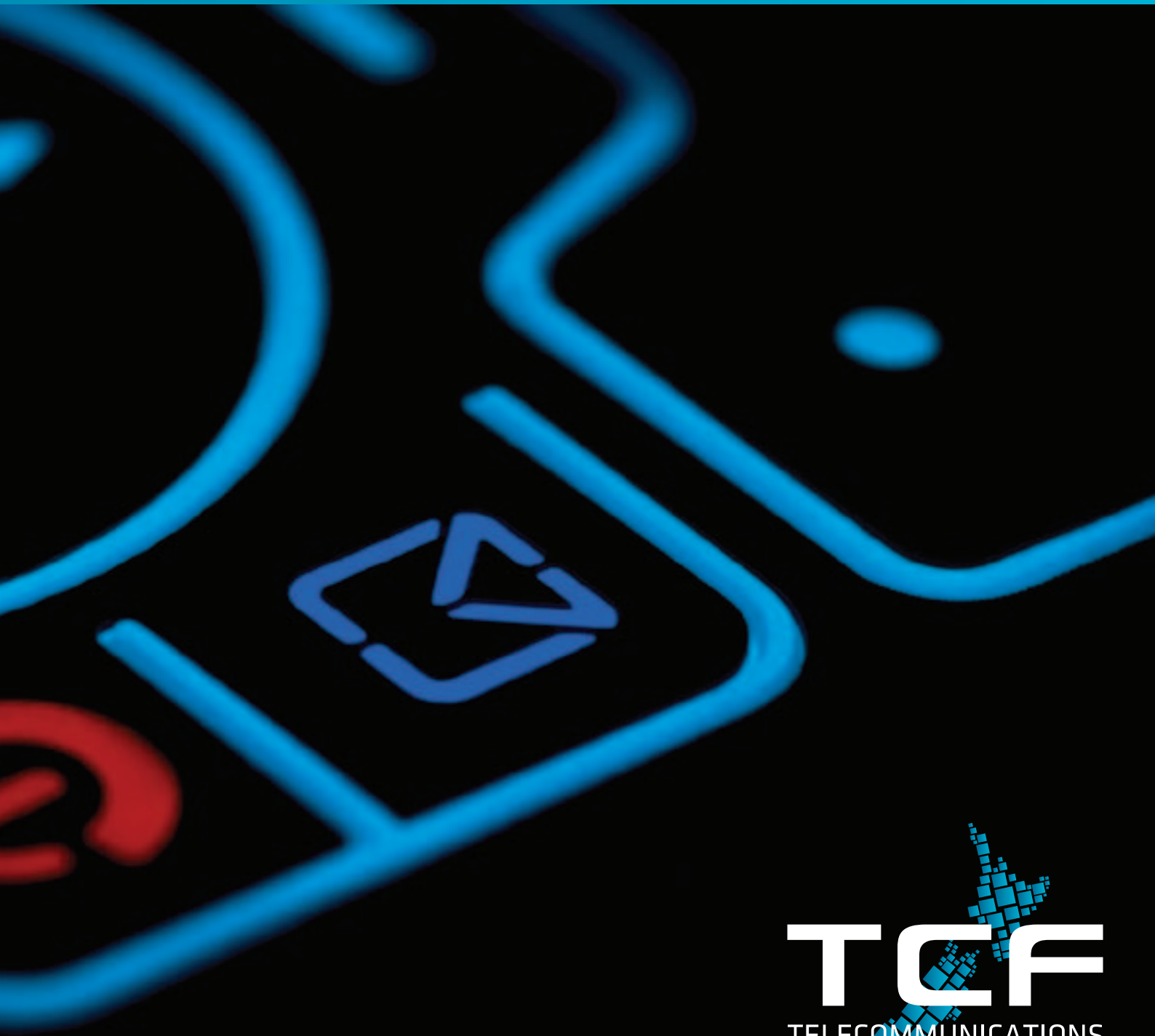
Annual Report 2008/09



TCF
TELECOMMUNICATIONS
CARRIERS' FORUM

TELECOMMUNICATIONS CARRIERS' FORUM

Annual Report 2008/09

What the TCF does

The Telecommunications Carriers' Forum (TCF) plays a vital role in the New Zealand telecommunications industry by collaboratively developing key industry standards and codes of practice that underpin the digital economy.

We work with industry participants and government agencies to promote sector competition and investment, accelerate introduction of new generation services, and encourage excellence in customer service.

The TCF is a registered incorporated society. Our governing board is headed by an independent chair, and we are operated by the CEO and forum administrator. Our members are New Zealand telecommunications carriers and service providers.

For more detailed information about the TCF and our work, visit www.tcf.org.nz

This report covers the 15-month period from 1 January 2008 to 31 March 2009 to align it with the new timing of our financial year.

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Introduction from the CEO Ralph Chivers

There's only one word to describe 2008/09 – exhausting! Hard on the heels of what was arguably one of the TCF's most successful years, we were faced with a range of new and sometimes unexpected challenges.

Our contributions to the Commerce Commission's standard terms determinations proceedings continued, with major input to the sub-loop unbundling and mobile co-location regulatory processes, plus some below-the-radar activity that completed implementation of local loop and bitstream unbundling. We also began or finished work on a number of codes on subjects as diverse as mobile content, lawful interception, and emergency services calling.

In a first for the TCF, we put our minds to several areas of industry policy, developing recommendations for the future of the TSO (Kiwi Share) obligations, the approach to governance of New Zealand's numbering regime, and a perspective on the National Party's formative broadband policy. We also began what has proved to be ground-breaking work on IP interconnection.

In July we celebrated a milestone for number portability with the 100,000th number ported. After a circumspect first 12 months, portability swung into high-gear in mid-2008 when the impact of unbundled services started to hit. It was particularly fitting that the 100,000th ported number occurred in a month that set a new porting record, and that it belonged to a customer who had signed up for a VoIP service offered over an unbundled naked DSL connection. By the end of our new financial year at March 2009, nearly 180,000 numbers had been ported.

The passage of the Copyright (New Technologies) Amendment Act 2008 saw the TCF working to tackle implementation of highly controversial section 92A, which relates to terminating accounts of repeat infringers. Although the TCF and other industry participants took exception to s92A's requirements, the TCF sought to develop a code of practice to help ISPs comply with this Act. Supported by Internet New Zealand and ISPANZ, TCF members worked long and hard to develop a fair, balanced code, an effort that included negotiating with representatives of the music and movie industries. While we didn't expect s92A issues to attain such public and political prominence, the TCF is pleased to have contributed positively to the debate.

The past year was also a time of internal reflection for the TCF, as we considered our industry role, our operating model and our constitutional arrangements. The outcome of this strategic review largely confirmed the TCF's *raison d'être*, giving us confidence to continue our self-regulatory activity while expanding efforts into judiciously selected policy issues.

An otherwise successful 2008/09 was marked by more than a little regret when our long-standing Independent Chair Malcolm Alexander decided to step down in October 2008. Malcolm played a significant role in leading the TCF through its establishment and growth phase – so much so that it's hard to imagine the Forum without him. We will remember his tenacious and exemplary chairmanship, his dedication to TCF's success, and his mastery of industry politics. He can be proud of the part he played in TCF's growth from its fractious and uncertain beginnings to the point where it is, without doubt, making a real difference in the industry. The Forum would not be where it is today without him, and we are most grateful for his work and dedication. On behalf of the Board, members and team, I wish Malcolm all the very best for the future.

We were pleased in May 2009 to welcome our new Independent Chair of the Forum, Richard Westlake, appointed after an extensive search. Richard is Director of Westlake Consulting Limited. He brings with him a wealth of senior governance experience, and we are delighted to have someone of his calibre chairing our Board.

