of the planned exchange closures and mandate maximum clarity, predictability and transparency across the entire exchange closures programme to ensure that exchange closures do not result in a lessening of competition in the UK telecoms market.
- 7 Ofcom should ensure that Openreach actively engages with Altnets to minimise the potential impact of the closures and to consult Altnets on their requirements for substitute products and services to support Altnets to reconfigure their networks efficiently and effectively.

2 Introduction

- 8 Openreach has announced its plan to close around 4,500 exchanges in the next 10 to 12 years and is trialling its closure processes on five exchanges.
- 9 Openreach has also consulted on closing a first phase of 103 exchanges by 2030. However, as with the trial, the focus of that consultation is on Openreach's active products, focussing on communications providers (CPs) that consume products from Openreach's active portfolio. To date Openreach has provided limited details on its proposal to support those Altnets that are consumers of Openreach's physical infrastructure access (PIA) product.
- 10 Particularly concerning is that the approach, terms and conditions, and processes proposed for the closure of the first phase of 103 exchanges are not intended to apply for the remainder of the exchanges facing closure. This causes a degree of uncertainty surrounding how the closure of the majority of exchanges will be managed and how Altnets will be impacted.

11 The OTA has run a working group during the trial and consultation period, but Altnets were not originally included in that group. When Altnets did have an opportunity to raise concerns within the working group, these were dismissed by Openreach. Following the intervention of the OTA, a group to consider Altnet issues was finally initiated. INCA is working on the terms of reference for that group.

2.1 Why are exchange closures important to Altnets?

12 Openreach and Ofcom appear to have failed to fully understand the potential impact of exchange closures on Altnets. Even if an Altnet does not make use of Openreach active services in an exchange area, it will still be impacted. This is because:

- a. Third party providers supply backhaul and other services to Altnets from Openreach exchanges;
- b. Openreach exchanges are natural aggregation and 'meet-me' points for many network providers, and
- c. Although the PIA product is not directly affected, PIA users will almost inevitably be affected.

13 This report considers issues relating to:

- a. Certainty of Openreach's exchange closure plans;
- b. The impact of exchange closure on available duct and pole capacity;
- c. The impact on the availability of space and power in the enduring exchanges;
- d. DFX services, and
- e. Openreach 'meet me' facilities and third party backhaul providers.

14 This report sets out INCA's requirements for both Openreach and Ofcom to ensure that the impact on Altnets, and their concerns, are considered in the ongoing planning for exchange closures and that Altnets are not dis-proportionately impacted.

3 Impact of Openreach exchange closures

- 15 The entire telecoms network ecosystem in the UK telecoms market is built around the existing Openreach network topology.
- 16 The topology of Openreach's exchanges has, for many decades, provided the 'helix' or 'DNA' of network design and construction. From the early days of public telephone services (provided over copper to today's FTTx networks), a 'tree and branch' network concentrating around the local exchanges has been the standard for network build.
- 17 Altnets have designed and built their networks based on Openreach's network topology (largely due to the extensive use of PIA). The closure of approximately 80% of Openreach's exchanges will significantly impact the current and future design of Altnet networks and will result in significant costs for Altnets to change their networks to mitigate the closures.
- 18 In this paper we consider the key issues that Altnets have identified with Openreach's exchange closure plans. It is essential that Ofcom ensures that Openreach engages with Altnets on these issues. Ofcom should set out a framework for ensuring that the closure programme will not cause harm to infrastructure competition. Until recently, when INCA has alerted Ofcom to Altnet concerns, Ofcom has responded that exchange closures is 'business as usual' and that Openreach can manage it with its customers.
- 19 INCA strongly disagrees with that position. It is clear that the way in which exchange closures are implemented could materially impact the future levels and nature of competition in the UK telecoms market.
- 20 INCA does not wish to suggest that Openreach should not be able to modernise its network. This paper is intended only to highlight the very significant impact those changes have on other market players – whether directly or indirectly.

