Productivity Commission Inquiry into International Telecommunications Market Regulation

Submission by the

Department of Communications, Information Technology and the Arts

May 1999.

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PART 1

Issues in International Telecommunications Market Regulation

1. Introduction

1. This submission from the Department of Communications, Information Technology and the Arts provides information about the role of DOCITA in international telecommunications market regulation; the relevant domestic and international legal instruments; the pressures for changes to be made to international telecommunications market regulation; and the processes DOCITA employs to effect such changes. It also addresses each of the terms of reference of the Inquiry in so far as they pertain to the responsibilities of DOCITA.

2. The International Telecommunication Union (ITU) defines telecommunications as "any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems". An international aspect is added when those services cross national borders.

3. The focus of this inquiry is on the regulation of the international telecommunications services market with respect to international settlement or payment arrangements for services such as telephone, facsimile, email, data, video, Internet and entertainment, which may be delivered by any of the telecommunication methods described above.

2. Role of the Communications, Information Technology and the Arts portfolio in International Telecommunications Market Regulation

2.1 DOCITA

4. The Department of Communications, Information Technology and the Arts (DOCITA) provides strategic advice to the Government on the development of policies and programs for enhancing Australia's cultural, communications and information technology sectors and ensures the efficient and effective implementation of department programs. Among DOCITA's objectives is the promotion of the long-term interests of end users of telecommunications and the efficiency and international competitiveness of the Australian telecommunications industry. DOCITA reports to the Minister for Communications, Information Technology and the Arts.

5. The National Office for the Information Economy (NOIE) of DOCITA develops, coordinates and overviews broad policy relating to:

- the regulatory, legal and physical infrastructure environment for online services;

- facilitating electronic commerce;

- ensuring consistency of Commonwealth positions in international fora concerning international telecommunications.

- overseeing policies for applying new technology to government administration and information and service provision.

6. NOIE is responsible for ensuring coordination and consistency of Australia's position in relevant international fora where the rules for international telecommunication arrangements are developed. NOIE is also responsible for acting as a clearing-house for relevant international developments which are of interest to all levels of government and to business and consumers.

7. NOIE works closely with the Telecommunications Division, which is responsible for developing and implementing domestic telecommunications and radiocommunications policy. This includes liaison with the Australian Communications Authority and the Australian Competition and Consumer Commission (the Telecommunications Industry Regulators) in relation to the telecommunications laws.

2.2 The Regulators

8. The Australian Communications Authority (ACA) is responsible for regulating telecommunications and radiocommunications, including managing the radiofrequency spectrum and promoting industry self-regulation of technical standards. While much of the standards development work has passed from the regulator to the Australian Communications Industry Forum (ACIF), the ACA continues to directly coordinate radiocommunication matters and is an active participant in the industry-led standards development process. The ACA has responsibility for maintaining consistency with international obligations where standards may be applied as regulatory requirements. Compliance with industry developed standards is normally voluntary, but the ACA can make mandatory standards in certain key areas. These are:

- network integrity;

- health and safety;

- emergency service access; and

- interoperability of the standard telephone service.

9. The ACA also has significant consumer protection responsibilities.

10. ACIF is the communications self-regulatory body established by the industry to manage self-regulation in the telecommunications industry in Australia. It develops and administers industry technical and operating arrangements that promote both the long-term interests of end-users of communications services and the efficiency and

international competitiveness of the Australian communications industry. ACIF will normally submit codes of practice it develops to the ACA for approval. If approved, the enforcement mechanisms established under the Telecommunications Act 1997 for self-regulatory codes of practice apply to the code. ACA recognises ACIF as representing the carrier and service provider sections of the industry, for the purposes of Part 6 of the Telecommunications Act 1997, which gives ACIF prima facie standing to propose industry codes.

11. The Australian Competition and Consumer Commission (ACCC) administers the *Trade Practices Act 1974* (TPA) which sets out the national competition policy reform program, covering anti-competitive and unfair market practices, mergers or acquisitions of companies, product safety/liability and third party access to facilities of national significance. The ACCC also administers some telecommunications industry-specific rules under the TPA. The Minister for Communications, Information Technology and the Arts has policy responsibility for these Parts of the TPA.

2.3 Roles in the International Telecommunication Union

12. The International Telecommunication Union (ITU) is an international organisation within which governments (Member States) and the private sector (Sector Members) coordinate global telecommunication networks and services. It coordinates and develops technical and operating standards (known as "recommendations") for telecommunications and radiocommunications (including satellite) services.

13. Members are bound by the treaty of membership to abide by the provisions of the Constitution, Convention and Administrative Regulations of the ITU. They are also bound to take the necessary steps to impose the observance of the provisions of the Constitution, the Convention and the Administrative Regulations upon operating agencies (carriers).

14. Telecommunication standardisation study groups study questions referred to them by the Plenipotentiary Conference, any other ITU conference or the Council. The Study Groups prepare draft recommendations on the matters referred to them for study. Recommendations are submitted for approval to a World Telecommunication Standardisation Conference, or to administrations by correspondence, in accordance with procedures adopted by the Conference. While recommendations are not binding on members, observance of ITU standards/recommendations does enhance the global interoperability of the world's various telecommunications networks and services because they represent a consensus of Members with relevant industry participants, or Sector Members.

15. The Government maintains overall policy responsibility for Australia's ITU involvement, with DOCITA representing the government at treaty-level meetings (ie meetings where the decisions taken are binding on members), such as the Plenipotentiary Conference and the Council. The ACA coordinates radiocommunication matters addressed by the ITU and leads Australian delegations to treaty-level World Radiocommunication Conferences and World Telecommunication Standardisation Conferences.

16. Management of part of Australia's input to the ITU on telecommunications technical and operating standards is referred, in accordance with Part 6 of the *Telecommunications Act 1997*, to the ACIF. DOCITA represents Australia's policy interests in ITU Telecommunications Study Group 3 (SG3) on tariff and accounting principles. SG3 develops recommendations relating to tariff and accounting principles for international telecommunication services and studies related telecommunication economic and policy issues, as well as certain policy issues related to carriage and content. ITU Sector Members, such as Telstra, also attend SG3 meetings in their own right.