By the time this Annual Report is published, the final major change for the TCF in 2008/09 will have occurred – I will have taken up my new position as programme manager for the government's ultra-fast broadband initiative. Although I leave with regret, I am confident that the TCF and industry are in good shape to take up the future opportunities and meet the future challenges that modern telecommunications bring to our economy.

Ralph Chivers
Chief Executive
Telecommunications Carriers' Forum

Key Players in the TCF

TCF Board

Malcolm Alexander *(Independent Chairperson to October 2008)*

Malcolm was Independent Chair of the TCF from its inception in 2002 through to October 2008. A competition lawyer by training, Malcolm's extensive experience in the telecommunications, electricity and gas markets proved invaluable to his TCF leadership role. He is currently the General Manager, Corporate Affairs for Genesis Energy where he is responsible for business strategy, external affairs, regulatory affairs and corporate environmental policy, including climate change.

Richard Westlake *(TCF Independent Chair from May 2009)*

Richard is Director of Westlake Consulting Limited, a leading adviser in organisational governance, strategy and structure, with clients in New Zealand and around the world. In the last few years he has completed significant consulting assignments in the ICT sector, both locally and internationally. He is an independent director of Kiwibank, chairs the Standards Council of New Zealand, and has been establishment chair for two state-owned enterprises, MetService and Quotable Value.

Graham Walmsley, CallPlus *(Group Member Representative for Tier Two Members)*

Graham returned to the TCF Board in 2007. He is the General Manager of Wholesale and Regulatory at CallPlus. He has many years of telecommunications industry experience, having been Head of Business Marketing for Telecom and Chief Information Officer for CLEAR Communications. His other roles have included Marketing Manager for Countrywide Bank and CEO for Diners Club International.

Susie Stone, Kordia *(Representative for Tier 2 and Tier 3 Members)*

Susie is Kordia Group's General Manager, Strategic Development, and is responsible for strategic business development, commercial affairs, government relations and regulatory policy. Previously Susie worked for CLEAR Communications, where she was General Manager of Network Solutions, responsible for local access, data, messaging and call centre solutions. Her background includes strong entrepreneurial, marketing, business development, management, regulatory policy and technology experience in a variety of industry sectors, including government, IT, telecommunications and broadcasting.

Matt Crockett, Telecom

Matt is the CEO of Telecom Wholesale and International, which provides domestic and international wholesale network services. He was previously General Manager for Telecom's Wired Division where he oversaw their retail fixed voice, data, and internet businesses. Prior to this, he was Head of the New Zealand Market Strategy team, covering both fixed and mobile retail strategy. Before joining Telecom in 2003, Matt was at the global management consulting firm McKinsey & Company where he was responsible for client relationships and projects across multiple industries.

Top L–R: Malcolm Alexander, Richard Westlake, Graham Walmsley, Susie Stone, Matt Crockett
Bottom L–R: Chris Abbott, David Stone, Ernie Newman, Ralph Chivers, Susan Wells

Chris Abbott, TelstraClear

Chris has been the Group Manager Regulatory at TelstraClear since September 2006. He has considerable experience in telecommunications regulation, having worked as a Chief Advisor at the Commerce Commission prior to joining TelstraClear. Chris previously held a number of roles at American International Group (AIG) in the United Kingdom and New Zealand.

David Stone, Vodafone

David is Head of Industry Affairs for Vodafone. He has extensive industry experience, starting with CLEAR Communications in 1996 and subsequently working with a number of other industry members. Prior to joining Vodafone, David was Manager – Strategic Development for United Networks Limited.

Ernie Newman, TUANZ *(Non-voting representative)*

Ernie has been Chief Executive of the Telecommunications Users Association of New Zealand (TUANZ) since 1999 and represents TUANZ in several organisations including the TCF and the Number Administration Deed. He is a Board member of the International Telecommunications Users Group (INTUG), and was its Chairman from 2002 to 2005. He is a regular participant in APECTel, the telecommunications and IT working group of Asia-Pacific Economic Cooperation (APEC).

TCF Operations

Ralph Chivers, Chief Executive Officer *(to June 2009)*

Ralph has 17 years of trans-Tasman experience in the telecommunications industry in a broad range of roles spanning investment management, technology strategy, business planning, programme management, and wireless engineering. Ralph's career extends across the public and private sectors as well as entrant and challenger businesses, giving him an in-depth and balanced understanding of the industry. He has strong hands-on knowledge of the New Zealand telecommunications regulatory environment from both government and industry perspectives.

Forum Administration

Susan Wells, Helen Knox, Jackie Clark and Clare Dobson from ONZL are the Forum Administrators. ONZL has held this role since May 2006. ONZL provides professional and secretariat support to the TCF Board and working parties, performs programme management, assists with the drafting of codes and preparation of submissions, arranges consultation, maintains the content on the TCF website, produces the monthly newsletter and press releases, and manages finances. Susan has been closely involved with the TCF since its inception.

Tony Baldwin *Independent Chairperson of the LLU Working Parties*

Tony is a legal and regulatory specialist with recognised expertise in industry chair roles. He has chaired the successful local loop unbundling (LLU) working parties since 2006. Drawing on his extensive law, policy and business background, Tony brings a wealth of commercial and public policy experience to his role.

Peter Dengate Thrush *Independent Chairperson of the IP Interconnect Working Party*

Peter has chaired the IP Interconnect Working Party since its inception in July 2008. He is a barrister and registered patent attorney specializing in intellectual property and technology law. Peter also has extensive experience in Internet policy, development and governance issues as chair of international Internet Corporation for Assigned Names and Numbers (ICANN), and previously as chair of both InternetNZ and the Asia Pacific Top Level Domain Association.

TCF Membership

The TCF has a three-tier membership structure comprised of New Zealand telecommunications carriers. Tier 1 members each hold a seat on the Board, with Tier 2 and Tier 3 members jointly holding two Board seats.

Tier 1 Members:

Telecom	Matt Crockett
TelstraClear	Chris Abbott
Vodafone	David Stone

Tier 2 Members:

CallPlus	Graham Walmsley
Compass Communications	Mark Frater
Kordia[1]	Susie Stone
Woosh Wireless	Paul Kearney
WorldxChange Communications	Paul Clarkin

Tier 3 Members:

BayCity Communications[2]	Tony Baird
FX Networks	Derek Locke
NZ Communications[3]	Tex Edwards
TrustPower	Peter Gregory
Vector Communications	Kevin Oswin

[1] Kordia rose to Tier 2 membership status in December 2008.

[2] The Farmside logo is the preferred logo of BayCity Communications.

[3] NZ Communications (renamed 2degrees in 2009) became a Tier 2 member in December 2008. They have resigned from the TCF.

2008: Celebrating Success, Meeting New Challenges

Both the TCF's CEO and Independent Chair recognised 2007 as the year in which the organisation came of age. This year – 2008/09 – marked our growing maturity. We rose to the new challenge of contributing on substantive policy issues. We established new relationships with local government and a newly formed ICT organisation, as well as taking time to recognise and celebrate the success of major projects launched the previous year.

We also continued work in the self-regulatory area by endorsing new voluntary codes. These established benchmarks for providing telecommunications services to industry, government, and consumers.