3.1 Transparent long-term closure programme

- 21 Transparency and predictability are essential to the long-term investment decision made by Altnet investors. The bite-by bite approach Openreach is currently adopting to the exchange closure programme creates significant uncertainty for Altnets. Whilst INCA does not suggest that this is intentional by Openreach, it is, however, clear that increased uncertain and risk for Altnet deployment is in Openreach's interest. INCA asks that Ofcom ensure that Openreach actively includes Altnets in its discussions and consultations and that long-term stability and transparency is provided as early as possible.
- 22 Specifically, PIA users rely on ducts, poles, and other facilities that Openreach may no longer require once exchanges are closed. The uncertainty on the availability of the PIA product associated with exchanges due for closure, significantly increases the risk of investing in those exchanges.
- 23 The terms applicable to future exchange closures are also critical. The current relatively favourable terms offered to CPs using the 103 exchanges scheduled for closure this decade appear to be driving early and accelerated withdrawal from exchanges that are, in fact, not even on the list of 103, but which Openreach will close at a later date.
- 24 Openreach's consultation process is now sufficiently advanced to allow it to start offering clarity on terms that will apply after the initial wave of 103 closures. For example, Openreach could commit to carrying forward the terms proposed for the 103, subject to a review and any modification required as a consequence of feedback from CPs. If Openreach would commit to honouring its current proposals for closure terms, then that would go some way towards establishing increased transparency and clarity to allow Altnets to plan for the medium and longer term, and it may also slow down some of the exchange exits by third party backhaul providers.

25 INCA considers that Ofcom should impress on Openreach the extremely wide-ranging impact of the planned exchange closures and mandate maximum clarity, predictability and transparency across the entire exchange closures programme.

3.2 Impact on PIA users of Openreach exchange closures

26 In the WFTMR, Ofcom mandated that Openreach provide access to its existing passive infrastructure (PI) elements. It is understood that Openreach has no obligation to build new PI for PIA users. However, as Openreach is making significant changes to its network, with material consequences to PIA users, it would be reasonable to expect that Openreach should make all reasonable efforts to maximise the availability of the existing PI product for PIA users.

3.2.1 Certainty on the availability of PIA elements

27 Openreach's June 2023 consultation stated:

There will be no change to the availability of PIA products (duct and pole infrastructure) to provide access to our infrastructure in the exist exchanges. However, where CPs have used PIA and connected their fibre network using an external Cablelink into an exit exchange, they will need to rearrange their network to handover at an alternative location which could include but is not limited to the relevant designated OHP exchanges (receive site). Similarly, if a PIA CP has chosen to locate / make use of another CP's POP in one of our exit exchanges, in order to maintain service, the CP will need to rearrange its network / POP to either the designated OHP exchange (receive site) or an alternative location.¹

¹ Openreach industry consultation, How Openreach propose to exit the 103 priority exchange by 2030, 21 June 2023, Para. 142.

In the unlikely event that PIA CPs are using infrastructure within exchange building perimeter Openreach will work with the impacted CPs and follow [will] the repayment process.²

28 Many PIA users make use of PI elements within and around the boundaries of exchanges scheduled for closure and may have plans to use further PI elements within those exchange areas. It is not possible for PIA users to know which PI elements will continue to be available after Openreach exiting nearby exchanges. Therefore, it is not possible for PIA users to know which PI elements are ‘safe’ against potential future disposal by Openreach.

29 INCA notes that Openreach acknowledged this issue last year and proposed a contractual change to allow a PIA user to acquire any PI elements that Openreach was planning to dispose of due to exchange closures. However, due to a large number of queries raised against that proposal, that contractual change has since been withdrawn by Openreach. No alternative solutions have been proposed.

30 INCA therefore requests that Ofcom ensure that Openreach engages proactively with PIA users in developing mechanisms and solutions to address this issue. This activity should be initiated as soon as possible and should not wait for the TAR to be completed.

