Telecommunications Carriers' Forum

Ultra-Fast Broadband (UFB)
Co-location Service Description

Version Number and Status:	**Final for TCF Board Endorsement**
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This document sets out the minimum standards that the TCF Working Party recommends an LFC should meet if it is delivering the UFB Co-location Service Description. The Working Party gives its support to this document but recognises that changes may be required following negotiation with the CFH to take account of matters such as interoperability considerations, technical feasibility, and service capability/cost trade-off decisions. The TCF UFB Co-location Service Description has been approved by the following parties: Crown Fibre Holdings, Vodafone, Telecom, NZRFG, Enable Networks, Vector, FX Networks, Northpower and TelstraClear.

CONTENTS

1 Introduction

1.1 The UFB Co-location Service (and its associated functions, including the associated functions of Access Provider's[1] operational support systems) is a service that provides co-location facilities for an Access Seeker's equipment, and access to the handover point, at Access Provider's Central Office for the purposes of providing access to, and interconnection with, Access Provider's local fibre network[2] ("Access Fibre Service, AFS"). A diagram of the UFB Co-location Service is attached as Appendix A.

1.2 The handover point is the SC or LC connector or splice located at the Access Seeker's footprint.

1.3 The Access Seeker can combine the UFB Co-location Service with Access Fibre Services, interconnection, and backhaul for the Access Fibre Services offered by Access Provider (or with the Access Seeker's own network or wholesale services provided by other providers) to deliver a service to End Users.

2 Co-location Space

2.1 The UFB Co-location Service includes access to and the use of, space in, on, or around Access Provider's Central Office for the purposes of installing and maintaining the approved[3] Access Seeker's equipment.

2.2 "Access Seeker's equipment", for the purposes of this Service Description, includes the equipment of the Access Seeker or any person other than the Access Seeker if that equipment is being used to support the provision of aggregation and backhaul for Fibre Access Services for the Access Seekers.

2.3 The UFB Co-location Service includes the provision of:

2.3.1 Footprint(s);[4]

2.3.2 power, thermal management and other associated services to support Access Seeker equipment;

2.3.3 cable racks and trays, SC or LC connectors or splice, seismic bracing, earthing and other associated infrastructure to support Access Seeker equipment;

2.3.4 Copper and fibre cables within the Co-location space and from the footprints to external networks via the Central Office manhole. Access Fibre tie cable options include the following and are shown in Appendix A;

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1 The Access Provider is the LFC who is providing Access Fibre services within the LFC area.

2 Access Provider's local fibre network is a network built for the purpose of complying with the Government's Ultra-Fast Broadband Initiative.

3 The process for approval of Access Seeker equipment is set out in the Co-location Operations Manual and will include compliance with New Zealand Electrical Standards which can be found at www.standards.co.nz or www.eeca.govt.nz, EMI and RFI standards which can be found at http://www.rsm.govt.nz.

4 Footprint is defined as a space at any Access Provider Central Office that is allocated to the Access Seeker for the installation of its equipment but excludes any space occupied by the Access Seeker's Backhaul Connection fibre cables.

(a) Access Fibre tie cable on Central Office Main Optical Fibre Distribution Frame (MOFDF) (note these cables are supplied by the Access Provider and remain the responsibility of the Access Provider as part of Access Fibre Service);

(b) Access Fibre tie cable from footprint to either Backhaul Access Provider or 3rd Party Backhaul Provider or to 3rd Party Network via Central Office Main Optical Fibre Distribution Frame (MOFDF) and Central Office Manhole (note these cables may be supplied either by Access Provider or the Access Seeker but remain the responsibility of the Backhaul Provider as part of their Backhaul Service); and

(c) Access Fibre tie cable between two Access Seeker footprints (note these cables may be supplied either by Access Provider or the Access Seeker but remain the responsibility of the Access Seeker).

2.3.5 Controlled access for accredited personnel to support Access Seeker equipment.

2.4 UFB Co-location Service assistance provided by Access Provider (see the UFB Co-location Operations Manual for details) includes an automated facility for Access Seeker new service orders.