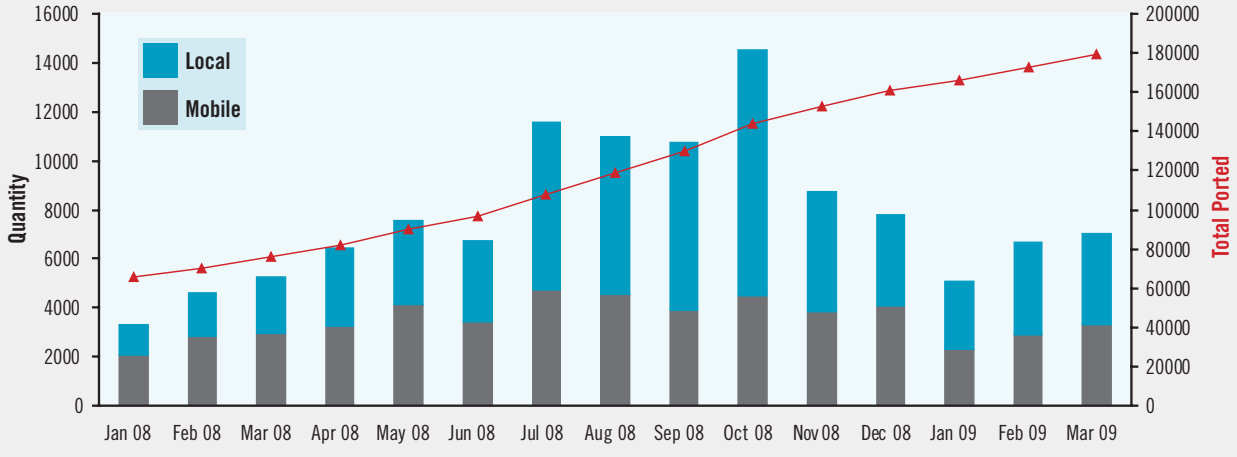
Number portability: the 180,000 milestone

Following the introduction of local and mobile number portability (LMNP) in 2007, number porting passed not one but two significant landmarks in 2008/09. In July, we celebrated porting of the 100,000th phone number since LMNP's launch – a target accurately predicted in the 2007 TCF Annual Report.

As of 31 March 2009, 179,520 numbers have been ported, with local numbers accounting for over 54% of the total. Thirteen telecommunications companies now provide number portability – an increase of four since December 2007.

Aware of the competition as to who should provide their landline or mobile telecommunications services, telecommunications customers took full advantage of their ability to change numbers without incurring extra costs.

Number Porting Update



	Jan 08	Feb 08	Mar 08	Apr 08	May 08	Jun 08	Jul 08	Aug 08	Sep 08	Oct 08	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09
Local	1229	1786	2337	3203	3233	3293	6835	6406	6869	10042	4888	3710	2808	3758	3744
Mobile	2079	2846	2946	3239	4120	3444	4727	4570	3894	4494	3859	4058	2280	2891	3282
Total Ported*	65758	70390	75673	82115	89668	96405	107967	118943	129706	144242	152989	160757	165845	172494	179520

Month

* The total ported figure relates to the cumulative total since porting commenced in April 2007.

Local loop unbundling also had a positive impact on numbers ported, with the initial uptake of unbundling affecting a porting rise during both July and August 2008.

"Portability works for users on two levels," said Telecommunications Users Association (TUANZ) chief executive Ernie Newman said. "It enables customers to change their service providers without the disincentive and cost of changing their number. Without portability, this cost can include reprinting stationery, signage, and the dislocation arising from missed calls and potentially lost customers or social contacts. Secondly, removing this serious barrier to customer transfer encourages customers to move around service providers and thus adds to a dynamic, competitive market.

"The TCF has done an excellent job in bringing portability to New Zealand. TUANZ commends it for this work."

On reaching the 100,000 number milestone, Ralph Chivers observed, "The introduction of number portability in New Zealand has been relatively trouble-free. For the success of its introduction and success to date I thank the tremendous efforts of dozens of staff at participating telecommunications companies, the TCF and technology partner Hewlett Packard."

Commerce Commission

The Commerce Commission also considers the main benefit of portability to be the freedom of service-provider choice it offers consumers, who no longer have to take a new number.

The Commission expects to see more mobile numbers ported after Telecom and 2degrees (formerly known as NZ Communications) launched their networks in 2009. Currently, customer mobility in the mobile market continues to be hindered by customers having to change handsets when changing providers.

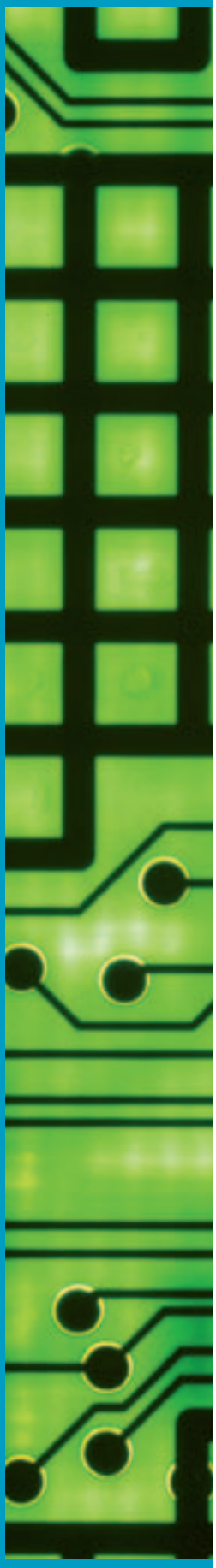
Meeting a new challenge: Copyright Act amendment

In 2008, the Government passed the Copyright (New Technologies) Amendment Act 2008, with section 92A aimed at reducing internet copyright infringement. Originally due to take effect in late February 2009, the section required all internet service providers to have a policy for terminating the accounts of users who repeatedly breached copyright.

The TCF quickly responded to the challenge presented by this significant change in copyright protection, beginning work to ensure ISPs would have a code of practice for establishing fair, workable policies.

This step was taken despite concerns the legislation would be contentious. The section's language was considered vague, and the widely held view was that, in its current form, the law was the wrong tool for fighting copyright infringement.

"While many organisations with an interest in copyright issues, including the TCF, voiced strong concerns that section 92A was seriously flawed, we had to act responsibly to ensure our industry would have guidance when implementing the law," CEO Ralph Chivers said.



A working party was established to develop the draft Copyright Code for Internet Service Providers. Its broad representation included New Zealand's leading ISPs, the Internet Service Providers Association of New Zealand (ISPANZ) and InternetNZ. The Code was intended to be voluntary even though s92A required all ISPs to have a termination policy. Its key purposes were:

- providing ISPs with reasonable policy and process for complying with section 92A when, in appropriate circumstances, terminating the internet accounts of repeat copyright infringers
- promoting respect for copyright and helping copyright holders educate internet users and downstream ISPs on their copyright rights and obligations
- enabling ISPs, once informed of infringement, to operate a fair system of discouraging their services from being used for copyright infringement, while recognising that the first responsibility for resolving copyright use and protection issues lies with the copyright holder and the user.

Work on the draft Code proceeded into early 2009, as industry grappled with the issues. In late February, the Government decided to postpone s92A's implementation to late March 2009, allowing more time to resolve issues arising from the Code's development. The TCF issued its draft Code for consultation in March and received 45 submissions, many of which were deeply critical of s92A.

In light of ongoing public disquiet over whether s92A would operate as intended, and because Code content could not be agreed on, in March the Government suspended implementation of s92A altogether and indicated it would review the legislation.

"It should be noted that despite suspension of s92A, the TCF's work has been acknowledged as useful in bringing to light the range of issues involving the section's practical operation," said Chivers.

The TCF will participate in the review to be conducted by the Ministry of Economic Development.

Telecommunications service obligations: a report on the future

Local service telecommunications service obligations (TSO), formerly known as the Kiwi Share, is an undertaking to provide most New Zealanders with certain telecommunications services.

In 2007, the Ministry of Economic Development (MED) issued a discussion document on the future of the TSO. The TCF responded by establishing a working party to develop an industry-agreed approach on the TSO's policy intent that would minimise its potential for compromising competition and innovation.