2.4 Roles in the World Trade Organisation

17. The Department of Foreign Affairs and Trade (DFAT) is the government agency with primary responsibility for World Trade Organisation (WTO) issues. DOCITA advises DFAT on telecommunications and electronic commerce issues as appropriate, and participates in relevant WTO meetings.

3. Legal Instruments

18. The Government enacts legislation that puts its policies into law. Government Departments are responsible, under the Administrative Arrangement Orders, for developing and implementing legislation, subordinate legislation, other obligations and guidelines. This section outlines the legal instruments that are handled by the Communications, Information Technology and the Arts portfolio, that are relevant to the Inquiry.

3.1 Legislation

19. Legislation administered by the Minister for Communications, Information Technology and the Arts that is relevant to international telecommunications market regulation includes :

- Broadcasting Services Act 1992
- Radiocommunications Act 1992
- Telecommunications Act 1997
- Telecommunications (Universal Service Levy) Act 1997
- Telstra Corporation Act 1991
- Trade Practices Act 1974, Parts XIB and XIC.

20. This legislation sets out the communications laws that apply in Australia. The *Telecommunications Act 1997* specifies the right to build and operate communications infrastructure; places minimal restrictions on the type of technology used; places no

restrictions on entry to any telecommunications service market; and places an increased reliance on industry self-regulation.

3.2 International Rules of Conduct

21. The International Rules of Conduct about dealings with international telecommunications operators are established under subsection 367(2) of the *Telecommunications Act 1997* to govern dealings between carriers and service providers who supply international carriage services in Australia and their correspondents outside Australia. The Rules apply to carriers and service providers operating in Australia, rather than their correspondents outside Australia. This is because of the legal and practical limits in imposing and enforcing Australian law outside Australia. The purpose of the Rules is to stop carriers and carriage service providers from engaging in "unacceptable conduct" in Australia. Compliance with the Rules is mandatory.

22. The Rules state that an international telecommunications operator engages in unacceptable conduct if:

- the operator uses, in a manner that is, or is likely to be, contrary to Australia's national interest, the operator's power in a market for carriage services; goods or services for use in connection with the supply of carriage services; or the installation of, maintenance of, or provision of access to telecommunications networks or facilities.

- the operator uses, in a manner that is, or is likely to be, contrary to Australia's national interest any legal rights or legal status that the operator has because of foreign laws that relate to: carriage services; goods or services for use in connection with the supply of carriage services; or the installation or, maintenance of, or provision of access to, telecommunications networks or facilities.

- the operator engages in any other conduct that is, or likely to be, contrary to Australia's national interest.

23. The Rules have been formulated in a manner consistent with Australia's WTO obligations. The Australian Competition and Consumer Commission administers the Rules and conducts investigations of a contravention of Rules in response to a complaint.

24. The Rules of Conduct continue a 'regulation by exception' or *ex post* approach, allowing open market entry and triggering government intervention in Australia's international telecommunications market only when it is considered justified in the national interest.

3.3 Observance of International Treaties

25. The Minister has made a number of notifications and declarations under the *Telecommunications Act 1997* to bind the ACA, carriers and carriage service providers

to International Conventions and Agreements (ie. International Treaties). The treaties that are relevant to the inquiry include:

Convention for the protection of Submarine Telegraph Cables

26. This Convention secures the preservation of telegraphic communications made by means of submarine cables.

Agreement relating to the International Telecommunications Satellite Organisation (INTELSAT) (as amended by the 1994 Amendment)

27. INTELSAT is an international cooperative that provides the satellite capacity necessary to provide global and non-discriminatory connectivity and access to international public telephony services of high quality and reliability.

Operating Agreement relating to the International Telecommunications Satellite Organisation (INTELSAT) (as amended by the 1995 Amendment)

28. The INTELSAT Operating Agreement governs the commercial operations between telecommunications operators (Signatories). Telstra is Australia's signatory. The Government may direct the signatory, Telstra, in matters of policy.

Convention relating to the distribution of Program-Carrying Signals Transmitted by Satellite

29. This Convention seeks to protect the rights of the originators of satellite transmissions by prohibiting the re-distribution of programs by distributors who are not intended to receive them.

Convention on Registration of Objects Launched into Outer Space

30. This Convention establishes a mandatory requirement for objects launched into outer space (whether into earth orbit or beyond) to be registered by the launching State, in the belief that such a requirement would assist in identification of such objects and contribute to the application and development of international law governing the exploration and use of outer space.

Constitution of the Asia-Pacific Telecommunity (under the auspices of ESCAP) (as amended by the 1981 and 1991 Amendments)

31. The APT is an Asia-Pacific regional telecommunications cooperation and coordination organisation whose core mission is to facilitate the development of the telecommunications networks of its members, particularly developing countries, and through this region as a whole.

Convention on the International Maritime Satellite Organisation (INMARSAT) (as amended by the 1985, 1989 and 1994 Amendments)

32. INMARSAT was established to provide the public service obligations of providing maritime distress and safety services. It also provides telecommunications services on a commercial basis.

Operating Agreement on the International Maritime Satellite Organisation (INMARSAT) (as amended by the 1985, 1989 and 1994 Amendments)

33. Telstra is the current Australian signatory to Inmarsat, now known as New Inmarsat. New Inmarsat is in the process of being privatised.

Constitution and Convention of the ITU which includes the Administrative Regulations (the International Telecommunication Regulations and Radio Regulations)

34. The ITU is an international organisation within which governments and the private sector coordinate global telecom networks and services.

Agreement establishing the World Trade Organisation

35. The World Trade Organisation (WTO) is the international organisation that deals with the global rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible.

World Trade Organisation Group on Basic Telecommunications Agreement (ABT)

36. The ABT comprises schedules of specific commitments in telecommunications by about 70 countries in relation to market access and rules concerning fair market practices.