3.2.2 *Lack of a copper removal programme and the impact on duct congestion*

31 INCA notes that Openreach uses the term ‘copper retirement’ rather than ‘copper removal’. The lack of copper cable recovery impacts on Altnets, with Altnets having to invest in new infrastructure because the Openreach PI is full. The digging up of highways to build networks creates disruption to road users, has a significant impact on communities as well as unnecessarily increasing the environmental impact of the UK fibre deployment. Additionally, the lack of duct space significantly adds to both costs and time of Altnet fibre deployment.

² Openreach industry consultation, How Openreach propose to exit the 103 priority exchange by 2030, 21 June 2023, Table in Para. 143.

- 32 With around 80% of exchanges closing, Altnets will need to get to ‘meet-me’ points in enduring exchanges to access backhaul and other facilities. Altnets will become more reliant on using existing inter-exchange fibre and duct to access enduring exchanges. However, Openreach’s regulatory obligation is only to provide access to existing facilities, it does not have an obligation to clean up the ducts or to build additional capacity and there may not be sufficient space in inter-exchange ducts.
- 33 The legacy junction copper cables between exchanges have been replaced by fibre cables. This should have resulted in an increase in available duct space if the redundant copper cables were recovered. INCA is concerned that this is not happening.
- 34 Openreach has previously argued that recovering old copper cables from ducts where cables share duct / chamber space could potentially damage the fibre cables during the recovery process. In the case of inter-exchange routes, which were often built using a single large copper cable in a single dedicated duct bore, that risk of damage would be reduced. The removal of such cables to provide duct capacity between Openreach’s current exchanges would provide duct space to allow Altnets to construct routes to enduring exchanges.
- 35 Ofcom should require Openreach to recognise Altnets’ requirement for increased duct capacity on existing inter-exchange routes and to provide a plan to remove redundant inter-exchange copper cables in advance of the closure of exchanges. It is important that duct space is made available in time for PIA users to take the necessary action to connect to enduring exchanges before the relevant exchange is closed.
- 36 Ofcom could also consider expanding the availability of DFX, although that would need to be done in a manner to minimise the impact on competitive backhaul providers.

3.3 Third party products and pricing

- 37 Openreach exchanges act as ‘meet-me’ locations for different providers. In particular, backhaul providers have typically established a presence at or close to Openreach exchanges and often use Openreach Ethernet (EAD) and virtual dark fibre (OSA) products to connect from those exchanges to Altnet locations. Despite the recently introduced surcharge for the use of EAD and OSA for FTTP aggregation, those products remain in use for that purpose as the PIA alternative often does not cost in.
- 38 Openreach’s exchange closure programme will inevitably lead to a reduction in the reach of third party backhaul providers. Openreach has encouraged providers to exit exchanges early by offering favourable terms now which are not guaranteed post 2030. This could result in a significant reduction in the supply of commercial backhaul in advance of the date of individual exchanges closures and would result in an increase in the number of ‘BT-only’ exchange areas.
- 39 For commercial backhaul suppliers to continue serving Altnets, they may rely on new EAD/OSA-style products providing services over longer distances. This is likely to increase their costs and therefore prices to Altnets. This increases Altnet network deployment costs relative to those of Openreach, which can continue to use its existing infrastructure regardless of whether exchanges are removed or remain.
- 40 In addition, due to the longer distances, the current distance limitation of 40 kilometres on the 10Gbps EAD product is likely to be too short. We understand that technology allows for 80 kilometres.

3.4 Availability of the DFX products

- 41 The DFX product is defined as dark fibre between two BT exchanges of which one must be a ‘BT-only’ exchange. Openreach introduced DFX to facilitate FTTP deployment. It is therefore essential that continuity of supply or some alternative form of the product remains available.

42 Openreach's plan for its DFX product and the future regulatory obligations to provide that product in locations where exchanges have been closed are unclear.