This presented the TCF with a significant opportunity to review TSO operation in light of the current competitive and technological landscape. It also allowed us to make recommendations to Government on the TSO's continuing place in New Zealand's telecommunications environment. "We embraced the opportunity to present a considered industry view to Government," said CEO Ralph Chivers. "And we welcomed Government's preparedness to take a fresh look at the issues."

In July 2008, the TCF released its Report on the Telecommunications Service Obligation (TSO) and submitted its recommendations. These were designed to fall within parameters deemed acceptable to the Government at that time. The key recommendation was that existing TSO arrangements should be reformed, given the significant changes in technology and the competitive environment that have occurred since the TSO was first established.

"The TSO was originally designed with fundamental needs in mind: a means of doing business, of getting the services that customers need, of staying in touch, of staying safe. This was particularly true for customers in rural and hard-to-reach areas," said Chivers. "However, with major changes to competition and technology since the introduction of the Kiwi Share, the TSO needs to be redesigned from the ground up."

In order to future-proof the TSO and ensure use of the most cost-effective technologies going forward, it also needed redefining in forward-looking technology-neutral terms.

Other key TCF report recommendations included:

- continuing with free local calling in TSO areas
- moving to a funding model based on general taxation
- moving away from "Telecom-centric" obligations to industry codes of practice for matters like call quality and emergency services call handling
- maintaining a clear separation between the TSO and any initiatives to increase the uptake of broadband.

The TCF also believed it was time for the TSO to be opened up to competition by allowing other companies to tender as TSO providers. A range of telecommunications companies, employing a range of technologies including wireless, are now in a good position to supply TSO services to more difficult-to-serve areas of the country.

"We believe competition is already doing the job of the TSO in many areas of New Zealand," Chivers noted. "Where there are two or more providers of residential services to consumers we are seeing a range of packages and calling options, some of which provide more than the current TSO requires and for a lower price. One has to question whether a formal TSO obligation is still needed in these areas."

In late 2008, TCF put TSO work on hold as it awaited clarification of the new Government's view on the way forward for the TSO. Our work remained on hold at the time this publication went to print.

BayCity Communications is New Zealand's national service operator for the IPStar Broadband satellite. It provides wholesale services to a number of ISPs and telecommunications companies around the country.

Reflecting on the importance of the TSO recommendations, BayCity managing director Tony Baird said, "The TCF has facilitated industry recommendations that account for the wide range of companies making up the telecommunications industry – from new, smaller companies to larger providers. This approach has enabled BayCity to discuss and present the merits of using new technologies such as satellite for broadband-based services, including voice.

"In this context, BayCity Communications has been provided with an excellent interface to ensure the potential benefits of satellite phone services are considered in future TSO initiatives – by doing so, the TCF has created a positive environment for industry discussion and education."

Contributing to the Commerce Commission's standard terms determinations

In 2007, the TCF delivered a suite of significant agreements on non-pricing terms for access seekers using Telecom's local loop network. The agreements covered access to unbundled local loop lines in exchanges, co-location of equipment in exchanges, unbundled backhaul from exchanges, and unbundled bitstream access.

These TCF agreements have been substantially reflected in the relevant Commerce Commission standard terms determinations (STDs) issued during 2007 and 2008.

Again in 2008, the TCF contributed to the Telecom and Vodafone standard terms proposals to the Commerce Commission on STDs processes for sub-loop services and for mobile co-location.

Sub-loop unbundling

In February 2008, the Commerce Commission began its sub-loop services standard terms determination process. Sub-loop unbundling had not been part of its earlier local loop unbundling/unbundled bitstream access process.

Exchange unbundling has allowed competing service providers (access seekers) to install their own equipment in Telecom exchanges, providing broadband and voice services to their customers over existing copper access lines. Sub-loop unbundling should enable competing service providers to install their own equipment in roadside cabinets. Cabinetisation (or FTTN) is a means of improving broadband performance by shortening the copper access lines.

The TCF contributed substantially to developing the Commission's standard terms determination for sub-loop services by making recommendations on non-price terms. These recommendations were included in Telecom's standard terms proposal, which was delivered to the Commerce Commission in June 2008.

TCF's recommendations for sub-loop working parties were:

- access to the copper lines connected at the roadside cabinet
- co-location of non-Telecom broadband equipment in a cabinet

"This was another challenging project for the TCF," said Working Party Chair Tony Baldwin, "but once again, members participated in a very constructive manner and delivered a positive outcome for the benefit of the industry and consumers as a whole."

David Diprose of Vodafone commented, "While TCF members have been involved in the Commerce Commission's processes, they have also collectively (through the sub-loop working party) provided significant input to the technical and practical aspects that will also form part of the final determination. Chorus provided the bulk of the input to the working party process, with a small group of access seekers ensuring that the various proposals would work for them.

"Perhaps the most challenging aspect of this has been setting the rules around space allocation, given that roadside cabinets have somewhat less room in them than exchanges. Backhaul has also been another challenging area.

"Access seekers are looking forward to a final determination at the end of the process that will enable the entry of competition into this significant section of the market."

- backhaul from a cabinet
- service level terms and forecasting relating to sub-loop lines and co-location services.

The Commerce Commission issued its draft standard terms determination for sub-loop services for consultation in September 2008. Although it accepted many of the TCF's non-price recommendations, the Commission made some changes. A final sub-loop services STD, which will determine the commercial terms on which access seekers are given access to cabinets and associated service, was released in June 2009.

Local-loop unbundling technology trials

In June 2008, Chorus submitted to the Commerce Commission an amended version of the unbundled copper local loop (UCLL) interference management plan, incorporating rules for very high speed digital subscriber line 2 (VDSL2) technology.

"VDSL2 gives end-users unprecedented speeds over the copper local loop," said Chorus' Manager of Government Relations Sean Mosby. "It's one of many new developments coming out of the UCLL process that has opened Telecom's exchanges to other telecommunications companies."

Chorus planned a soft launch to test the VDSL2 technology, with rules agreed by a sub-group of the TCF's LLU/UBA Working Party, including representatives from Vodafone, Orcon and TelstraClear. The Working Party made further contributions by holding regular meetings during the soft launch to monitor progress, and by agreeing the points at which the soft launch could be rolled out to new exchanges. Once the soft launch plan was agreed, a government representative (from the Radio Spectrum unit of the MED) also took part in these meetings.

Chorus, in partnership with Vodafone, initiated the soft launch in July 2008 at the country's first unbundled exchange in Ponsonby. It continued over subsequent weeks with the smooth roll-out to five more Auckland-based exchanges. Following the roll-out, Chorus provided TCF with a report analysing the launch results, which was also provided to the Commerce Commission.

"With the successful conclusion of the soft launch, Chorus' UCLL customers can now roll out VDSL2 technology at any Chorus exchange," said Mosby.

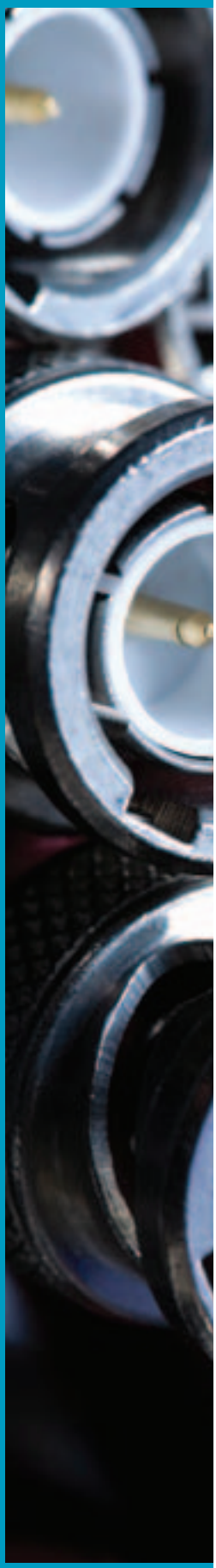
Mobile co-location

In late 2007, the Commerce Commission began a standard terms determination (STD) process to set non-price terms for mobile co-location – the situation where two or more operators share a mobile phone tower (or similar structure). They may also share other services and facilities at the same site.