37. International agreements specific to international telecommunications market regulation are the ITU International Telecommunication Regulations (ITRs) and the WTO General Agreement on Trade in Services (GATS), the latter including the general rules and disciplines, the telecommunications annexes and the national schedules of market access commitments which incorporate certain regulatory principles.

38. Australia maintains an active role in the multilateral processes that support these agreements as a way of promoting international telecommunications market regulation that is consistent, non-discriminatory, transparent, cost-orientated and that encourages freer trade in telecommunications and benefits for end-users.

3.4 The International Telecommunication Union (ITU)

39. The International Telecommunication Regulations (ITRs) form part of the ITU Administrative Regulations, which Member states are bound to uphold with respect to the conduct of international telecommunications business by operating agencies under their administration. The greater part of the ITRs concerns international telecommunications settlements. The stated purpose of the ITRs is to:

- establish the general principles which relate to the provision and operation of international telecommunications services offered to the public as well as to the underlying international telecommunication transport means used to provide such services.

- set rules applicable to governments and carriers.

- facilitate global interconnection and interoperability of telecommunication facilities and promote the harmonious development and efficient operation of technical facilities, as well as the efficiency, usefulness and availability to the public of international telecommunication services.

40. The ITRs were last amended at a global conference in 1988. The ITU Constitution and Convention indicate that these regulation can only be amended at a world conference of ITU members (currently designated a World International Telecommunication Conference – WICT) convened for that purpose. Despite the scale of change that has occurred in global telecommunications, ITU members have been reluctant to convene such a WICT. The reason is the difficulty of resolving sharp polarisation between those Members pursuing liberalised market policies and those other Members (mostly developing countries) who wish to maintain protection of national carriers or local market monopolies.

41. In their present form, a number of Articles in the ITRs discourage liberalisation, and require governments to supervise international transactions between carriers, to a degree incompatible with liberalised national policies. A detailed outline of Australia's concerns about the ITRs is at **Attachment 1**.

42. At the Plenipotentiary Conference of the ITU held in November 1998, Australia succeeded in having the Conference recognise that there are some potential problems associated with the ITRs. The Plenipotentiary Conference agreed that the Council should appoint a "balanced group of experts" to work with the ITU Secretary-General and Director of the Telecommunications Standardisation Bureau to:

- study the roles and responsibilities of members States and Sector Members regarding the regulation and operation of international telecommunication services;

- consider the wider multilateral treaty obligations that may affect the regulation of international telecommunications; and

- review the extent to which current needs of Member States are reflected in the basic instruments of the Union and in particular the ITRs.

43. The establishment of the group of experts and its work program is to be addressed by the ITU Administrative Council at its meeting in June 1999. DOCITA will be represented at that meeting. The findings of the group of experts is to be reported to Council by June 2000.

3.5 The World Trade Organisation

44. The Department of Foreign Affairs and Trade has primary responsibility for WTO matters. The WTO is the legal and institutional foundation of the multilateral trading system. It provides the principal contractual obligations determining how governments frame and implement domestic trade legislation and regulations. The WTO General Agreement on Trade in Services (GATS) is a binding multilateral agreement that provides legally enforceable rights to trade in all services, including telecommunications services, on WTO Member countries (numbering 132 countries). It classifies means of supplying a service into four modes of supply: cross-border supply, consumption abroad, commercial presence, and presence of natural persons. The *Telecommunications Act 1997*, and the *Radiocommunications Act 1992* (as amended) are framed to be fully consistent with Australia's GATS commitments.

4. Pressures for Change

45. The current regulatory arrangements are under pressure from three main strands of development:

- changes in the microeconomic policies of governments;

- changes in telecommunications technologies; and

- changes in the structure of telecommunications services markets.

46. These three basic strands interweave and reinforce each other to produce a highly dynamic overall market in telecommunications service provision. Each of these factors contributes to growth in the market. The rate of growth, particularly in developed economies, sometimes serves to mask a range of transitional problems. Operating profit margins are generally healthy even in competitive markets, and consumers in most market segments are aware of real improvements in value for money.

47. Some of the issues that are raised with regulators from time to time by industry participants reflect competition between participants for greater shares of their horizontal product markets, or competition for greater shares of the profit in their vertical supply chains. This normal market behaviour is not automatically of concern to government. DOCITA becomes involved in the issues only where there is linkage between any possible market failure and the regulatory environment in Australia, or in the market of a trading partner, or in multilateral government-to-government commitments.

4.1 Microeconomic Reform

48. Ten years ago, competition in the supply of telecommunications services was rare, even among OECD countries. Most national carriers were state monopolies. Even where services were provided by private companies, the common assumption was that telecommunications was a natural monopoly. The general trend for governments to withdraw from service provision brought these assumptions under scrutiny. Governments that privatised their telecommunications monopolies were left with two policy levers to restrain the rent-seeking of private monopolies: application of intrusive regulation, or fostering of competition. Over time, most states have sought to introduce competition as the more effective tool to promote innovation, efficiency, and customer focus. Because of the legacy of monopoly provision, such competition normally requires the backing of pro-competitive regulation during establishment of a viable competitive market

4.2 International Trade Liberalisation

49. The trend toward domestic market liberalisation was accelerated after conclusion of the Uruguay Round GATS agreement in 1995, which brought the provision of international telecommunications services within the broad free-market disciplines applied to services in general. A subsequent negotiation specifically on telecommunications resulted in around 70 states, representing over 90 percent of international telecommunications services, making commitments to offer market access to foreign service providers on non-discriminatory terms. The Telecommunications Annex to the GATS came into force on 5 February 1998.

50. The agreement represents significant change in multilateral regulatory assumptions, because it demonstrates acceptance that trade in the delivery of international telecommunications services is a traded service, and that barriers to this trade should be reduced. A driving force for this liberalisation is recognition that competition is a key mechanism for attracting investment in the telecommunications sector and for achieving lower prices and improved quality that are sought by users. Improved telecommunication services are now essential for industry - both for existing sectors, such as manufacturing, finance and transport, and for emerging sectors, such as on-line information based services.

