

**STANDARD TERMS DETERMINATION PROPOSAL
FOR CHORUS' UNBUNDLED COPPER LOW
FREQUENCY SERVICE**

**SCHEDULE 1
UCLF SERVICE DESCRIPTION
PUBLIC VERSION**

24 November 2011

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1 The UCLF Service

- 1.1 References to clauses or sections are references to clauses or sections in this UCLF Service Description unless expressly provided otherwise. The definitions set out this UCLF Service Description apply to the extent that they are not expressly modified by or inconsistent with the UCLF General Terms.
- 1.2 The UCLF Service is a service (and its associated functions, including the associated functions of Chorus' operational support systems) that enables access to, and interconnection with, the low frequency (being the frequency band between 300 and 3400 Hz) in Chorus' copper Local Loop Network (including any relevant line in Chorus' Exchange or Distribution Cabinet) that connects the end-user's building (or, where relevant, the building's distribution frame) to the handover point in Chorus' Exchange. The UCLF Service is available from a Exchange whether or not the Exchange is directly connected to a Distribution Cabinet. The UCLF Service is also available from a Distribution Cabinet.
- 1.3 The UCLF Service comprises the MPF Service (as described below), the Remote Tie Cable Service (as described below) and various ancillary services (as described in the UCLF Operations Manual and the UCLF Price List). If an Access Seeker wishes to provide direct current over the line for the purpose of supporting an analogue phone service, the UCLF Service must be made capable of providing the direct current required to power the operation of a standard analogue telephone.
- 1.4 The UCLF Service is an input service which the Access Seeker can use as a building block to provide services to End Users. The Access Seeker can combine the UCLF Service with network transport services offered by Chorus (or with the Access Seeker's own network or wholesale network transport services provided by other providers) and service level functionality to deliver services to End Users.
- 1.5 The UCLF Service is only available to an Access Seeker where it will be the only service taken over a particular copper line, or where the only other service being taken by an Access Seeker in conjunction with the UCLF Service over the relevant line is a UBA Service (supplied by Chorus). The UCLF Service cannot be supplied to an Access Seeker over a copper subscriber line where the UCLL Service or Sub-loop UCLL Service is also being supplied by Chorus.
- 1.6 The UCLF Service is only available on exchange-based lines and on those lines which are connected to a Distribution Cabinet which are notified by Chorus to Access Seekers on its website in accordance with clause 15 of the Operations Manual.
- 1.7 In accordance with clause 15 of the Operations Manual, Chorus will notify Access Seekers when the UCLF Service is not available either on a standalone basis or in conjunction with the UBA Service on certain exchange-based lines and on certain lines which are cabinetised. In addition, Chorus will also notify Access Seekers of the reasons for non-availability which may extend to include the following:
- 1.7.1 the absence of equipment catering for the UBA Service at the Distribution Cabinet, or the physical hard wiring of the broadband equipment to the voice equipment, makes the provision of the UCLF Service in combination with the UBA Service unfeasible;
 - 1.7.2 the Distribution Cabinet, which does not have a copper connection to the Exchange, does not support the UCLF Service;
 - 1.7.3 the copper feeder between the Exchange and the Distribution Cabinet, which is only used as an access copper bearer for the equipment in the Distribution Cabinet, does not support the UCLF Service;

- 1.7.4 certain other engineering purposes (eg order-wire) prevent the delivery of the UCLF Service from the Distribution Cabinet;
- 1.7.5 the Distribution Cabinet which has limited capacity on the copper feeder does not support the UCLF Service