Vodafone LLU project manager Sebastien Pham said the company was keen to take advantage of the trial. The company wanted to better assess how VDSL2 services were impacted by factors such as consumer devices, network profiles, wiring, and splitters.

"We now have much more confidence about which combination of parameters should be used in order to achieve the best possible VDSL2 customer experience. Some trialists experienced up to 70Mbps download speeds and up to 19Mbps upload speeds, although this is clearly dependent on the length and performance of the copper access line.

"Prior to the trial, Vodafone was unable to predict the performance of the VDSL2 service for a given customer. We now know that VDSL2 performance correlates well to the cable line length and attenuation and can therefore accurately predict the performance a prospective customer is likely to receive."



A Commission notice issued in February 2008 required Vodafone to prepare a draft standard terms proposal by the end of April, with the TCF to make its recommendations.

With time short, the TCF formed the Mobile Co-location Working Party. Its role was to focus on technical and operational aspects of mobile co-location by drawing on existing work from the local-loop unbundling STD process. The Working Party also looked to sources from the Australian regime, which speeded progress towards finalising recommendations.

Up to 40 people from Telecom, Vodafone, 2degrees, Woosh and Kordia worked throughout March, at a level of intensity and effort almost unprecedented in TCF, to ensure work was finished before the April 2008 due date.

The industry agreed on several technical and operational issues relating to:

- service description and key definitions
- general terms
- interference management and design
- the operations manual.

The Commission has released the final STD, which is available on its website www.comcom.govt.nz.

Building relationships

Local government

Responding to the need to develop stronger relationships with local authorities, the TCF established a Local Government Working Party (LGWP) in 2008. It helps TCF members and territorial local authorities (TLAs) develop a more collaborative approach to areas of mutual interest and concern. It also provides a mechanism to enable industry and local government representatives to engage.

"In the past, local body authorities were seen as the regulators who, in some cases, had compliance requirements that made their area unattractive to make investments", said LGWP Chair Allan Mordecai. "This is a picture which is rapidly changing with some councils

Miles McConway, Group Manager of Technology at Environment Bay of Plenty, welcomed the opportunity to work with the TCF: "It's good to see the TCF seeking to work more closely with local government. Obviously, 2009 will provide greater certainty around the investment and physical build input local government will have in broadband developments but there is still the opportunity for councils around the country to assist through planning and code of compliance regulations.

"The Bay of Plenty councils have identified this need as part of the BayBroadband initiative they have been working on since October 2006. The councils, which sponsored the BayBroadband initiative, began implementation of one key recommendation in July 2008: to streamline the Bay councils' planning and code of compliance regulations. A working party set up by the councils is drafting the regulations, and Allan Mordecai from Kordia has been assisting with that work."

streamlining their planning and compliance regulations to make their areas attractive to investments.

"With these issues taken into account, it was important to provide an environment for our members to discuss issues of mutual interest with local authorities. For example, we are keen to see more consistency across the TLAs – especially with regards to permitted activities."

The TCF also participated as an industry group in a six-month stock-take of the national environmental standards (NES) for telecommunications facilities.

The NES became a regulation in September 2008. During 2009, the LGWP will also respond to all requests from local government to assist with or provide feedback on their draft district plans.

Working with new information technology organisation: NZICT Group

The TCF keenly supported and contributed to formation of a new organisation in December 2008: the New Zealand Information and Communication Technologies Group (NZICT). The NZICT Group was established to support the interests and concerns of the information communications technology industry. Within months of its formation, it had already achieved a membership of over 50 of the country's leading ICT companies.

Ralph Chivers, who was a member of the NZICT's establishment board, welcomed the establishment of this new organisation: "The NZICT Group fills a glaring gap in the ICT sector's ability to provide coherent and compelling representation to Government. The TCF looks forward to working with CEO Brett O'Riley and the NZICT Group on these and other key issues in our sector."

Codifying industry practice

Developing new codes of practice and reviewing the content and operation of existing codes continued to form the core of TCF's 2008/09 activities and guided much of our work programme. Codes of practice help both industry and users by standardising practices, particularly in the area of rights and responsibilities, and encouraging marketplace competition.

Signatories to each code are listed on the TCF website on the relevant Topic page.

Control of Unauthorised Use of Mobiles in Prisons

The Control of Unauthorised Use of Mobiles in Prisons Code was developed and released during 2008. It governs the process, terms and conditions under which spectrum management rights holders will grant spectrum licences to the Department of Corrections to control mobile phone calls to or from mobile phones within prison boundaries.

The Code's high-level objective is to provide a known and agreed basis for controlling unauthorised use of mobile phones in prisons by using interference-generating transmitters or jammers. This is achieved by:

- defining terms and conditions for authorising jamming

- defining how the Department of Corrections works with any party with spectrum management rights who agrees to be bound by the Code
- providing an agreed baseline for Department of Corrections jammer investment decisions.

"Telecom and Vodafone had been working with the Department of Corrections on achieving this objective, however the parties were aware of the need to consider and consult with other relevant spectrum management rights holders," said Mike Moran, from Telecom.

"The TCF accordingly created the Code, in consultation with the Department of Corrections, providing it with a common and consistent means of engaging with the industry. This avoided the possibility of different approaches and processes being required between the department and each spectrum management rights holder."

The Code is voluntary and does not apply to any provided wireless services using spectrum outside a spectrum management right.

Customer Complaints review

The first Customer Complaints Code was approved in 2007. It drew up principles and processes for customer complaints and how they would be handled by the Telecommunications Dispute Resolution (TDR) scheme members and the TDR agent.

The review of the Code was triggered by Telecom's operational separation in March 2008 and subsequent market changes. Operational separation not only changed how Telecom's three new business units interacted with each other and external organisations, it also impacted how customer complaints were handled within Telecom, for example procedures such as complaint hand-offs and information flows.

The TCF Customer Complaints Working Party reviewed and amended the Customer Complaints Code to ensure its workability under the new operating environment.

Disconnection

With the introduction of the new Disconnection Code for residential phone lines in December 2008, customers are now better informed on their rights and responsibilities, and the options available when faced with disconnection. Telecommunications providers implementing the Code will need to comply with minimum industry standards when developing, operating, and applying disconnection policies to residential customers.

"Prior to the introduction of the Code, disconnection practices used by telecommunications companies were lacking consistency of approach," said Telecom Head of Credit Services Scott Burgess. "Companies signing up to the Code must now follow a set timeframe and course of action before disconnection can take place. Customers have a fuller understanding of what will take place if faced with disconnection; the industry can now be assured of a codified approach being used."

Mobile Premium Messaging

The Mobile Premium Messaging Services Code was endorsed in early 2008. It sets standards for mobile telecommunication providers, mobile service providers, and content providers in developing and providing enhanced mobile phone services.

The Code outlines strict standards that ensure customers are made aware of what they are signing up to before incurring any costs. The standards also guarantee users receive regular updates on the costs they are incurring (including usage alerts), and make it easy to cancel a service at any time. They give customers confidence that they will remain fully informed and in control at all times. The Code also covers advertising guidelines and has specific rules for chat, age-restricted, and video services.

Following the Code's endorsement, TCF saw a re-launch of messaging services, which had been delayed by providers while the Code was developed. Very few problems or complaints about these services are now received, showing that the Code is effectively reducing the problems once associated with the provision of premium services.