43 Several Altnets have deployed FTTP networks in areas which are only commercially viable if DFX can be used for backhaul. If DFX is discontinued as a result of the exchange close programme, then this could result in stranded assets that were deployed in good faith using the access remedies mandated by Ofcom.³

44 Openreach's exchange closure consultation states:

'Where CPs are using DFX to backhaul Openreach provided access products, Openreach plan to provide access services directly from the designated OHP (receive site) on the equivalent of local access pricing; where CPs are using DFX to backhaul traffic from non-Openreach networks, Openreach understand that this would have implications for those CPs and are inviting views', and

'Where CPs are using DFX to backhaul traffic from their own networks or other licensed operators' networks Openreach understand this would have implications for those CPs in terms of moving their Point of Presence out of the affected exchange and using alternative means to aggregate and backhaul their traffic, possibly.

45 INCA understands that Openreach's interpretation of its obligation to provide DFX is that, if a BT-only exchange is closed, then the obligation to provide DFX connectivity between that site and other BT exchanges falls away.

46 BT's network presence is, however, maintained and the competitive backhaul market situation will likely worsen rather than improve (as explained above), so it is essential to find a solution that provides a seamless transition between the current DFX product as specified and a substitute product from all exchange areas that are characterised as 'BT-only'.

³ INCA understands that regulatory remedies can be removed if the market conditions render them no longer appropriate. This would, for example, be the case if sufficient commercial backhaul supply were to be introduced in an exchange area, but not as a consequence of Openreach rearranging its network and, in fact, reducing options for commercial backhaul.

- 47 The current DFX product description allows for connectivity from locations outside the physical exchange and Openreach is in the process of launching a variant of DFX that allows for connectivity within 100m range of an exchange. We believe this new product (and potentially other alternatives) should be actively explored in a proactive manner to establish a transition path for DFX services after individual exchanges have been closed.
- 48 DFX, or an equivalent service, should be made available within each exchange area where exchanges will be closed (INCA understands that exchange areas will survive the closure of the actual exchanges) and Openreach should provide connectivity to the new locations from the old exchange site for anyone already using the exchange.
- 49 INCA therefore requests that Ofcom require Openreach to provide the equivalent of a DFX connectivity from all exchange areas where there is no commercial backhaul supply and that Openreach consult with its current DFX customers and CPs overall to understand their mid- to long-term needs and develop proposals for substitute products(s). INCA and its members would be pleased to work with Openreach to achieve this.
- 50 To date, Ofcom has been non-committal on this issue, but has given some indication of its position. INCA has enquired multiple times about what position Ofcom would take, explaining the Openreach position (which has been made clear in the Openreach consultation).
- 51 The closest to clarity INCA has achieved on this matter was set out in an email from a senior Ofcom representative stating the following:
- ... our overarching principal is that, everything else being equal, Openreach decisions to change the technology or topology of its network should not result in it avoiding existing regulatory obligations. For example, if Openreach is required to provide a certain regulated product, which is currently being provided from an exchange, but it decides to close this exchange, then we would expect it to provide a substitute product. The*

substitute product, and the processes supporting it, are likely to be different to the original product and this is what the OTA working group is addressing.’⁴

52 Although INCA understands that this is not a formal Ofcom position, it takes comfort from the sentiment expressed and looks forward to working with Ofcom and the rest of the industry to ensure that a suitable DFX replacement product is defined and introduced in a timely manner.

3.5 Availability of active or dark fibre products to help mitigate the effect of exchange closures

53 When the wholesale leased lines market (previously known as the business connectivity market) definition included EAD and OSA links for use within CP networks (including for FTTP traffic aggregation), there was the possibility that Altnets could potentially have resorted to those products to at least part-mitigate the effect of exchange closures, but that is no longer the case.

54 The redefinition of the wholesale leased lines market, to include only circuits to connect end user sites, allowed Openreach to introduce a new surcharge only on circuits used for FTTP aggregation and to not allow the Dark Fibre Access (DFA) for FTTP aggregation at all. Ofcom’s rationale for that market definition change was that PIA was in place as an upstream remedy and therefore the downstream remedies were no longer necessary. However, the economics of using PIA make many FTTP deployments that were commercially viable using EAD or OSA unviable. INCA has made separate submissions to Ofcom about this.

55 INCA believes that, due to the impact of exchange closures, it would be appropriate and proportionate for Ofcom to mandate a local dark fibre product for use within Altnet networks network only and not for connection of end customer premises.