2 UCLF MPF Service, Remote Tie Cable Service and ancillary services

- 2.1 A diagram of the MPF Service is set out in Appendix A. The MPF Service consists of provision of an MPF¹ for access to End Users. For the avoidance of doubt the MPF Service is supplied between Chorus' Exchange and the End-User's ETP with the MPF connecting in all cases at the Distribution Cabinet. The specification of the MPF is set out in Appendix B.
- 2.2 To use an MPF an Access Seeker must have the capability to access and interconnect with it, whether by co-locating Access Seeker Equipment at the relevant Exchange, or otherwise. "Access Seeker Equipment" in this context is equipment used exclusively for providing:
 - 2.2.1 Access to, and interconnection with, the MPF Service; or
 - 2.2.2 Backhaul for the MPF Service.
- 2.3 Access Seekers may co-locate Access Seeker Equipment at a Exchange using Chorus' unbundled copper local loop service and Chorus' unbundled copper low frequency co-location service (the UCLL and UCLF Co-location Services) which are separate from the UCLF Service. Where Access Seeker Equipment is not located at the Exchange at which the relevant MPF starts, a Tie Cable Service is available consisting of the provision of a Handover Distribution Point (HDP) block on the Exchange Main Distribution Frame (MDF), and a Remote Tie Cable (supplied either by Chorus or the Access Seeker) that meets Chorus' Cable Specification² from that block to a point outside and adjacent to Exchange Entry Point. Regardless of whether the tie cable is supplied by Chorus or the Access Seeker, Chorus will install the Remote Tie Cable within the Exchange and terminate it on the HDP block.
- 2.4 Subject to the frequency band limitation specified in section 1.2, there is no restriction on the type of service or application offered over the MPF by the Access Seeker provided the technology used to deliver the service or application complies with the Interference Management Plan. This may in practice restrict the service or application offered by Access Seekers to End Users in some circumstances.
- 2.5 The MPF extends from the External Termination Point (ETP)³ at an End User's site, through Chorus' Local Loop Network,⁴ to the HDP block on the MDF in a Exchange. The MPF may transit a Distribution Cabinet.
- 2.6 The UCLF Service includes service assistance provided by Chorus (see the UCLF Operations Manual for details) as follows:

¹ MPF is defined as a pair of twisted copper conductors between the relevant demarcation point at the End User's premises and the relevant demarcation point at a Exchange that conveys signals when connected to an electronic communications network.

² See the list of cable specifications for the UCLF Service on Chorus' website (www.chorus.co.nz).

³ External Termination Point (ETP) means the external termination point for telecommunications services at an End User's premises or, where there is no termination point external to the premises, either the first jack on the premises wiring or, where appropriate, the building distribution frame.

⁴ Chorus' Local Loop Network is that part of Chorus' copper network that connects the end user's building (or, where appropriate, the building distribution frames) to the handover point in Chorus' Exchange.

- 2.6.1 Automated facility for Access Seeker MPF Service orders and fault notifications;
 - 2.6.2 An automated prequalification tool to assist the Access Seeker in determining the location and estimated characteristics of the MPF;
 - 2.6.3 Manual measurements of actual MPF electrical characteristics if requested by the Access Seeker; and
 - 2.6.4 Various other ancillary services as described in the UCLF Operations Manual and in the UCLF Price List.
- 2.7 The UCLF Service implementation activities carried out by Chorus include:
- 2.7.1 Provisioning of the MPF;
 - 2.7.2 Where an Access Seeker's equipment is not located at the relevant Exchange, and the Access Seeker is taking up the Remote Tie Cable Service referred to at paragraph 2.3 above:
 - (a) provisioning of a HDP block on the Exchange MDF;
 - (b) identification of the route that the Tie Cable will take between the HDP block on the MDF and the point outside and adjacent to Chorus' Exchange Entry Point and installation of the Remote Tie Cable including installation of any required cable racks and trays to support the Remote Tie Cable; and
 - 2.7.3 Handover to the relevant Chorus assure team for ongoing service management.
- 2.8 The UCLF Service specifically excludes:⁵
- 2.8.1 Access to, or interconnection with, Chorus' Local Loop Network at any cabinet or at any distribution point apart from a Exchange MDF;
 - 2.8.2 Chorus' Unbundled Copper Local Loop and Chorus' Sub-Loop Unbundled Copper Local Loop;
 - 2.8.3 Unbundled Copper Low Frequency Co-location and Unbundled Copper Low Frequency Backhaul Services (UCLF Co-location and UCLF Backhaul Services) which are optional additional services;
 - 2.8.4 Chorus' UBA Service which is an optional additional service;
 - 2.8.5 Chorus' provision or maintenance of End User premises wiring;
 - 2.8.6 Configuration, monitoring, operation, support or maintenance of Access Seekers' or End Users' applications, equipment or networks;
 - 2.8.7 Configuration or on-going support of the End User's applications;
 - 2.8.8 Control of access to the UCLF Service end points through any network beyond the UCLF Service handover points;
 - 2.8.9 Any active analogue telephone service (POTS) on the same MPF and any service over the MPF such as lawful intercept and 111 service;