4.3 New Technologies

51. Technological development has radically changed the efficiency of most elements of telecommunication systems, and thereby also changed business cases for investment. Three key technologies that have fed the telecommunications boom are:

- optical transmission (continuing steep reductions in cost of point-to-point bandwidth, and reduced significance of distance to costs)

- digital data and signal processing (enabling many new transmission, switching and application services)

- space satellite systems (enabling wide-area coverage for mobile and isolated network users)

52. Taken together with consumer-level information technology (such as personal computers and miniaturised digital radio transceivers), these technologies have led to development of markets such as mobile telephony, Internet, and datacasting in ways not anticipated in the traditional regulatory structures. This is particularly evident in the convergence onto the common Internet delivery platform of services that previously used entirely separate delivery systems – telephony, data, and broadcasting.

53. The greater efficiencies delivered by modern technologies have also enabled investors to see competitive opportunities in markets that were previously thought to be natural monopolies (eg standard wireline local loop telephony networks being challenged by wireless or cable-based services).

4.4 International Market Structure

54. Regulatory structures under the ITU and in traditional national regulatory regimes assume that telecommunication markets are geographically divided along lines that are contiguous with national boundaries. Where national boundaries are separated by sea, the regulations posit a "midpoint" (that may be a satellite or a notional point on a submarine cable) as the place where traffic is handed over between nation-based carriers. According to the ITU regulations, every relationship between carriers for the exchange of traffic must be agreed bilaterally by the national administrations in the countries of origin and destination.

55. In reality, the contemporary market in international telecommunications services operates in a multi-layered fashion. Transport of signals is increasingly a commoditised service business, similar to other transport services. Signals emanating from a carrier in one country may be carried to their destination in another country by any combination of transport options including:

- Cable owned jointly by the carrier originating and the carrier terminating the signal

- Cable capacity owned wholly by one carrier and terminating in the territory of another country

- Cable capacity leased from a consortium in which one or both of the carriers have invested

- Satellite capacity owned by a carrier (eg Optus), leased (eg Telstra from PanAmSat), or allocated from an international satellite co-investment organisation (INTELSAT or Inmarsat)

- Capacity on alternate routing obtained on the bandwidth spot market

- Services wholly managed by a third party or consortium (eg Global One, WorldCom-MCI, AT&T)

- Services “terminated” in a third country and refiled to destination to take advantage of differences in capacity and service pricing.

56. The above examples are by no means exhaustive, but illustrate that an active market in international carriage of telecommunication services exists, independently of any one country’s national rules or market regulations. In such a market, national bilateralism can not be applied as the normal principle.

4.5 Convergence

57 The term “convergence” is used quite loosely in connection with telecommunication services. In general, it refers to the migration of kinds of services from one technical delivery platform or mode of delivery to another platform or mode of delivery that, by convention, has been associated with a different kind of service.

58 At the technology level this is not new in principle. The first useful radio and wired telecommunication services were “digital data” services, in that they delivered telegraphy by a form of binary encoding. Over time there was “divergence” as different (mostly analog modulation) technologies attracted different kinds of services and different regulatory models. In the analog mode using earlier technologies, wireless transmission is relatively efficient for open broadcast point-to-multipoint services, and switched wireline transmission is relatively efficient for closed point-to-point telecommunications. Regulation, including international regulation, grew up on the “divergent” basis of strong association between specific technologies and the nature of services they hosted.

59. Technical advances, particularly digitalisation, are rapidly undermining the assumptions that associate particular services with particular technologies. Most international telecommunication infrastructure now is designed to carry digital traffic in which many kinds of services may be multiplexed together. Convergence in “bulk” international carriage has been developing for many years, and does not of itself challenge international or domestic regulation. Regulatory challenges arise when services that normally are regulated in domestic markets become distributed across national boundaries through channels that do not recognise national boundaries.

60. For example, since the origins of shortwave broadcasting, governments have come to accept that international broadcasting is difficult to regulate. The ITU has attempted to coordinate radiofrequency usage for mutual benefit, but unilateral attempts to regulate have been undertaken only where political criteria have been more important than economic factors (eg when countries ban their own citizens from listening to particular foreign broadcasts).

61. New technologies are changing some key factors in government decisions on whether or not to regulate international services. Governments are inclined to be more sensitive when borders become porous to interactive consumer-level services such as satellite telephony (GMPCS) and Internet services of all kinds. The degree of convergence between diversely-regulated service types is now seen as having both political and economic consequences, as cross-border services can replace domestic

services that previously enjoyed the de facto protection of geographically-limited access technologies.

4.6 The Internet

62. The basic packet-delivery technologies on which the Internet is based have the potential to accelerate convergence, to the point where a full range of broadcast and interactive services are delivered on a common platform, utilising both wireless and wired access modes. This promises great economic benefits and efficiencies, but the magnitude of the changes will raise significant transitional issues. Incumbent service providers have significant investments and powerful market positions to defend. Governments have to reach new common positions on delivery of services across national boundaries, and on international trading rules for emerging forms of traded service. Of these, it is the new communications delivery systems that concern this inquiry.

63. It is important to understand the difference between the Internet and the Public Switched Telephony Network (PSTN). The fundamental feature of the PSTN is that it establishes, through switching operations, a dedicated channel of agreed bandwidth between two points over a period of time. The fundamental feature of the Internet is that it undertakes to deliver discrete packets of data from one point to another point without allocating a dedicated channel and (in its basic form) without guaranteeing "bandwidth" or time factors in delivery. The term "connectionless" is often used to describe the typical IP mode of "route-independent" delivery. The more fundamental point is that any digitalised message is separated into packets of components that are each delivered uniquely, then reassembled into the message at the point of reception.

