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Network Charter - draft

An approach to providing wholesale FTTP
products

Developed by Point Topic on behalf of Fluidata

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A Introduction

This Network Charter sets out a minimum commitment to standards and adherence to best practice by network operators in relation to products, provisioning, service levels and support systems offered to other service providers using their networks. It is a marketing-oriented top level document defining what products should look like, what capabilities they are guaranteed to be able to provide and what limits they are guaranteed to fit within – so an overall set of principles and approaches, rather than a technical document.

The Charter applies specifically to wholesale fibre-to-the-premises (FTTP) products, and is designed to ensure that approaches needed to fulfil service provider requirements are met by network operators. The aim of the Charter is to encourage the marketing and trading of services in a consistent way.

Network operators have flexibility in how they achieve the required outcomes, and there is no intention to impose a prescriptive set of rules. Operators may work differently with different service providers, but if they are working within the terms of this Charter they must approach their activities in accordance with the minimum requirements for processes, functionality and standards outlined below as well as the Charter's overarching principles as stated above.

The Charter does not differentiate between network operators and passive infrastructure providers offering access through a third party platform or dealing direct with service providers. The focus of this document is to help network operators attract larger service providers as wholesale customers using their infrastructure.

Fluidata has initiated the Network Charter and is working with Point Topic to develop the document using feedback from both operator and service provider communities. Both Fluidata and Point Topic are grateful for this input.

Operators eligible to adopt this Charter will be compliant with Ofcom's General Conditions of Entitlement applying to anyone who provides an electronic communication service or an electronic communications network¹. The Charter assumes their networks are operationally fit-for purpose and are performing accordingly. While the Charter makes no attempt to prescribe specific operating models and network architectures, network operators are expected to be forward compatible in their approach to developments in both technology and systems.

Network operators adopting this Charter undertake to do the following in terms of products, processes and support.

B Products

1 Outline

Network operators provide a wholesale FTTP product as part of their next-generation access portfolios over a shared passive fibre-optic infrastructure.

This product will:

- Provide physical transfer of a line over any medium using a patch panel – this is likely (but not necessarily) an 'always on' virtual local area network (VLAN)

¹ <http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/general-conditions/general-conditions-guidelines/>

between the network aggregation point and each optical network termination (ONT) device in the end user premises²

- Be provided and maintained by the network operator or by a third party provider contracted by the network operator
- Be accessible as a data-only or a data-and-voice service³
- Be compatible with building operators' own passive infrastructures where these are maintained to the required industry standard.

2 Product profiles

Network operators provide wholesale FTTP products which offer the following downstream and upstream bandwidths in Mb/s:

Product identifier	Downstream peak	Downstream prioritised	Upstream peak=prioritised
40/2	40	20	2
40/10	40	20	10
80/20	80	30	20
110/15	110	20	15
220/20	220	40	20
330/30	330	40	30

Network operators are free to offer additional speeds and services including symmetrical ones as long as they offer the minimum set of speeds as specified above.

Network operators can also offer a fibre on-demand product, which may be ordered by service providers in specific geographical areas.

² This product may adhere to or include characteristics found in the Active Line Access (ALA) standard as defined by NICC, and may be supported by operational support systems based on ALA OSS also being developed through NICC:

ND1030 - [Ethernet ALA Service Definition](#)

ND1031 - [Active Line Access; ALA UNI Specification](#)

ND1036 - [Active Line Access; ALA NNI Specification](#)

ND1642 - [Requirements for Ethernet Interconnect and Ethernet ALA](#)

ND1644 - [Architecture for Ethernet Active Line Access \(ALA\)](#)

<http://www.niccstandards.org.uk/current-work/ALAoverview.pdf?type=pdf>

³ Network operators providing telephony services may use the following standards as outlined within INCA's Quality Marque:

ND1016 - [Requirements on communications providers in relation to Customer Line Identification Display and other related services](#)

ND1031 - [Active Line Access; ALA UNI Specification](#)

ND1033 - [NGA Telephony SIP User Profile](#)

ND1643 - [Minimum Security Requirements for Interconnecting Communication Providers](#)

ND1644 - [Architecture for Ethernet Active Line Access \(ALA\)](#)

ND1645 - [NGA Telephony: Architecture and Requirements](#)

ND1646 - [NGA-Telephony: Management](#)

3 Interface

The wholesale FTTP product provides Ethernet presentation at the end user's network interfaces. Service providers are able to offer their own branded products and services, allocate their own IP addresses to the end user, provide the end user with individual email addresses and provide their own managed services over this active network connection.⁴

4 Fibre voice

Network operators can provide an optional wholesale FTTP voice product. This product should provide an analogue telephone adaptor (ATA) with an ATA/SIP user agent within the ONT, enabling end users to plug an analogue phone or existing wiring into the ONT voice port.

The ONT allows up to two fibre voice access lines.

Network operators allow service providers to supply their own digit maps for fibre voice services.

Network operators offering a service compliant with publicly available telephone services (PATS) must include battery back-up in line with Ofcom requirements⁵.