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

- 2.8.10 Installation of new copper loops between the Exchange and an End User's premises or installation of new service leads at an End User's premises; and
- 2.8.11 Access to a MPF that supports a pair gain system where that pair gain system cannot be transferred, where necessary, onto another suitable MPF.

3 End User Demarcation Point

- 3.1 The MPF Service is delivered to the ETP at the End User's building.
- 3.2 The MPF Service excludes premises wiring. The Access Seeker or the End User will be responsible for customer premises equipment (CPE) and wiring at the End User's site beyond the ETP. The Access Seeker should, but is not obligated to, ensure that TelePermit requirements (available at www.telepermit.co.nz) and the Code of Practice for Residential and Small Office Premises Wiring (available at www.tcf.org.nz/premwiring) are adhered to.

4 Chorus Service Demarcation Point

- 4.1 The MPF Service is delivered from the MPF side of the HDP block on the MDF. This does not preclude the connection of the UCLF MPF to Chorus equipment between the Exchange Entry Point and the HDP block.
- 4.2 Where an Access Seeker takes the UCLF Service in conjunction with the UBA Service, the low frequency connection that forms the UCLF Service will traverse the tie cables between the MDF and the DSL splitter before appearing at the HDP block.
- 4.3 To avoid doubt, any Tie Cables used to connect to and from the DSL splitter fall within the scope of the UCLF Service and will not be charged as tie cables connecting the HDP block to the Access Seeker's Equipment.

5 Access Seeker Responsibilities

- 5.1 The Access Seeker responsibilities are detailed in the UCLF General Terms and UCLF Operations Manual.

6 Components of the Service and Associated Charges

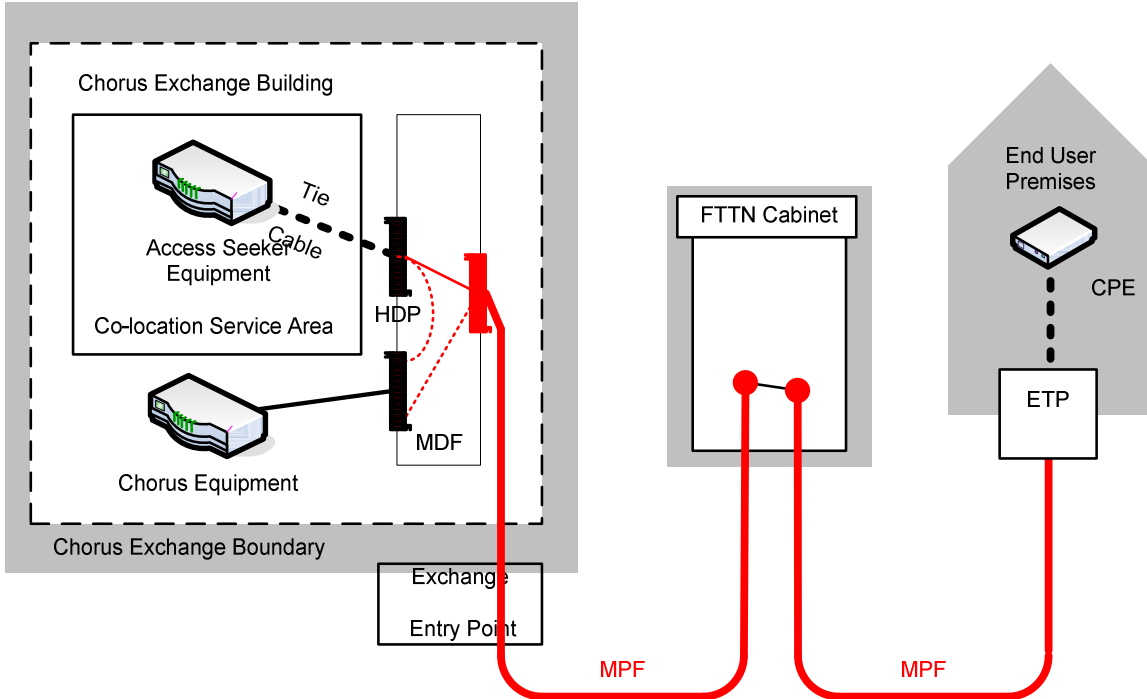
- 6.1 For detailed information on the components of the UCLF Service and associated charges see the UCLF Price List and the UCLF Operations Manual.