64. The PSTN allocates defined resources and charges users for that resource whether it is used efficiently or not (eg you pay for the phone line whether anyone is speaking or not). The Internet is engineered to share resources dynamically, attempting to meet all demands (of the same packet class) equally on a "best-efforts" basis. The result is that by applying significant IT intelligence to the management and routing of packetised traffic, enormous efficiencies are obtained in the use of transmission infrastructure. Much of this infrastructure is shared with the PSTN, which leads to a key problem in the realm of international regulation: how to reconcile the radically different business models of the PSTN and the Internet?

Sharing costs of Internet Transmission

65. The Internet does not have a consistent, agreed set of international charging arrangements. The Internet has developed on a cooperative, barter exchange model, with no centralised or authoritative management structure. Its structure is based upon the application, by free consensus, of common standards to communication between independent networks. Currently, Internet Service Provers (ISPs) interconnect and exchange traffic under a wide variety of commercial or non-commercial arrangements, using bandwidth supplied (in most cases) by telecommunications carriers.

66. Where the PSTN has typically grown as a planned, public infrastructure, the Internet has grown in a more organic, voluntary fashion. Some leading Internet

stakeholders maintain that the Internet is a "private" rather than a public facility. From its original core of US Government and educational sites, the Internet has grown to include successive new US and foreign networks. By convention, each network joining the Internet backbone is responsible for its own costs of connection. With the privatisation of key backbone facilities in the USA, this principle has been interpreted as meaning that all non-U.S. operators are required to pay for the whole infrastructure that carries traffic in both directions to and from the US Internet backbone access points. In the past, foreign ISPs have accepted this because of the historical origin of the Internet in the US, and because the US has been recognised as the global hub where the largest amount of content and largest numbers of hosts and routing facilities are located.

67. The conventional relationships between Internet member networks for exchange of access are known as "peering" arrangements. This reflects the assumption that these are exchanges of equal value between peers, involving no cash settlement. This assumption is no longer valid, as the services exchanged between ISPs are increasingly asymmetric in direction of traffic, in balance of supply and demand, and in commercial value of the interconnection. Larger ISPs (sometimes called Internet Access Providers – IAPs) which control access to significant content sites, significant numbers of subscribers, or significant onward routing facilities, now tend to demand payment in one form or another from ISPs having, in commercial value, less to offer.

68. As the scale of the Internet grows rapidly, these differential settlements are becoming significant in value. Non-US ISPs, particularly in the Asia-Pacific region, are complaining that they are being forced to carry an unfair proportion of the costs of interconnection. In Australia's case, approximately 30 per cent of US-Australia Internet traffic is sourced in Australia. In other words, for every 30 IP packets sent from Australia to the USA, 70 IP packets are sent from USA to Australia - but Australian ISPs pay 100% of the trans-Pacific link costs. In meeting the rapid increase in demand for bandwidth linking Australia with the USA, full costs fall on the Australian carriers and must be recovered from Australian users.

69. The equity of these arrangements is a matter of current debate in several international fora including the OECD, APEC, WTO and the ITU. There is general acceptance that it is not appropriate to try to apply regulatory models that were developed for telephony to the different circumstances of Internet. The various elements that make up "Internet" services will need to be characterised and valued so as to develop norms for fair trading and market behaviour, including international trade rules. So far, there is no international consensus, and no industry consensus, on how this should be done.

70. One of the key issues is the relationship between the nominally "free" information goods that have driven much growth in demand for Internet services, and the real costs of infrastructure and service provision that provide access to the information. In terms of infrastructure usage, the major demand is created by World Wide Web services that resemble broadcasting or narrowcasting services more than they resemble conventional telecommunications.

71. In telephony, the caller initiates the connection from end to end and can rightly be called the “sender” and billed accordingly. This model does not apply to Internet communications, in which “senders” despatch messages divided among groups of IP packets that travel via indeterminate routes. Those packets may trigger further despatches of packets (in reply, or to entirely different destinations) that also travel by indeterminate routes. Huge volumes of traffic may be despatched automatically (eg Web servers, email lists, the “Melissa” email virus) and no record is maintained of the total network resources consumed in the transport of these packets.

72. Another key issue is the relationship between the ISP services (which exist in a “connectionless” world of packet handling and distribution) and the telecommunications infrastructure (that transports these services from point to point, along with other telecommunications services). The ISP traffic is best described as taking place in a “service layer” that exists above, and dependent upon, a “transport layer” of telecommunications infrastructure. The volume of Internet traffic on the infrastructure (measured by total bandwidth demand) is expected to overtake that of PSTN voice in most major markets within the next 2 years, ie by 2001. The issue of defining a more equitable and commercially sustainable arrangement for cost sharing of the international Internet traffic carriage component needs to be addressed and resolved.

73. Most current Internet service products operate with a high degree of bundling and cross-subsidy. Given the difficulties of strict usage analysis, this has been a practical necessity. ISPs speak of their main service product as being “connectivity”, which at the user level can only be differentiated by speed (average rate of packet delivery) and billing. In the current environment major stakeholders tend to seek vertical integration of the markets in content provision, access provision, IP packet routing, and bandwidth provision, in order to protect market share in markets that are otherwise highly contestable. In that context, the provision of access to “free” content is the major demand driver for charges for access provision. ISPs therefore need to subsidise content sites that attract usage, one way or another. Many experimental business models are being tried, but without secure foundation in the distribution of costs. Most models rely on somehow exploiting a greater-than-average share of the common infrastructure, without bearing commensurate shares of the costs of communications.

74. The principle of cost-recovery is not consistently applied to Internet traffic. When the “free” content is advertiser-supported or otherwise sponsored at source, there is a clear economic argument that the cost of delivery should be born by the sender, as would occur in a broadcasting or narrowcasting environment. Although consumers may send the messages that order the delivery of the content, only the site that sends the content has the ability to control the bandwidth load that is placed on the common Internet infrastructure for the transport of that content. For example, a user clicking on a World Wide Web link button does not know whether the resulting download will be efficiently coded or transmitted. A typical web page may contain only a few thousand bytes of coded text, or may equally contain automatic links to encoded video streams or cycling graphical advertising banners that send hundreds of thousands of code bytes.