We expect that this Code will be continually reviewed due to rapid market and technology changes in mobile premium service provision.

Mobile Content review

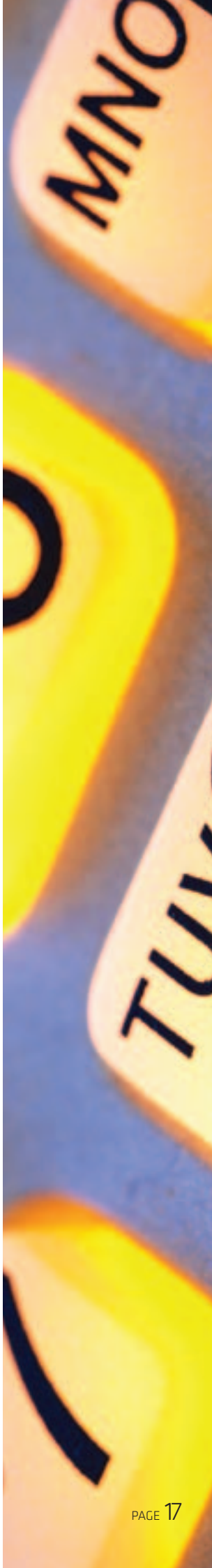
The Mobile Content Code was first developed in 2005 for the voluntary self-regulation of commercial content services provided via mobile phones. It sets out industry-agreed principles to ensure mobile content services are provided in a socially responsible manner. The Code covers issues relating to a wide range of commercial services, internet content, illegal content, unsolicited bulk communications, and malicious communications. This includes a position on the protection of minors from inappropriate content.

Telecommunications service providers support the Code by informing and educating customers on safe and appropriate use of mobile content services.

Under TCF's two-year code review policy, a review began in 2007. Feedback indicated that only minor changes were required and the update of the Code was completed in November 2008. Changes included new definitions, procedural updates, and content and format adjustments to ensure consistency with new regulations and with other TCF codes.

Telecommunication Dispute Resolution service – a successful first year

The Telecommunication Dispute Resolution service (TDR) completed its first full year of operation in December 2008, and exceeded its own volume projections. TDR, in conjunction with the TCF Customer Complaints Code, governs the handling of customer complaints by telecommunications providers and ISPs. It covers all products and services offered by telecommunication companies and ISPs who are members of the scheme. Independent dispute resolution company Dispute Resolution Services Limited operates the TDR service.



From its November 2007 launch to December 2008, TDR received 1,396 calls, nearly 400 more calls than the 1,000 anticipated for its first year of operation. Most calls fell into one of four broad categories: disputed amounts and responsibility for payment; data usage, credit adjustment issues and account errors; customer service; and faults.

TDR is still in its infancy but has identified the following common features in calls it receives: complaint handling; contracts; damage to mobile phones; and problems for customers using more than one telecommunication provider. Most complaints to TDR are handled successfully at a low level, with 94% resolved within eight business hours. Only a small percentage require escalation in order to be resolved.

For detailed information about the TDR and its operations, or to download copies of their reports, visit www.tdr.org.nz. The site includes a list of current TDR scheme members.

New Zealand Utilities Advisory Group

A working party within the New Zealand Utilities Advisory Group (NZUAG) was established in 2007 to draft a code of practice governing network utility operator access to transport corridors. The working party included a TCF representative to provide a telecommunications industry perspective. The Code was intended to set rules, processes and standards for all work undertaken in transport corridors (road and rail) by utilities, road controlling authorities and Ontrack. It also considered costs, charges and cost sharing.

An advanced copy of *The National Code for Utilities in the Transport Corridors* was released in December 2008. This gave corridor managers and utility operators an opportunity to look at their procedures with a view to any changes required to ensure successful code implementation in 2009.

After the Code was implemented in March 2009, NZUAG was disbanded. The Code will become mandatory after a 12-18 month transition. Local Government New Zealand is looking at forming a differently constituted and re-focused replacement group.

Submissions

One of the TCF's roles is to represent the telecommunications industry as a whole, as well as individual Forum members. Submissions made in 2008/09 included:

- Submission to Government on the future of the of the TSO (Kiwi Share) obligation – TSO Report (see page 10).
- Submission to the Commerce Commission on Sub-Loop Recommendations (see page 12).
- Submission on the Commerce Commission's Report on Numbering Management (see page 20).
- TCF perspective presented to the new National Government on the ultra-fast broadband policy.

All TCF's submissions are available in full on our website.

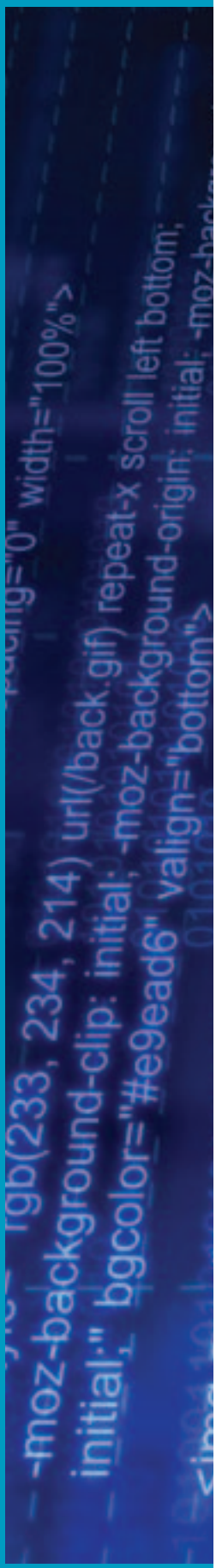
Governance: TCF strategy and constitution review

We began our strategy and governance review in May 2008. Participants included TCF members, representatives of the Commerce Commission (including the Telecommunications Commissioner), the Telecommunications Users Association of New Zealand (TUANZ), and the Ministry of Economic Development. At commencement of our meeting, David Cunliffe and Bill English both spoke on their respective parties' broadband and telecommunications policies. Rick Boven from Stakeholder Strategies facilitated and assisted with the review.

A series of interviews and workshops were conducted with TCF members to re-design and improve the organisation's governance and operation, and review its scope, purpose, and strategic direction. This led to development of 34 key recommendations which were submitted to the TCF Board for review and approval before implementation. One result of our review which is reflected in this Annual Report is the alignment of our financial year to the tax year, which streamlines our administrative procedures.

In the process of incorporating the review's recommendations we have prepared a redrafted constitution, which is currently under review.

2009: Work in Progress



Internet protocol interconnection (IP)

The IP Interconnect Working Party (IPWP) was established in May 2008 to facilitate consultation between Telecom and service providers on the approach to IP interconnection services. Peter Dengate Thrush was appointed its independent chair in July 2008. There has been active industry participation, with the Ministry of Economic Development and the Commerce Commission attending meetings as observers.

Following the establishment of the Working Party, the TCF broadened its scope to include the development of an industry code of practice on IP interconnection.

The industry acknowledged that Telecom's separation undertakings oblige it to consult the wider industry on IP interconnection with the next generation network. TCF members were also keen to have an overarching approach to IP interconnection and to create an industry code of practice that could be applied to all future IP interconnection. A technical subgroup was formed to analyse and report on definitions appropriate for inclusion in the code, and to define the minimum technical standards for an operating interconnection agreement. The full IPWP reviewed the commercial models suitable for an interconnection agreement.

The IPWP delivered an interim report to the TCF Board in early March 2009. One key feature of the report was the recommendation for the creation of self-regulatory code, which would provide a standard on which operators could base interconnection offers. Operators would also announce their intention of interconnecting on those terms.