2.5 The UFB Co-location Service implementation activities that will be carried out by Access Provider include:

2.5.1 provisioning of the Access Seeker's Footprint, including power, thermal management and associated support services;

2.5.2 installation of any cable racks and trays required to support internal Central Office fibre cables, including identification of the route that internal Central Office fibre cables will take within the Access Provider Central Office between the Access Seeker's Footprint, the MOFDF, Central Office and 3rd party manhole;

2.5.3 if requested by the Access Seeker supply and or installation of SC or LC connectors or splice and fibre tie cables between the Access Seeker's Footprint and the MOFDF, and termination on the MOFDF or third party manhole via Central Office manhole (as described in 1.6.4);

2.5.4 if requested by the Access Seeker supply and or installation of UFB Service Backhaul fibre cables between Access Seeker Footprints, or the Access Seeker's Footprint and the Access Seeker's or a third party's fibre network cable outside and adjacent to Access Provider's Central Office manhole. For Access Provider supplied cable, the cable will be delivered to the Access Seeker outside and adjacent to Access Provider's Central Office manhole. For Access Seeker supplied cable, the cable, of length advised by Access Provider, will be received at Access Provider's Central Office manhole; and

2.5.5 All activities will be in compliance with local body planning codes, RMA requirements and New Zealand Seismic Code NZS 4203.

2.6 The Access Provider can offer commercial co-location for any type of services in addition to the service described in this document. The UFB Co-location Service can include additional commercial offerings but the fundamental service specifically excludes:[5]

2.6.1 Access to, and the use of, space in, on, or around any location apart from Access Provider's Central Office;

2.6.2 Housing Access Seeker equipment that does not comply with the standards set out in the UFB Co-location Operations Manual;;

2.6.3 Housing Access Seeker equipment that is used wholly or partly for a purpose other than providing:

(a) access to, and interconnection with the Access Fibre Service; or

(b) backhaul for the Access Fibre Service (including aggregation).

2.6.4 the Access Fibre Service;

2.6.5 the UFB Backhaul Service;

2.6.6 unconditional rights of access to co-location area of Central Offices;

2.6.7 any rights of access to non co-location area of Central Offices.

3 Co-location Configuration

3.1 The Co-location configurations available for delivery of the UFB Co-location Service within the UFB Co-location Service Area at Access Provider's Central Offices are set out in the Co-location Operations Manual.

4 Availability

4.1 Access Provider's will make the UFB Co-location Service described in this service description available in it's Central Office equipment rooms under the commercial terms it has agreed with CFH.

[5] Note this is not intended to be an exhaustive list of exclusions or to limit what is excluded from the Co-location Service. It needs to be read in the full context of this service description.

5 Service Boundaries

5.1 The UFB Co-location Service is primarily confined to the Access Seeker's Footprint. It also includes access to and the use of, space in, on or around Access Provider's Central Office, to the extent the Access Provider has existing rights to access and use and to grant rights to access and use, the space around and on the Central Office, for the purpose of installing and maintaining the Access Seeker's equipment within its Footprint(s).

6 SC or LC connector or fibre splice

6.1 All Access Fibre Service circuits will terminate on an SC or LC connector or fibre splice which will be installed by Access Provider at the Access Seekers footprint in each Access Provider Central Office where the Access Seeker intends to offer services based on the Access Fibre Service. SC or LC connectors or fibre splices provide connection to the Access Seeker equipment via fibre cables.

7 Components of the UFB Co-location service and Associated Charges

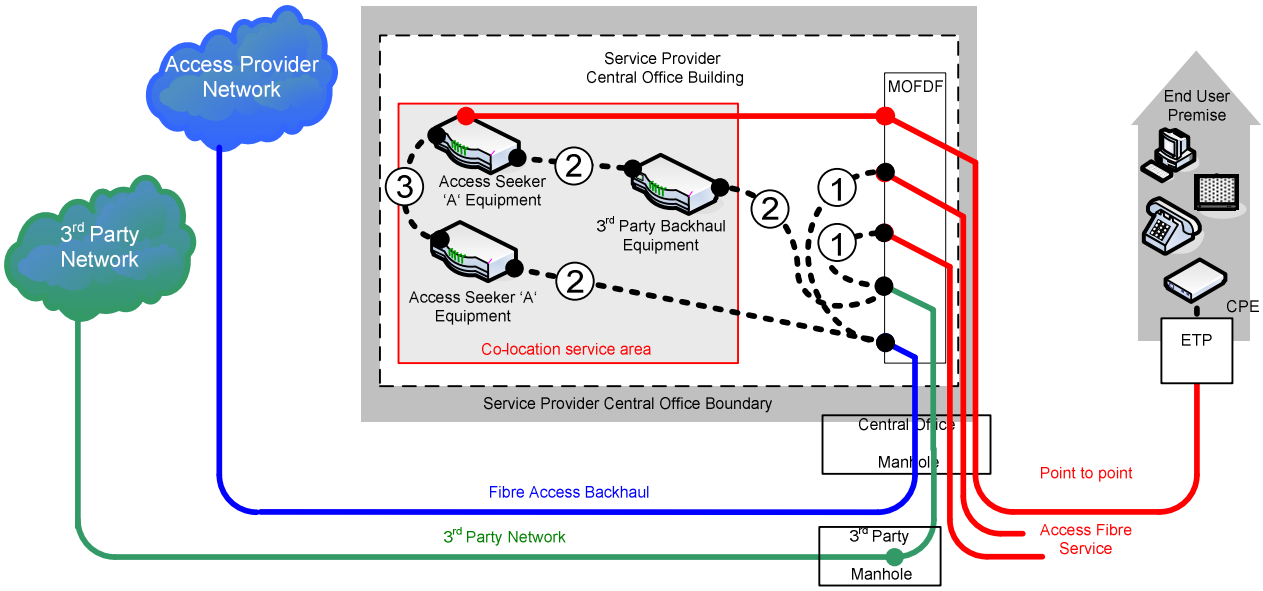
7.1 For detailed information on the components of the UFB Co-location Service and associated charges see the UFB Co-location Operations Manual and UFB Co-location Price List.