7 Service levels

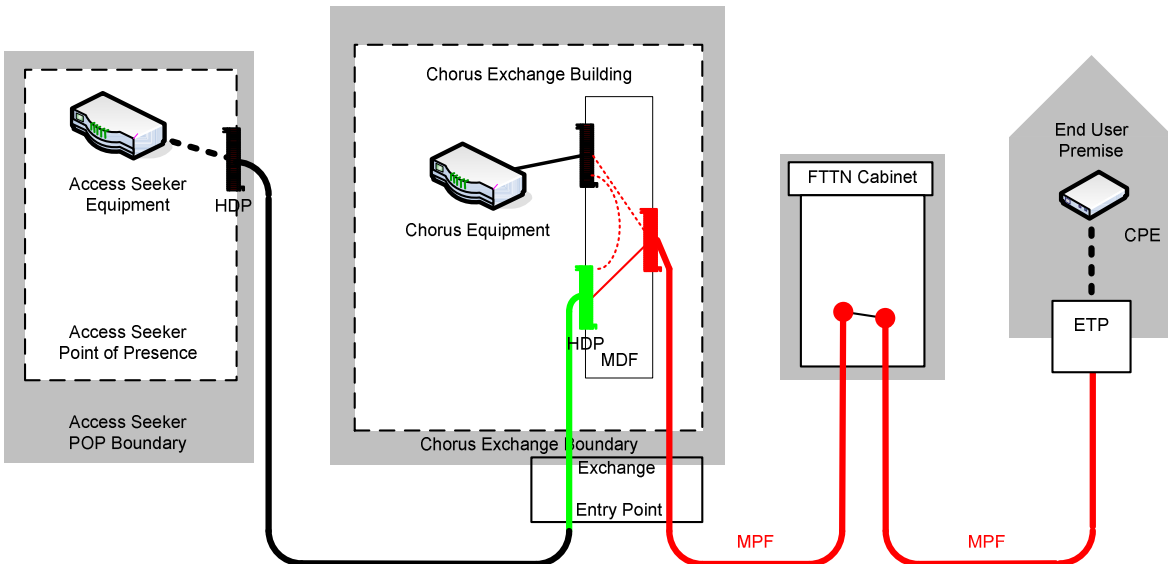
- 7.1 Applicable service levels are set out in the UCLF Service Level Terms.