75. In the absence of a "sender pays" accounting system, there is no price signal back to the sender regarding the load placed on the several networks over which an upload may pass on its way to download by the receiver. Even if the sender's own link to his own ISP or IAP is expensive and high capacity, there is no means by which compensation for the costs of his usage may reach the intervening networks between the sending site and the consumer. For this reason, ISP network operators have a perverse incentive to divert traffic away from their own infrastructure to a competitors infrastructure at the first opportunity, rather than seeking to attract compensable traffic to their own network. Instance by instance these differentials are not very significant, but they become significant as scale increases. At the scale of global multimedia networking, they can become highly significant in determining the efficiency and even viability of communications infrastructure investment in particular markets.

76. Current settlement arrangements at the wholesale level in ISP services are relatively chaotic, with outcomes reflecting market power and passed on to final consumers through their bundled access charges. Australian users, especially content developers and content host sites, have reason to be concerned that the current arrangements favour US-based competitors, because the global delivery of their services is effectively subsidised by the ISPs outside the US who pay for transport both to and from US ISPs and sites.

5. Process for Change

77. The *Telecommunications Act 1997*, among other things, promotes the efficiency and international competitiveness of the Australian telecommunications industry. In pursuit of this objective, Australia maintains an active role in multilateral processes as a way of promoting international telecommunications market regulation that is consistent, non-discriminatory, transparent, cost-orientated and that encourages freer trade in telecommunications and benefits for end-users.

78. The portfolio's policy approach to the communications industries has been endorsed by the Government. The broad principles are:

- Growth of the industry will be led by the private sector, and depends on leadership by the private sector in key areas both nationally and internationally.

- Competitive market-based solutions are preferred and governments should avoid imposing unnecessary regulations. When regulation is necessary, they should rely on a "light-touch" regulatory environment.

- Where the market alone will not solve problems, self-regulation should be the preferred approach. In some cases this may need to be facilitated by regulation to ensure effective arrangements.

- Government-based and industry-based approaches should be coordinated and harmonised nationally and internationally.

79. The principal strategy for change is to exert influence in the multilateral processes that set the global regulatory environment, by building on regional and bilateral alliances with governments that share common objectives with Australia.

80. The principal objectives are:

- The next round of WTO GATS negotiations should result in recognition of telecommunications termination service as a traded service that is subject to the standard GATS disciplines of transparency and non-discrimination, including National Treatment and MFN.

- The ITU should modify its basic instruments so that the International Telecommunication Regulations appropriately reflect the role of governments in open and competitive markets for international telecommunication services.

- Equivalent market-based principles as are applied to conventional telecommunications should be applied to the telecommunication elements of Internet services, with emphasis on light-touch, industry self-regulation and a minimum of new or specific regulation.

5.1 ITU Reform

81. The ITU is the traditional forum for international agreement on telecommunications regulatory issues, and still has a significant role to play. At the highest level, the ITU must recognise the fundamental changes that are occurring in the role of government regulators vis a vis the structure of international telecommunications. This will involve changing the content of the ITRs or changing the status of the ITRs. The necessary constitutional changes are not great, but the processes for achieving change are treaty-based, cumbersome, and take several years to accomplish even where there is a strong consensus for change. The necessary consensus is growing, but because of the very large number of small, developing-country ITU Members, the required two-thirds majority can not be guaranteed even after several years of preparatory work.

82. If the ITU as a body rejects change at the next scheduled opportunity (2002 at the earliest), advanced telecommunications economies, which comprise over eighty percent of international traffic, will most probably cease to recognise the authority of the ITU on the matter of international telecommunication traffic regulation. This would be a regrettable outcome for Australia, because Australia relies on authoritative multilateral fora such as the ITU to moderate the market power of our largest trading partners.

83. In reality, the WTO GATS commitments provide an acceptable alternative for liberalised and liberalising economies that are WTO members. The campaign for ITU reform depends to some extent on convincing conservative ITU members that they have more to lose from the sidelining of the ITU than from accepting changes in the ITU.

5.2 ITU Recommendations

84. ITU Recommendations in the Telecommunications Standardisation sector are influential but not binding on Members. They may be agreed without formal Conference processes, in certain circumstances. ITU-T "Study Group 3" has worked over the past three years on a program of revision of recommendations concerning the settlement system and accounting rates. DOCITA has participated strongly in this group, and has successfully promoted some significant changes to the recommendations.

85. The key changes achieved during 1998-9 in the relevant Recommendation (D.150) extend the range of settlement systems and procedures that are "recommended" to be used by carriers in their international businesses.

86. In addition to the discriminatory bilateral "accounting rate share" system, D.150 now recognises the validity of a non-discriminatory, one-way call termination charge, which is similar to a "rack price" offered to any international carrier seeking to terminate traffic on a particular network. This procedure identifies the service components used in terminating an international phone call, and how those components may be charged for. The procedure will enable carriers to agree bilaterally to use one-way, cost-orientated termination charges in their correspondent relations.

87. A further amendment to D.150 recognises that carriers which both operate in liberalised markets may adopt any form of bilateral settlement upon which they agree. The amendments to D.150 are currently going through the ITU ratification process. This issue is expected to be concluded at the next meeting of SG3 in June 1999.

88. While these amendments may appear elementary, negotiation through a multilateral process in which protectionist carriers were over-represented took approximately three years, and was concluded only under the threat of unilateral price-setting by the United States Federal Communications Commission. The value of such multilateral negotiations must be measured not only in the immediate output, but in the extent to which the arguments for liberalised market approaches are promoted among key stakeholders.

89. The ITU accounting rate system will become less and less prevalent as the number of liberalised markets grows. Between WTO member countries, and other countries by mutual consent, regulations already allow for direct interconnection into a network at the foreign end, treating international traffic identically to domestic carrier interconnection. During the incremental liberalisation of the global market, Australia promotes increased international understanding of weaknesses in the current accounting rate framework such as lack of general incentive for rate reduction or improved operator efficiency; discriminatory charging; and lack of transparency.

