

Hosting and Internet  
Protocols and Signalling

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**Technical Reference**  
**RCIT.0006**

**Customer End Splitter Information for  
ADSL/POTS Spectrum Sharing**  
**DRAFT**

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Implementation:

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## 1. PURPOSE

The purpose of this Technical Reference is to provide the requirements for installation of ADSL Splitters located at customer premises end of a loop with spectrum sharing between ADSL and POTS. The requirements are considered necessary to allow satisfactory operation of voiceband CPE currently in use.

## 2. SCOPE

This Technical Reference gives the limits for the number of in line splitters and the limits for the number of Customer Equipment (CE) for customer premises ends of a loop with spectrum sharing between ADSL and POTS.

This Technical Reference does not contain the splitter specification, this is contained in Technical Reference RCIT.0004 "Splitter Specification for ADSL/POTS Spectrum Sharing"

## 3. PRODUCT DESCRIPTION

The Telstra Wholesale Spectrum Sharing Service (SSS) product allows an Acquirer to use vacant frequency spectrum, at frequencies above an existing voiceband PSTN service provided by Telstra. Spectrum Sharing will be provided on an unconditioned communications pair between the boundary of a telecommunications network at an end-user's premises and a point on a telecommunications network that is a potential point of interconnection located at, or associated with, an Acquirer's customer access module (CAM) and located on the end-user side of the customer access module.

Spectrum Sharing will be provided over a single existing twisted metallic pair. Acquirers will need to provide their own DSLAMs, compliant ADSL modems and compliant filters that are suitable for connection to the Telstra network. Acquires will also be required to install a Network Termination Device (NTD) at the end-customer premises when applicable. Spectrum Sharing will be available nationally subject to the Acquirer having rolled out their equipment.

Spectrum Sharing will be subject to the availability of suitable twisted metallic pairs, distance restrictions, Service Qualification requirements and deployment guidelines as identified by the appropriate ACIF Code for the delivery of ADSL services.

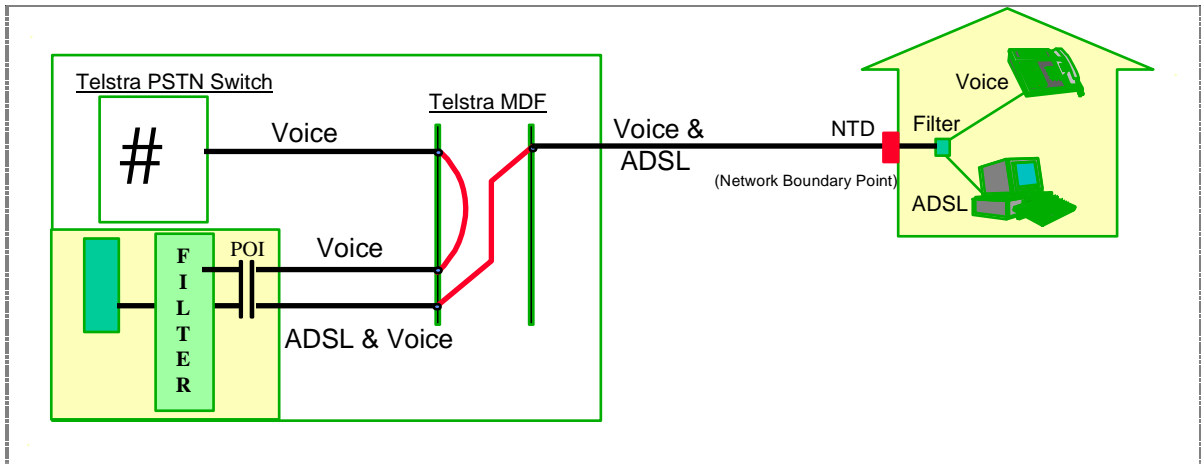


Figure 1: - Telstra Wholesale Spectrum Sharing Service (end-to-end view)

## **4. PERFORMANCE OBJECTIVES**

### **4.1. CUSTOMER END SPLITTER**

#### **4.1.1. General**

The customer end splitter may be implemented as a centralised or an in line (distributed) splitter beyond the NTD. New customer premises cabling is to be provided from the centralised splitter to the ADSL CPE. The splitter provides a low pass filtering functionality in the telephony path. The high pass component of the splitter is assumed to be in the ADSL CPE.

Telstra only supports 3 REN (Ringer Equivalence Number) on a standard telephone service. For example the Telstra standard telephone has a REN of 1.0, therefore only 3 standard telephones can be supported on a standard telephone service. Some CE may have a REN less than 1, meaning that more than 3 CE can be supported on the one service. Where REN is not stated on the POTS terminal, contact the supplier to obtain the REN value.