Appendix A – Diagrams

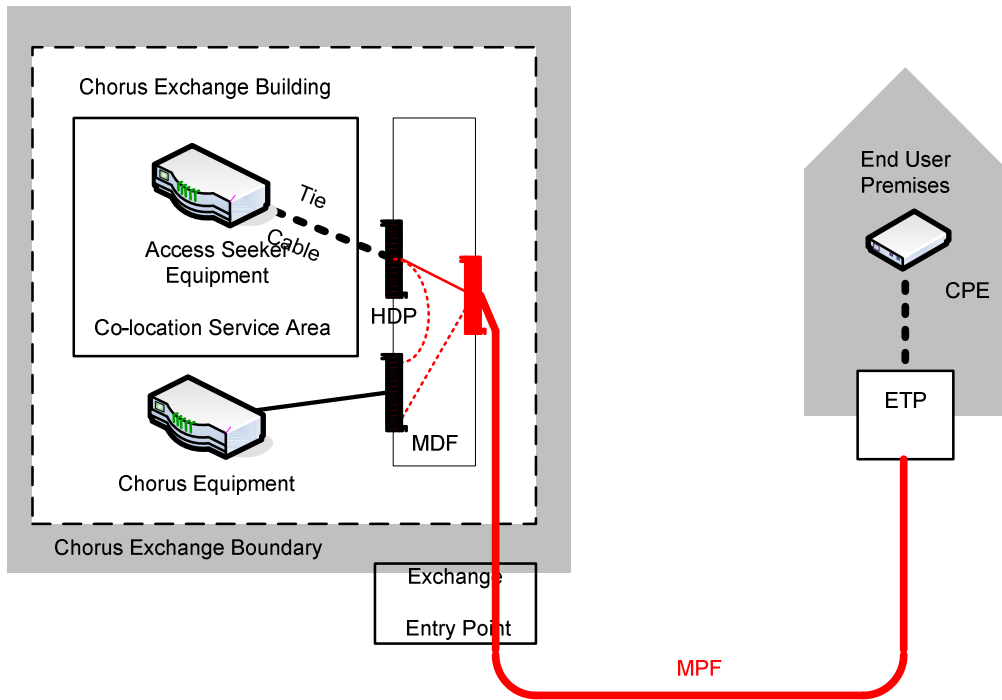
(i) MPF Service – cabinetised lines



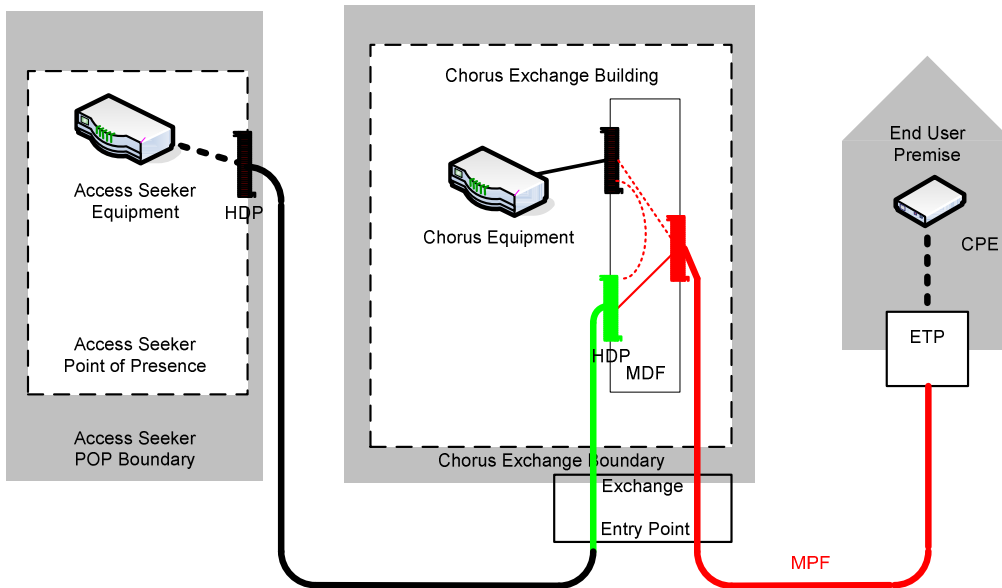
(ii) MPF Service and Remote Tie Cable Service – cabinetised lines



iii) MPF service – non-cabinetised lines



iv) MPF service and tie cable service – non-cabinetised lines



Key:

- CPE = Customer Premises Equipment (including modem).
- Red = MPF Service.
- Green = Remote Tie Cable Service

Appendix B - Specification for the MPF

The parameters of the MPF are defined for the pair from the MDF to the ETP. When testing the parameters of the MPF, the MPF must be tested in isolation from End User premises wiring and equipment and from UCLF operator wiring and equipment.

The frequency response of the MPF is limited to the frequency band between 300 and 3400 Hz. The parameters listed in Table 1 apply to all types of MPF.

Parameter (note 2)	Parameter value (taking account of notes 1 to 2)
Minimum insulation resistance between conductors	100k Ohms
Minimum insulation resistance between conductor and earth	100k Ohms

Table 1 - MPF Parameters

Note 1: The MPF will be categorised faulty if any measured resistance is below the parameter values.

Note 2: Any measurement made with respect to earth will be made using the earth at the Chorus MDF site.