⁴ Email to Gita Sorensen from David Clarkson, dated January 26th 2023.

56 DFA in the commercial leased lines market acts as a disincentive for Altnets to build their own leased lines connections and compete with Openreach in the wholesale leased lines market. This reduces the economies of scope for Altnets⁵ and works to the direct advantage to Openreach. INCA has addressed this point separately in other submissions so will not expand on it here.

57 The product specifications and pricing for EADs and OSAs is very uncertain. Whilst the Openreach consultation goes into detail of how to move customer connections, offering parallel running (at no extra cost) or cut-overs, it does not in any way address the medium to long term impact of the physical length of connections becoming significantly longer on average and the likely impact on the leased lines product structure (for example, will the EAD LA product still be available over the longer distances, if so, will the price increase substantially?).

58 Additionally, Altnets face a significant risk that Openreach could significantly increase the surcharge it applies to EAD and OSA circuits used for FTTP aggregation. That uncertainty represents a significant risk to Altnets investing for the long term.

3.6 Impact of limited space and power in enduring exchanges

59 INCA is aware of the existing Openreach consultation on exchange closures and relocation of networks. Although Altnets' needs do not differ from those of other CPs Altnets are concerned about the availability of space and power in enduring Openreach exchanges.

60 If Openreach is only required to provide access to space and power in an enduring exchange on the principle of 'where available', this could create significant capacity constraints.

⁵ Removing a potential revenue source to contribute towards the payback on the network investment.

- 61 Ofcom should consider mandating Openreach to provide a minimum standard of space and power for each of the enduring exchanges. That minimum standard would have to be met, even if that resulted in Openreach having to construct additional space and power at an enduring exchange, or to provide the space and power at a nearby appropriate alternative location close to the enduring exchange where the original location does not allow for expansion.
- 62 The minimum standard could be defined for power by a 'kilowatt per rack' measure and the standard for space being defined as a number of racks per measure of customers (i.e. one rack per 1,000 customers).
- 63 Such obligations should also focus on incentives on how Openreach operates its estate, for example, incentivise it to manage the power for exchanges efficiently.

4 Openreach support

- 64 Altnets are concerned that the prioritisation and timing of Openreach's exchange closures is driven by the pending expiry of lease agreements. If that is the case, to assist Openreach in meeting its requirements, Openreach should engage in detailed conversations with Altnets as soon as possible. Openreach's current consultation activities focus almost exclusively on the needs of CPs consuming downstream active Openreach products and largely ignores the impacts for Altnets (direct and indirect).
- 65 Where Altnets intend to move network (and associated equipment) to enduring exchanges, significant planning will be required. Such planning will require engagement with Openreach, with timely responses to queries relating to the availability of space, power, and ancillary services at a proposed location. The experience of Altnets is that co-operation with Openreach can be a lengthy process which could cause critical delays to Altnets' plans. Altnets request Ofcom to ensure that Openreach provide efficient management of requests for space and power with a guaranteed target to respond within a short period of time. As a comparison, the

experience of Altnets is that data centre operators can respond to such a request within 24 hours.

66 Altnets do not have visibility of Openreach's detailed plans for its enduring exchanges and seek to understand such factors as:

- whether Openreach can obtain any increase in power supply needed to support the equipment planned to be located at an exchange?
- will sufficient space be available to meet Altnets' demands?
- will sufficient ancillary services such as air conditioning be available to meet Altnets' demands?

67 Without engagement Openreach will not be able to quantify the impact its planned closures will have. Each exchange closure will need to be executed as a project with engagement from all stakeholders.

68 Altnets have little confidence that Openreach will meet its initial target for exchange closures and significant delays may be incurred in the overall programme, similar to the delays being faced by Openreach on its PSTN switch-off programme.

69 Openreach is focussing on the commercial aspects and intended benefits of its exchange closure programme. Openreach should also focus on its customers, the Altnets, specifically the significant engineering, logistics, and project management issues that all parties will need to address.