5 End user access

Network operators own the ONT device which terminates the fibre at the end user's premises, fitted to a wall to prevent fibre damage. This is the demarcation of the network operator's wholesale FTTP product within the end user premises and is where a service provider connects its own customer premises equipment (CPE).

In situations where the building owner or building operator owns the passive infrastructure, the ONT remains the demarcation point for the duration of the contract.

The standard ONT will be:

- No more than 180mm x 155mm x 34mm in size
- Compatible with 230V (AC) with power consumption less than 12W
- Compliant with BS EN 60950-1⁶
- Attached to a wall within 1 metre of a fixed power socket.

Exceptions can be made to the above to meet specific requirements, for example when serving business customers.

On request a list of approved CPE equipment is presented to service providers by network operators. Operators are not expected to offer end user support for CPE.

⁴ Network operators will provide:

Support for Ethernet II frame size – 1530 bytes excluding Inter Frame Gap and Pre-amble

Both single and double VLAN tagging and the option for service provider tags downstream with full details of how downstream priority marking is applied, including to fibre voice services – fibre voice services should be allocated 802.1p value

Details on upstream priority marking and impact on traffic shaping

Ethertype configuration to 0x81-00 or 0x88-A8 – IEEE802.1 ad

⁵ <http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/general-conditions/general-conditions-guidelines/>

⁶ [BS EN 60950-1 Information technology equipment safety](#)

6 Pricing dimensions

Network operators set pricing for wholesale FTTP products in one or both of two ways:

- Fixed cost basis
- Variable basis – bandwidth billed on 95th percentile usage.

Network operators can ask service providers for a forecast of bandwidth utilisation to set a minimum bandwidth charge with any bandwidth usage over the commit level being charged at a higher over-usage rate.

Bandwidth commit can be increased at any time by service providers with a new one-month commit period commencing at the start of the next calendar month. Once the one-month or less commit period expires, service providers are able to decrease their minimum commit should this be required.

Wholesale FTTP products must be available on no more than a 12-month initial term with one month's notice required to cease services. Network operators can offer shorter or longer terms in addition to this.

Liability for payment of each end user connection commences on the ready for service date of that end user connection.

Network operators offer standard industry terms of payment one month in arrears or 30-days credit.

Network operator charges including those listed in the following table, are set out clearly to service providers for each identified product:

Charges	Notes
Installation	These include set-up, connection and activation fees, covering the costs of first connection port set-up and engineering
Time period rental	Usually monthly
Usage	Fixed rate or 95 th percentile
Maintenance and support	Including enhanced care options
Changes to service	Including migration, regrading, cease, order cancellation pre-delivery, end user modify request
Miscellaneous	Examples include missed engineer appointment, CPE replacement

Pricing can be differentiated and set in terms of geographical markets.

Network operators can offer volume discounting of products and services.

Network operators must give service providers a minimum period of 90 days' written notice concerning alterations to charging structures.

C Processes

1 Ordering

A network operator uses the following procedure for service provider ordering:

- a) Checking for availability to the end user. This must provide a “Yes” or “No” answer – which may include providing a “Yes” answer when a dig process is required
- b) Order acceptance – the network operator accepts the order and confirms it
- c) Arranging an installation or activation date – booking an appointment using a system in which appointments can be changed if required and which has the ability to deal with a failed site visit. This process should also provide an estimated completion and/or activation date
- d) Service activation – service is passed across to the service provider network through its existing interconnect, either directly or through a third party platform provider.

2 Ceasing service

Network operators offer a 30-day notice period should a service provider wish to cease service on a line once the minimum contract period has passed. The cease process includes:

- a) The service provider being able to place a cease request onto a provisioned service. This request will need to include the line number, the date when the cease is required, and an end user email address for providing cease information such as confirmation of a revoke
- b) Response to the service provider with an accepted date of cease and means to check its status.

3 Regrading a service

Network operators have in place a process allowing service providers to regrade a service. This process includes:

- a) The service provider being able to place a regrade order onto a provisioned service
- b) Confirmation the regrade request has been received and means to check its status
- c) Service providers must be made aware if the regrade restarts a new minimum contract term. Ideally this new contract term should be no more than one month if it falls outside the initial contract period.

4 Migration

Network operators have a process in place which allows an end user to migrate their service from one service provider to another, while staying on the same operator’s network. The operator either uses the Migration Authorisation Code (MAC) approach for this process or provides a virtual equivalent as far as service providers are concerned. This process need not inhibit the development of alternative approaches to migration.

The MAC or equivalent is valid for 30 days during which time the end user has the opportunity to switch ISPs. Once committed, the switching process should take no more than 10 working days.

The migration process includes:

- a) The network operator supplying a MAC or equivalent to the losing service provider on request via email or other agreed means such as the portal
- b) The network operator acknowledging, generating and returning that code in time to enable it to be passed onto the end user within five working days of the end user's original request
- c) The network operator receiving the commitment to switch from the gaining service provider, carrying out the migration and notifying both gaining and losing service providers on completion.

5 Portal

Service providers are given access to a service provider portal, either directly or via a third party platform provider. By offering this kind of functionality, network operators can ensure a uniform experience.

