

# Telecommunications Carriers' Forum

## Project Scope: Development of an Industry Code of Practice for Residential and Small Office Premises Wiring

Date: 23 March 2009

### A. Issue Identification

The vast majority of homes and small businesses are wired in accordance with PTC 103 (Code of Practice for Residential type and Small Office Customer Premises Wiring) for PSTN voice and low speed data services. The technical and functional demands of next generation broadband services are likely to exceed the capabilities of PTC 103 compliant wiring systems due to:

- consumer electronics manufacturers' support of IP and Ethernet via UTP (RJ45) and fibre interfaces;
- demand for integrated services in the home;
- Ethernet LANs;
- increasing broadband line rates; and,
- service providers wishing to deploy multiple services over a single telecommunications infrastructure.

There are a number of standards covering Generic Cabling for Homes:

- AS/NZS ISO/IEC 15018:2005 (Information technology - Generic cabling for homes);
- EN 50173-4 (Information technology - Generic cabling systems - Part 4: Homes); and,
- ANSI/TIA-570-B (Residential Telecommunications Infrastructure Standard).

There is a Telecom published Code of Practice (PTC 106)<sup>1</sup> which is Telecom's interpretation and implementation of the above standards and is currently promoted for use in fibre sub-divisions. It deals with a number of the things that PTC 103 does not, but is currently implemented on an ad hoc basis. PTC 106 is not something that the industry has released or endorsed, in a co-ordinated or comprehensive manner, to those responsible for telecommunications wiring and/or those building or renovating homes.

There has been no education done by the industry on the importance of wiring that will be able to handle the advent of new telecommunications services. This is likely to become an issue in the future, when end users realise that they are not getting the benefit out of next generation broadband services that they should be. The industry needs to front-foot this and be united as to the solution.

It is envisaged that a Code of Practice developed and agreed to by the industry will be used by professional installers involved in providing generic or "structured" cabling for telecommunications and other services in both residential and small office premises.

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<sup>1</sup> See <http://www.telepermit.co.nz/PtcSpecs.html>

## B. Background

### *PTC 103*

The vast majority of homes and small offices are wired in accordance with PTC 103 for PSTN voice and low speed data services. The 2wire PTC 103 is currently the de facto Code of Practice for home PSTN voice cabling. Points to note about PTC 103:

- It was drafted and implemented in the mid 1980s when:
  - The PSTN was maturing as a technology and service platform;
  - The Internet was relatively unknown.
- Its two-wire, BT jack architecture can be installed and maintained by any proficient DIYer or electrician with minimal tools or technical knowledge.
- The cost (risk) associated with a poorly constructed or under-performing PSTN home network was relatively minimal to customers and the telecommunications industry.

### *Drivers for Change*

There are a number of reasons why there is now some impetus to consider an enhancement to wiring standards. There are both technological and economic drivers for change as listed below.

#### *Technological drivers*

- International & National Standards - recommendation is 1000BaseT (vs. PSTN).
- The universal RJ45 jack (vs. BT Jack).
- Structured Star cabling architectures (vs. 2 wire).
- Advance of ADSL2+ and VDSL technologies (vs. PSTN and ADSL).
- FTTP & Ethernet access services (vs. PSTN).
- The continuing development of Cat 6 and Cat 6a UTP and fibre cabling standards.

#### *Economic drivers*

- Protection of home owners' investment.
- Minimising the direct cost of poorly performing home networks.
- Minimising the indirect (lost revenues) of poorly performing home networks.
- Encouraging the uptake and use of Next Generation (multi-play) services.
- Maximising Service Provider investment.

## C. Project Scope

The scope of this project is to:

1. Prepare a self-regulated *Code of Practice for Residential and Small Office Premises Wiring*, which would be adopted by members of the TCF and other interested parties. The Code will:
  - a) cover residential and small office-type generic cabling systems. The definition of small offices needs to be agreed, but at this stage it is envisaged that it will be premises with 4 or less service lines;
  - b) define the demarcation point at the premises so it is clear what the Code of Practice covers and who is responsible for what;
  - c) set out certain minimum requirements while laying the framework for more sophisticated installations:
    - one option discussed is to have appendices to the Code that describe the various levels of installations - Appendix 1 could be 'Greenfields', Appendix 2 could be other options if Greenfields is not an option, etc;
    - it is envisaged that once the Code is finalised, there will be appendices/handouts that service providers can give to developers/architects/installers that illustrate how premises should be wired.
  - d) provide guidelines:
    - to installers on acceptable practices;
    - on verification and qualification testing;
    - on certification of compliance;
  - e) promote end user confidence in the fact that their home/small office will be able to support a range of different service offerings;
  - f) enhance the industry's reputation with consumer advocacy groups by promoting a common code of practice to minimise ambiguity and consumer risk;
  - g) reduce the level of uncertainty (risk) Service Providers may otherwise face in the delivery and support of value added services;
  - h) be technology neutral; and,
  - i) allow for flexibility, but ultimately be about the consumption of telecommunications services (for example, as much as possible we want consumers to be able to plug 'n' play but the industry cannot design a solution that is all things to all people).

#### **D. Proposed next steps**

It is proposed that the working party use PTC 106 as a basis for development of the Code. PTC 106 does not currently include everything that the industry requires in a premises wiring code of practice - for example definitive information about the demarcation point (i.e. to define exactly what 'premises wiring' covers), and information about verification and qualification.

Once PTC 106 has been reviewed and anything additional added and/or anything not required removed, it is proposed that it be converted into a suitable format to become a TCF Code of Practice. As per normal TCF processes, consultation on the Code will then occur.

The working party intends to hold workshops with other industry bodies during the code development process, and prior to the code being issued for public consultation.

#### **E. Expected Deliverables**

The deliverables from this project are:

1. A self-regulated Code of Practice for Residential and Small Office Premises Wiring.
2. Providing an ongoing forum for discussion on issues related to premises wiring.

The original project proposal suggested that prior to preparing the draft code, the working party first prepare a report setting out the problem definition, background information and scoping of the issues of sufficient detail that the Board is able to ascertain the utility of the proposed code, so they could decide if a code should be developed. As noted in that project proposal, the parties involved in its development were already of the view that a Code is required. The working party has since been established and it supports this view. The working party therefore recommends that the Board agree that the report set out under 7.1.4 of the TCF Handbook is not required.

## F. Working Party membership

	Name	Organisation
<b>Project Leader:</b>	Robin Meaclem	Chorus
<b>Working Party Members:</b>	Ian McCulloch	Chorus
	Rebekah Henderson	Chorus
	Ian Hawkins	Orcon
	Ken Nicod	Orcon
	Teresa Guthrie	Telecom Retail
	Ella Obreja	Telecom Wholesale
	Richard Horrell	TelstraClear
	John Davenport	TelstraClear
	Alex Tokmakov	Vector Communications
	Graeme Norton	Vector Communications
	Tba	Vodafone
	Phillip Moore	WorldxChange
	Bruce Turner	TUANZ
	TBA	Commerce Commission

## G. Proposed Project Timeline

The Working Party will prepare a draft code ready for a workshop to be held in mid June. The workshop will be with organisations such as the Electrical Contractors Association and training organisations such as TESSO.

Following the workshop, the Working Party will prepare a timeline for approval by the Board.

## H. Resources

The TCF budget includes an allowance of up to 100 hours of Forum Administrator time.

**I. Recommendation**

That the TCF Board:

- a) **agree** that the report set out under 7.1.4 of the TCF Handbook is not required; and
- b) **approve** this project scope.