90. Australia promotes a general principle of cost-orientation in settlement rates, but we also acknowledge that sovereign governments may seek to tax international telecommunications at their domestic end, as with any other trade, by transparent and non-discriminatory measures. We also accept that there are genuine differences in cost factors that are associated with levels of development, scale of networks, relative cost

of capital and other factors that can legitimately result in higher charges in some markets than in others. We also recognise that implementation of one-way, non-discriminatory termination charging may still require a degree of international regulation to safeguard against excessive charging by carriers that control bottleneck facilities or protected market positions. In this regard, we promote the linkages between the ITU and WTO and the concept of international telephony as a traded service.

5.3 Arbitrage

91. Because of the irrational pricing that prevails particularly in closed markets under current systems, forms of arbitrage are commonly practised at both wholesale and retail levels. The most common retail product is "Callback" in various forms. There is a rapidly growing market now in Internet telephony. At the wholesale level, many forms of "least cost routing" are practised. Some governments that require strict interpretation of the International Telecommunication Regulations consider any such services to be illegal, whereas liberal governments accept them as normal market behaviour.

92. In the international fora, Australia seeks to ensure that discussion of alternative routing and settlement arrangements does not lead to the adoption of measures inconsistent with Australia's acceptance of those services under national law. We promote the consumer and competition benefits of alternative calling procedures as a market response to inefficient, uneconomic and discriminatory charging under the accounting rate system. However, we also acknowledge that some alternative calling procedures amount to technical abuse involving unremunerated use of operators' networks. Australia does not condone unremunerated use of networks. None the less, Australia does not support international regulatory measures that would restrain any commercial options unless technical harm or unremunerated use is involved.

93. ITU Study Group 3 has established a Rapporteur's Group (currently chaired by Telstra) to examine Internet charging. The Group is identifying the international network components for the Internet which resides within the GII framework, determining cost issues and, if considered appropriate, will propose a set of principles on equitable cost compensation between international circuit providers. This work is continuing.

5.4 WTO

94. DOCITA was an active participant in the development of the GATS agreement on basic telecommunications. Since Australia's commitments were made at the conclusion of the negotiations in April 1997, Australia has continued to liberalise its telecommunications market, notably through the removal of all foreign ownership restrictions on Optus and Vodafone in the *Telecommunications Act 1997*. The Government is seeking to further privatise Telstra. This policy goes further than Australia's current commitments under the GATS Telecommunications Annex, but it is consistent with the expectations of other GATS members that governments will progressively disengage from direct ownership and operation of telecommunication services. Moving ahead with privatisation of Telstra assists Australia's ability to encourage our trading partners to adopt a liberal, competition-based telecommunications market, by demonstrating our own commitment to liberalisation.

95. The next Round of WTO services negotiations is due to commence by 1 January 2000. During 1999, the Council for Trade in Services will meet to develop work programs for the various services sectors. Australia has proposed that services on the Internet, particularly as they relate to international settlements, should be included as an issue to be examined during these global negotiations. The agenda for the next round should be settled before the end of 1999. Australian representatives are participating in the development of these work programs and DOCITA is heavily involved in providing advice on telecommunications services issues.

5.6 APEC Telecommunications Working Group (APEC TEL)

96. APEC TEL has been tasked by the Fourth APEC Ministerial Meeting on Information and Telecommunication Industries to study issues concerning the provision of Internet bandwidth and access in the Asia-Pacific. The study was motivated by those APEC economies on the western side of the Pacific who are concerned that current arrangements favour increased US centrality and dominance in the regional Internet service provision business.

97. DOCITA is using this process to promote the development of pricing and access principles that encourage rational development of Internet infrastructure and services. As of March 1999, DOCITA provides the chair of the Task Force established by the APEC TEL, and is in a position to steer debate along productive lines. The Task Force is to report back to APEC TEL Ministers in May 2000. The expected outcome will be a joint statement of common principles. Australia's objective is that this statement will not favour direct interventionist regulation, but will encourage application of appropriate market disciplines to balance the substantial market power of the most developed economies.

5.7 United States Federal Communications Commission (FCC) Arbitrary Benchmarks

98. One of the most significant initiatives for change in international telecommunications market regulation has been the unilateral price benchmark proposal of the USA. The FCC, in August 1997, issued a Notice of Proposed Rulemaking outlining a proposal to impose graduated benchmarks on the (accounting)

rates that it will permit US carriers to pay in settling accounts with non-US carriers. The first of these benchmarks, applying to developed countries, commenced from 1 January 1999. The order has since been revised and confirmed, establishing a scale of charges that the FCC considers fair pricing for various categories of markets, and a time-table for introduction that gives less developed countries more time to adjust.

99. While sympathetic to the FCC's objectives, DOCITA has expressed concern that this action may damage the multilateral arrangements (WTO and ITU and regional processes such as APEC) that may promote more deep-rooted reform through the introduction of competition. The FCC's rationale for this action is that the United States is the biggest outpayer to foreign carriers, and that measures are necessary to ensure that the market access offered by the US to foreign carriers (under its commitment to the WTO agreement on telecommunications) is not abused by foreign carriers who may benefit from cheap access to the US while maintaining protected or monopoly pricing in their home markets.

100. In response to this action the ITU membership have accelerated efforts to develop credible costing models that can be used for acceptable, multilateral benchmarking purposes. The efforts are hampered by the commercial incentives of all industry participants to assert high costs as justification for high prices. The activity is unlikely to result in formal recommendations, but is contributing to the education of industry participants and regulators concepts of transparency and non-discrimination.

Part 2

Comments against Terms of Reference

101. This section provides some additional comment against the specific Terms of Reference of the Inquiry, with cross-reference to preceding parts of the submission.