8 Service levels

8.1 Applicable service levels are set out in the UFB Co-location Service Level Terms.

9 APPENDIX

Appendix 1 – UFB Co-Location Service Diagram



9.1 Access Fibre Service tie cable options;

9.1.1 Access Fibre Service tie cable on Central Office Main Optical Fibre Distribution Frame (MOFDF) (note these cables are supplied by the Access Provider and remain the responsibility of the Access Provider as part of Access Fibre Service);

9.1.2 Access Fibre tie cable from footprint to either Backhaul Access Provider or 3rd Party Backhaul Provider or to 3rd Party Network via Central Office Main Optical Fibre Distribution Frame (MOFDF) and Central Office Manhole (note these cables may be supplied either by Access Provider or the Access Seeker but remain the responsibility of the Backhaul Provider as part of their Backhaul Service);

9.1.3 Access Fibre tie cable between two Access Seeker footprints (note these cables may be supplied either by Access Provider or the Access Seeker but remain the responsibility of the Access Seeker).

Appendix 2 - Specification for the UFB Co-location Service

9.2 The parameters of the UFB Co-location Service are defined for the space and associated services at the Central Office. Co-location Service Areas will provide a working environment broadly equivalent to that provided for telecommunications equipment, not data centre equipment, and will typically include the parameters listed below apply to all types of UFB Co-location Service:

9.2.1 Space: Footprints in an exchange will have a minimum size of 600 x 300 mm and have a minimum height that will accommodate a 2,200 mm ETSI rack (availability of larger footprints will be dependant on site)

9.2.2 Power: The default power source supplied to the Access Seeker will be -48V DC power with additional back-up capability provided by Access Provider; however there may still be single points of failure i.e. single rectifiers or single engine alternators. The Access Seekers may request as a commercial service additional back-up capability for the DC power provided by Access Provider at sites where it is available. As an option 230 volt 50Hz Ac power may be provided. Power may be charged in specified current steps as a fixed fee or Access Providers may wish to offer metered[6] 48V DC or 230 V AC power as an option.

9.2.3 Thermal Management:

Co-location Service Areas will be designed to keep the air temperature within a range from 15 to 35°C. The normal operating standard is 22 to 26°C. Humidity will not necessarily be controlled in Co-location Service Areas. Humidity alarms, where installed, are set at 35% (low) and 65% (high). The maximum thermal load per 600 x 300 mm footprint will be 6 kw;

9.2.4 Light: Target operating standard is approximately 500 lux measured at a height of 600 mm off the floor with a minimum level of 200 lux by way of suspended or ceiling-mounted light fittings.

9.2.5 Access: Controlled 24 x 7 access with centralised monitoring and logging. Individual identification cards are required with imbedded photo ID.

9.2.6 Fire Protection:

The Central Office will have fire detection systems installed and may have a fire suppression system also installed. The fire suppression method will vary between locations. Further details of the fire rating are in the operations manual but design of all sites must comply with AS/NZ 1905 and meet AS 1530 on completion.

[6] if metered, it may be necessary for the Access Provider to get clearance from the Commerce Commission under EIRA

9.2.7 Flooring: The floor shall have anti static properties in accordance with IEC 61000-4-2.

9.2.8 Floor Loading:

The floor loading within the footprint shall not exceed those specified in the operational manual and comply with NZS 1170.

9.2.9 Tie Cable Specification:

Tie cables will conform to ITU-T G.652 D, internal access cables may conform to ITU-T G657.A which is resilient to bending. The use of the later will not be mandatory.

9.2.10 Seismic Design:

The design of the Central Office, its infrastructure and the Access Seeker rack shall comply NZS 4203 seismic standard and its successors.