Because of its superior performance over the inline type it is very strongly recommended that the customer end splitter be of the centralised type.

The Acquirer must ensure that any filter complies with the requirements of ETSI TR 101.728 V1.2.1 (2002-05) and ETSI TS 101 952-1-1 V1.1.1 (2002-05) as modified for the Australian environment in Telstra specification RCIT 0004 “Splitter Specification for ADSL/POTS Spectrum Sharing” .

#### **4.1.2. Inline Filters**

Where distributed (inline) splitters are used, no more than 3 inline filters may be used on any POTS service.

If more than 3 POTS terminals are to be connected (or if any is a wallphone without RJ12 socket) then a centralised splitter is required.

#### **4.1.3. Centralised Filters**

Customers must not connect more than 3 standard Telstra telephones or equivalent on the centralised splitter used for ADSL. However more equipment can be connected if the total REN does not exceed 3.

Should any more than 3 standard Telstra telephones or equivalent be used, Telstra will not be responsible for any degradation of the service. This includes loss of incoming calls and impaired voice and data quality.

Where a centralised splitter is used it may be provided with a Network Termination Device located between the lead-in and the first telephone socket in the premises (or on the network side of any block from which telephone sockets are star wired). For Information on Network Termination Device please see:

Telstra Network Termination Device, Information for Cabling Providers.

Guideline 012 688

#### 4.1.4. V.90 Modem performance

The performance of V.90 Modems may be adversely affected if more than 3 inline filters are used.

## 5. DEFINITIONS

The following words, acronyms and abbreviations are referred to in this document.

<b><u>Term</u></b>	<b><u>Definition</u></b>
<b>ACA</b>	Australian Communications Authority
<b>ACCC</b>	Australian Competition and Consumer Commission
<b>Acquirer</b>	The service provider seeking to utilise Telstra Wholesale Spectrum Sharing Service on behalf of their retail customer.
<b>AP</b>	Access Provider
<b>ADSL</b>	Asymmetric Digital Subscriber Line
<b>BEP</b>	Building Entry Point
<b>CAM</b>	Customer Access Module
<b>CCF</b>	Cross Connect Facility
<b>CE</b>	Customer Equipment
<b>CPE</b>	Customer Premises Equipment
<b>ECP</b>	Equipment Connection Point
<b>IDF</b>	Intermediate Distribution Frame
<b>MDF</b>	Main Distribution Frame
<b>NBP</b>	Network Boundary Point
<b>NTD</b>	Network Termination Device
<b>PSTN</b>	Public Switched Telephone Network
<b>PSD</b>	Power Spectral Density
<b>REN</b>	Ringer Equivalence Number
<b>SDP</b>	Service Delivery Point
<b>ULLS</b>	Unconditioned Local Loop Service

## 6. REFERENCES

Document Number	Title
Technical Reference RCIT.0004	Splitter Specification for ADSL/POTS Spectrum Sharing, Draft
Guideline 012688	"Telstra Network Termination Device, Information for Cabling Providers"
ETSI TR 101.728 V1.1.1 (2002-5)	Access and Terminals (AT); Study for the Specification of the Low-Pass Section of POTS/ADSL Splitters
AS/ACIF S002: December 2001	Analogue interworking and non-interference requirements for Customer Equipment for connection to the Public Switched Telephone Network
AS/ACIF S043 - PART 1	Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network - Part 1: General
AS/ACIF S043 - PART 2	Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network - Part 2: Digital Subscriber Line (DSL)
AS/ACIF S043 - PART 3	Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network - Part 3: DC, low frequency AC and voiceband
DR/ACIF C559	INDUSTRY CODE UNCONDITIONED LOCAL LOOP SERVICE Network Deployment Rules
DR/ACIF C569	INDUSTRY CODE UNCONDITIONED LOCAL LOOP SERVICE Ordering, Provisioning and Customer Transfer
ACIF G572	INDUSTRY CODE UNCONDITIONED LOCAL LOOP SERVICE Fault Management
AS/NZS 60950:2000	Safety of information technology equipment (IEC 60950:1999, MOD)
AS/NZS 3548:1995	Limits and methods of measurement of radio disturbance characteristics of information technology equipment (IEC/CISPR 22:1993)

## 7. DOCUMENT CONTROL SHEET

### Contact for Enquiries and Proposed Changes

If you have any questions regarding this document contact:

Name: Warwick O'Connor  
 Designation: P3, Integration Specialist  
 Phone: (03) 9634 7152  
 Fax: (03) 9634 8658

If you have a suggestion for improving this document, complete and forward a copy of *Suggestions for Improvements to Documentation* (form 000 001-F01).

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Issue 1.0	26/4/02	Document updated to include Merv Sewell's comments.
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