Another significant feature was the proposal of a commercial model different from that operating in the public switched telephone network. This was to reflect the multi-service environment IP networks provide. Key elements of the model were the reciprocal obligation on parties to carry each other's traffic, delivered to the nominated interconnection point free of charge, and treated in the same way as each operator treated its own traffic.

As at May 2009, the IPWP was on hold pending resolution of a number of technical and commercial issues arising from the interim report.

New Zealand's numbering regime: the re-design project

The number administration deed (NAD) is an industry-based mechanism established in December 1998 to provide centralised, independent administration of New Zealand's telecommunication numbering resources.

In 2008, the TCF formed a joint working party with the NAD to review who should be responsible for managing the numbering plan and how it should be managed. In July 2008, the NAD/TCF Working Party issued a report on numbering administration for public consultation.

In a September 2008 submission to the Commerce Commission on its draft numbering regime report, the TCF proposed forming a joint project team. Its primary purpose would be redesigning the New Zealand numbering regime to reflect global best practice. The Commerce Commission accepted this proposal, and the TCF established a project team to work with the Commission during 2009 to agree on terms of reference for this work.

The project team will use both the Commerce Commission's final report (issued 5 December 2008) and the NAD/TCF Working Party's report as the basis for defining the high-level issues and the project's work plan.

The project team comprises representatives of the TCF, NAD, the Commerce Commission, the Ministry of Economic Development, and any other parties the project team agree would add value and expertise to the discussion.

Emergency services calling: a new code

In 2006, the Minister of Communications invited the TCF to develop an industry code on minimum standards for consistently available emergency services calling. In an environment involving multiple service providers and technologies, it is vital that consistent procedures and standards apply. The TCF established its Emergency Services Working Party in September 2007.

The Emergency Voice Calling Services Code applies from the point that a service provider receives an emergency call through to when the call is handed off to the emergency services initial call answering point. It sets out the following:

- performance standards for emergency calls
- standards for customer information to be supplied to emergency service organisations
- standards for informing customers about the availability of emergency calls and whether a voice service meets code standards.

"With a significant increase in the number of carriers and the technologies they are using, there is a need to ensure a consistent approach to emergency services calling is used across the industry," said CEO Ralph Chivers. "Our concern is to ensure customers will continue to have confidence in the handling of emergency calls, regardless of who their service provider is or which technology they use."

As well as providing a standard industry protocol, the Code will assure the public of a responsible, consistent industry approach to emergency services call handling and management. Finalisation of the Code is expected in Spring 2009.

Interception: new guidelines

In 2008, the TCF established the Interception Working Party. Its task was developing guidelines to ensure relevant TCF members deliver on requirements set out in the 2004 Telecommunications (Interception Capability) Act (TICA). TICA ensures public switched telecommunications networks (PSTN) and public data networks (PDN) have interception capability. Under TICA, PSTN compliance is current. PDN compliance was required to be achieved by April 2009.

TICA obliges network operators to assist authorised government agencies with interceptions on request. However, TICA does not define how network operators will deliver these capabilities. This has resulted in operators engaging independently with government agencies to agree on appropriate standards, processes and platforms to meet legislative requirements.

The TCF drafted guidelines to ensure a standard cross-industry approach. The guidelines detail applicable standards, and covers such areas as lawful interception capability, interception architectures, acquisition technology, mediation options, call associated data, customer identifiers, and delivery mechanisms to relevant government agencies.

The Interception guidelines were brought before the TCF Board for approval in 2009. They were subsequently approved and posted on the TCF website for general availability.

Standard terms determination: operations manual and service level terms amendments

Following the introduction of the Telecommunications Amendment Act in 2006, the Commerce Commission, with industry input, has delivered the unbundled copper local loop (UCLL), UCLL co-location, and unbundled bitstream (UBA) standard terms determinations (STDs).

With STDs being progressively rolled out, amendments to respective operations manuals and service level terms have been identified. Many proposed amendments were minor or uncontroversial, so the TCF recommended the changes be managed by a new working party constituted from the former UCLL, UCLL co-location and UBA working parties. The Commerce Commission accepted this approach.

The new STD Operations Manual and Service Level Change Control Working Party will engage parties in informal discussions on proposed changes to the UCLL, UCLL co-location, backhaul, sub-loop and UBA operation manuals and service level terms. It will also provide an ongoing forum for industry discussions with the Commerce Commission or the independent "recommendation maker" (as defined in the STDs) on any proposed changes to operations manuals or service level terms.

Customer Transfer codes review

In accordance with the TCF's two-year code review policy, the Customer Transfer Code for both regulated and non-regulated telecommunication services came up for review during 2008. The Customer Transfer Code Working Party requested interested parties to evaluate whether the existing Code needed changing, and following receipt of submissions, is developing new draft Codes. The updated Codes are expected to be released by the end of 2009.

The Codes outline applicable practices when a customer requests transfer of their telecommunications services from one service provider to another. The Codes are designed to ensure seamless transition between suppliers without service interruption.

2008/09 Financial Summary

Statement of Financial Performance

For the Year Ended 31 March 2009

Note: These figures cover a 15-month period (from 1 January 2008 to 31 March 2009) to align with the TCF's new financial year.

	2008/09 $	2007 $
Operating Revenue		
Tier 1 member fees	1,002,189	344,942
Group member fees	65,499	43,296
NAD review funding	9,158	0
Telecommunication Disputes Resolution (TDR) Establishment funding	0	164,440
Local loop unbundling/Unbundled bitstream access (LLU/UBA) funding	88,349	228,553
Number portability operating funding	562,553	475,564
Interest	59,438	51,440
TOTAL OPERATING REVENUE	1,787,186	1,308,235
Workstream expenditure		
TDR service	50,130	164,440
Copyright	107,653	0
LLU/UBA project	91,954	228,553
NAD project	9,159	0
IP interconnection	105,341	0
TSO	26,824	0
Constitutional review	41,532	0
Number portability	537,744	475,564
Other working parties	126,011	71,349
Total workstream expenditure	1,096,348	939,906
Operating expenditure		
Forum chair	9,675	22,500
Forum management	276,047	95,031
Forum administrator	162,178	119,148
Communications	41,271	28,666
Website	20,374	50,400
Audit fees	6,783	5,000
Miscellaneous	129,075	34,454
Total operating expenditure	645,403	355,199
TOTAL EXPENDITURE	1,741,751	1,295,105
Depreciation (IPMS system)	517,284	288,889
Net Surplus/(Deficit)	(471,849)	(275,759)

Statement of Financial Performance

For the Year Ended 31 March 2009 /continued

	2008/09 $	2007 $
FUNDS EMPLOYED		
General funds		
Number portability funding	1,338,708	1,338,708
Retained earnings	(803,730)	(304,542)
Total general funds	534,978	1,034,166
Current liabilities		
Trade creditors	105,496	146,527
Payables accruals	6,585	26,231
GST owing	(11,475)	27,329
Tax and PAYE	17,735	15,653
Income in advance	692,872	341,653
Refund owing	0	898,667
Total current liabilities	811,213	1,456,060
TOTAL FUNDS EMPLOYED	1,346,191	2,490,226
ASSETS		
Current Assets		
Bank balance	549,489	805,906
Term deposit	200,000	508,446
Trade debtors	110,306	219,287
Other receivables	0	3,897
Total current assets	859,795	1,537,536
Non-current assets		
Computer equipment	1,292,569	1,241,579
Less accumulated depreciation	(806,173)	(288,889)
	486,396	952,690
TOTAL ASSETS	1,346,191	2,490,226