Functionality available on the portal includes but is not limited to:

- a) End user product availability checker for individual and bulk checks
- b) Ordering of end user products for individual and bulk orders
- c) Viewing order status
- d) Viewing live port status
- e) Changing port profile status including the ability to upgrade or downgrade orders, arrange migrations and cease services.

6 API interface

In addition to the portal, the application programming interface (API) on which it is built may be made available by network operators to service providers. The API code used must have been validated and accredited at the service provider set-up or at an accreditation process at a later date. The API is reviewed on a yearly basis by network operators.

Although the depth of automation and embedding of APIs related to specific service providers within a network operator's systems is subject to the business case, ideally network operators should build them in, in order to offer consistent functionality.

7 Reporting

Network operators will offer service providers accurate reports that include but are not limited to:

- Technical support levels and overall performance
- Provisioning issues and overall performance
- Service level performance
- Service provider or intermediary requirements and escalations
- Product roadmap where applicable.

Reporting frequency and format are for individual network operators and service providers to decide.

8 Security

Network operators have appropriate security controls to ensure that the confidentiality, integrity and appropriate availability of service provider data is not compromised. These controls are maintained in accordance with NICC minimum security standards for interconnecting communications providers⁷ and in compliance with reference standard ISO 7001.

D Support

1 Scope of service levels

Network operators will provide 24/7 third line support to service providers. This does not have to be end user facing and can be through a third party provider.

2 Provisioning and service activation

Any refusal by a network operator to accept a service provider order must be relayed to the service provider within two working days of the decision to not accept being taken.

Network operators will use all reasonable efforts to achieve service activation or service migration by the service provider's required date or the date confirmed to the end customer, whichever is later.

Where premises are already passed by the operator's network, the aim should be to complete new provision within 10 working days. This target will not apply to activations where new physical connectivity is required or where a network operator is unable to access an end user's premises through no fault of its own.

A 'working day' is defined as Monday to Friday 8.00am to 6.00pm excluding UK public holidays.

3 Fault response times

A 24/7 fault reporting and support operation will be provided by the network operator or third party provider acting on the network operator's behalf.

Faults will be raised on a priority basis, defined as:

- Severity 1 – services are totally unavailable
- Severity 2 – services are partially usable
- Severity 3 – services are essentially usable but a fault remains
- Severity 4 – all failures other than those referred to in Severity 1 to 3, which result from an act or omission on the part of the network operator or a third party acting on its behalf.

Target response and maximum fix times are as follows:

Severity	Target response	Maximum fix time unless infrastructure TTR (see below)
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⁷ ND1643 – [Minimum security standards for interconnecting communications providers](#)

1	3 hours	8 hours
2	3 hours	10 hours
3	8 hours	2 working days
4	2 days	8 working days

4 Time to repair

Infrastructure time to repair (TTR) will be 48 hours with the start time considered to be the time when the fault call is logged with the network operator’s support line.

For network operators using a third party platform provider, TTR will be 44 hours to enable a 48 hour commitment to service providers.

Network operators can offer shorter TTR levels, including those for business and premium services.

5 Escalation

Network operators provide escalation matrices detailing the relevant contact person or team, their direct contact details and their availability. These are listed together with expected response times. These matrices cover:

- Service delivery
- Development
- Support
- Accounts.

6 General service queries

A 24/7 support operation will be provided by network operators directly or via a third party provider for general service queries.

7 Service availability

Availability of the network during each calendar report month is not less than 99.9%.

Network operators cannot be held responsible for disruptions caused as a result of Force Majeure Events, but should take all reasonable measures to rectify any faults or interruptions in services regardless.

8 Compensation

For each incident of failure where TTR breaches the metrics, the service provider will receive compensation of (the percentage of lost sessions) x (20% of last monthly fee) for committed bandwidth. It should be possible to assess compensation on a monthly basis. Compensation should be assessed at least annually.

Only one claim for compensation can be made for any one month.

9 Planned outages

Network operators may need to make changes to their networks or the technical specification of a service or to suspend provision of services for operational or technical

reasons. They will use all reasonable endeavours to notify service providers in advance of such changes or suspension if it materially affects wholesale fibre products. Network operators will use reasonable endeavours to minimise the effect of these disruptions on service providers.

A minimum of five working days' notice will be provided by network operators to service providers for planned outages for such maintenance. Network operators will use reasonable endeavours to ensure that planned outages for the network are undertaken between 3am and 6am, and that planned outages for systems are undertaken between 12am and 7am.

E Glossary

ALA	Active Line Access
ATA	Analogue Telephone Adaptor
API	Application Programming Interface
CPE	Customer Premises Equipment
FTTP	Fibre-to-the-Premises – this Charter uses the term to include Fibre-to-the-Building (FTTB)
INCA	Independent Networks Cooperative Association
MAC	Migration Authorisation Code
NICC	Technical forum for the communications sector that develops interoperability standards for public communications networks and services in the UK
ONT	Optical Network Termination
PATS	Publicly Available Telephone Services
SIP	Session Initiation Protocol
VLAN	Virtual Local Area Network
Working day	Monday to Friday 8.00am to 6.00pm excluding UK public holidays