2008/09 Working Party Members

NAME	ORGANISATION	TCF WORKING PARTY
Adam Hibbs	Commerce Commission	LLU and UBA
Airihi Mahuika	Telecom	LLU and UBA
Alan Mitford-Taylor	Telecom Wholesale	LLU and UBA
Alex Tsang	Symbio	Number Portability
Allan Levet	Vodafone	Interception
Allan Mordecai	Kordia	Local Government (Project Leader)
Andrew Cushen	Vodafone	Copyright, Customer Transfer, Local Government, Number Portability
Andrew Davis	NZ Communications	IP Interconnection
Anna Minchev	Telecom	Number Portability
Anne Withington	TelstraClear	Disconnection
Anthony Morris	Commerce Commission	Information Reporting, TSO
Bernard O'Leary	CallPlus	Number Portability
Bianca Miller	Telecom Retail	Copyright, Customer Transfer
Brendan Dempsey	Telecom Wholesale	LLU and UBA
Brendan Scroope	Telecom Wholesale	Information Reporting
Brent McAnulty	Telecom	Copyright, Mobile Content, Mobile Premium Messaging Services
Brenton Mouy	M2 NZ	Number Portability
Brett Thomson	WorldxChange Communications	Emergency Services, Interception, IP Interconnection, Number Portability
Brian Johns	MED	IP Interconnection
Bridget Gallen	Vodafone	Mobile Premium Messaging Services (Project Leader)
Carl Allwood	Telecom Wholesale	LLU and UBA
Celine Hugues	Vodafone	Customer Transfer, Disconnection, Emergency Services, Number Portability
Che Charteris	Commerce Commission	LLU and UBA
Chris Abbott	TelstraClear	Information Reporting, IP Interconnection, Telecommunications Relay Service, TSO
Christine Noakes	TelstraClear	Disconnection
Clare Dobson	Forum Administrator	LLU and UBA
Clare Green	Vodafone	Mobile Premium Messaging Services
Colin Foster	Telecom	LLU and UBA
Daniel Hopkirk	Airnet	IP Interconnection, Number Portability

NAME	ORGANISATION	TCF WORKING PARTY
Darren Hutcheson	Woosh	Number Portability
David Diprose	Vodafone	Copyright (Project Leader), IP Interconnection, LLU and UBA
David Robinson	Vector Communications	LLU and UBA
David Stone	Vodafone	Emergency Services, IP Interconnection, TSO
Donna Blandford	TelstraClear	Customer Transfer
Doug Blakebrough	Vodafone	Interception
Doug Young	Vodafone	Number Portability
Eric Liu	Vodafone	Control of Unauthorised Use of Mobiles in Prisons
Fiona Booth	Telecom Retail	Customer Transfer
Gary Fehr	Telecom Wholesale	IP Interconnection
Gerome Garthwaite	Woosh	Local Government
Graham Walmsley	CallPlus	LLU and UBA, TSO
Helen Knox	Forum Administrator	Disconnection, Emergency Services, Information Reporting, Interception, Local Government, Mobile Content, Number Portability
Jackie Clark	Forum Administrator	Copyright, Customer Transfer (Project Leader), IP Interconnection
Jay Lee	Link Telecom	Number Portability
John Adair	Vodafone	Number Portability
John Gandy	Commerce Commission	LLU and UBA
John Greenhough	Telecom	Emergency Services
John Newman	Orcon	Number Portability
John Wesley-Smith	Telecom	Telecommunications Relay Service
John Wilson	TelstraClear	Emergency Services, Interception, Number Portability
Jonathan Eele	M2 NZ	Number Portability
Jonathan Hope	TelstraClear	Copyright
Josh Bailey	Telecom Wholesale	Customer Transfer
Joshua Herron	MED	Copyright
Julian Kersey	Vodafone	Mobile Content, TSO (Project Leader)
Kathy Wiltshire	Chorus	Local Government
Kester Gordon	MED	Emergency Services, Information Reporting, TSO
Kevin Chapman	TelstraClear	IP Interconnection
Kevin Mason	Telecom	IP Interconnection
Kim Thibault	ISPANZ	Copyright
Lucy Riddiford	Chorus	LLU and UBA

NAME	ORGANISATION	TCF WORKING PARTY
Lauren McKinnon	Vodafone	Disconnection
Mark Forward	Commerce Commission	IP Interconnection
Mark Frater	Compass	Number Portability
Mark Knowles	CallPlus	Number Portability
Mark Larsen	Telecom	TCF representative on the New Zealand Utilities Advisory Group (NZUAG)
Mark Mackay	Orcon	Customer Transfer
Matt Law	Woosh	Copyright
Michael Goldfinch	Telecom Wholesale	IP Interconnection
Michael Newbery	TelstraClear	IP Interconnection
Michael Ramsey	Telecom	Mobile Premium Messaging Services
Mike Brady	Kordia	Local Government
Mike Moran	Telecom	Cellular Interference in Prisons
Murray Milner	MED	IP Interconnection
Neil Gardner	Telecom	IP Interconnection
Nick Haywood	Telecom	Emergency Services (Project Leader), TSO
Nico Nomani	Telecom Retail	Number Portability
Nicola Gaffaney	Telecom	LLU and UBA
Olaf Olsson	TelstraClear	LLU and UBA
Olga Germanova	Telecom	Number Portability, IP Interconnection
Paul Clarkin	WorldxChange	Interception
Paul Partridge	Vodafone	IP Interconnection
Peter Dengate Thrush	Independent Chair	IP Interconnection (Project Leader)
Pshem Kowalczyk	Vodafone	IP Interconnection
Raj Narayanan	Vodafone	Number Portability
Raphael Hilbron	Vodafone	Telecommunications Relay Service
Ray Norton	Telecom	Interception
Rebekah Henderson	Chorus	Customer Transfer, LLU and UBA
Richard Horrell	TelstraClear	IP Interconnection
Richard Wood	InternetNZ	Copyright, LLU and UBA
Richard York	Vodafone	Information Reporting (Project Leader)
Rick Shera	Lowndes Jordan	Copyright
Rob Clarke	Foundation	Number Portability Co-ordinator
Robert Graham	NZ Communications	IP Interconnection
Roger Ellis	Vodafone	Control of Unauthorised Use of Mobiles in Prisons
Sam Price	TelstraClear	Customer Transfer

NAME	ORGANISATION	TCF WORKING PARTY
Sarah Gillies	Telecom	LLU and UBA
Sarah Putt	TUANZ	Mobile Premium Messaging Services
Sathyendran Arasaratnam	Vodafone	LLU and UBA
Scott Burgess	Telecom	Disconnection (Project Leader)
Sean Mosby	Chorus	LLU and UBA
Sebastien Pham	Vodafone	LLU and UBA
Shane Kinley	Commerce Commission	LLU and UBA
Stephen Bond-Smith	Orcon	Copyright, Emergency Services, IP Interconnection, LLU and UBA, Number Portability
Stephen Franklin	Telecom	Interception (Project Leader)
Steve Norman	CallPlus	IP Interconnection
Steve Roberts	Kordia	IP Interconnection
Stuart Goodin	Telecom Wholesale	IP Interconnection, TSO
Susan Wells	Forum Administrator	Control of Unauthorised Use of Mobiles in Prisons, Mobile Premium Messaging Services, Telecommunications Relay Service, TSO
Susie Stone	Kordia	LLU and UBA, TSO
Teresa Muollo	Vodafone	Interception
Tim Armitage	Chorus	LLU and UBA
Tim Pegler	Telecom Wholesale	LLU and UBA
Tonia Haskell	Telecom	LLU and UBA
Tony Baird	BayCity Communications	TSO
Tony Baldwin	Independent Chair	LLU and UBA (Project Leader)
Vicky Han	Link Telecom	Number Portability
Vipin Vijayan	NZ Communications	Number Portability
Wayne Stechman	Telecom	Disconnection
Wendy Dodd	TelstraClear	LLU and UBA

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