Terms of Reference

> *6.1 (a) examine and report on the various settlement arrangements which exist in the international telecommunications market (for example accounting rates and Internet peering models) with a focus on any emerging arrangements in the international carriage services component of that market*

102. There are a wide variety of arrangements in place to settle accounts between carriers for providing different international communications services, including voice, facsimile, Internet, mobile telephony, etc. Some of these are based on formal treaty-based agreements or recommendations, such as the ITU Recommendations D140, D150, D155 and D500R on public switched telephony settlements. An increasing proportion of arrangements are purely commercial negotiation between independent corporations and bear little resemblance to the procedures outlined in ITU recommendations.

103. Under Australian legislation and regulation, the government does not normally monitor commercial arrangements between telecommunications carriers. Data may be sought by the regulatory authorities (ACA and ACCC) on particular market segments in the context of an Inquiry under parts of the Telecommunications Act or the Trade Practices Act, but these are exceptional cases.

104. The Government requires carriers and service providers in Australia to observe international conventions and agreements to which Australia is a party (see para 25).

105. The International Telecommunication Regulations establish obligations of the Government under the ITU Constitution (see para 34 and section 3.4).

106. The ITU Telecommunications Standardisation Sector develops and maintains a suite of Recommendations to which member governments and recognised operating agencies (carriers and service providers) are expected to adhere, though without any compulsory force. Attachment 2 describes ITU Recommendations that apply to international settlements.

107. These recommendations apply to the exchange of traffic across the Public Switched Telephony Network (PSTN). There are no regulated arrangements governing settlements for some rapidly growing market segments such as mobile phones and Internet services.

6.1.1 Alternative Calling Procedures

108. Calling procedures that "bypass" the ITU-recommended cost-sharing arrangements are known as "alternative calling procedures". The principal characteristic of such procedures is that they depart from the concept of international telecommunications as a bilateral, jointly-provided service and treat the market as a commercial arena of buyers and sellers. They may be practised by traditional facilities-based carriers or by service providers who operate exclusively or partly by reselling the services of others (the distinction between types of carriers is itself an arbitrary one and differs from national regime to national regime).

109. These procedures include:

Refile

110. Refile occurs when a carrier in Market A sends traffic bound for Market B via Market C. The traffic as it arrives in Market B appears to be from Market C and is charged accordingly. This procedure bypasses the recommended procedures for sharing of transit costs and is a form of arbitrage.

Callback

111. Callback occurs when the direction of a call is reversed by technical means, in order for the caller in A to benefit from a lower collection charge in country B. It is therefore an arbitrage at the consumer level. In some circumstances, callback services may provide a foreign dialtone that permits calling to third countries. This is only viable where the combined cost of B to A and B to C is less than the cost of A to C.

International Resale

112. International resale occurs when the capacity to transmit international telecommunications is acquired from the infrastructure owners (who may or may not be licensed telecommunications carriers) and used to deliver international traffic that bypasses the conventional international traffic gateways or the bilateral settlement arrangements. Regulatory attitudes to resale vary widely, from full acceptance (as in Australia) to complete ban. Resale undermines the accounting rate arrangements, particularly where it is used for one-way bypass of the accounting system so as to distort the apparent balances of traffic. Australia safeguards against unacceptable market conduct through the International Rules of Conduct.

Interconnection.

113. Interconnection (in the context of international regulation) refers to situations where a carrier in Country A is permitted to manage the delivery of its signals across national boundaries to a point of physical interconnection with a network in Country B. It usually refers to situations where there is no regulatory requirement to use particular "international gateways" as are described in various ITU Recommendations. For example, a foreign carrier may choose to exchange traffic with an affiliated carrier in Australia through any technically feasible means, and have that Australian carrier provide the interconnection to all other carriers in Australia. Interconnection is the most liberal form of international traffic exchange, and is generally available only in the most liberalised and competitive markets. Some countries (for example the USA)

regulate access to interconnection on the basis of reciprocity with Country A. Australia does not make any such reciprocity requirement.

6.1.2 Internet Issues

114. Internet traffic does not fall cleanly within any of the current regulatory schemes that apply to telecommunications. If reduced to its component parts, Internet traffic is indistinguishable from any other form of data traffic (including digitised voice telephony) while it is being transported over any particular leg of the international telecommunications networks. The differences are in the way that the individual packets making up the traffic are routed, hop by hop, across the transport system. This technology, which is the fundamental characteristic of the Internet, completely negates application of the ITU D. series Recommendations on telephony settlements, because the fundamental traffic unit of "minutes of use" does not apply to any part of the network use other than to consumers' dial-up connections to their local exchanges.

115. For the time being, settlement occurs separately at the transport layer and the service layer of Internet services. At the transport layer, Internet Service Providers own or lease capacity on national and international networks, individually or through aggregated arrangements or third-party agencies. Some degree of regulation may apply to the transport layer in individual markets (for example where international gateways are mandated or capacity providers are regulated). The international transport networks also benefit from the ITU and other standardisation processes that underpin interoperability of telecommunication networks.

116. At the service layer, ISPs enter into whatever forms of arrangement they are able to negotiate with any other ISP in their own or another country. The only form of international regulation that applies is the (so far) self-regulatory mechanism for maintaining orderly allocation of domain names and assigned internet address numbers – the essential addressing mechanism for Internet Protocol and unique identification of users. (see section 4.6).

117. ITU Study Group 3 has established a Rapporteur's Group to examine internet charging from the perspective of telecommunication carriers. The Group is identifying the international network components for the Internet which resides within the GII framework, determining cost issues and, if considered appropriate, will propose a set of principles on equitable cost compensation between international circuit providers. This work is continuing.

> *6.2 (b) examine and report on whether international agreements or asymmetric national policies concerning market conduct and market structure may give rise to distortions or mispricing of the above settlement arrangements, including a discussion of the welfare implications for representative market participants*

118. The international agreements relevant to international telecommunications market regulation are the ITU Treaty, comprising the Constitution, Convention and Administrative Regulations and the WTO General Agreement on Trade in Services, including Annexes (see sections 2.3, 2.4 and 3).

119. The regulatory construct of the ITU International Telecommunication Regulations and Recommendations (ITRs) seeks to organise international telecommunications as a service that is "jointly provided" by an identified provider in each country of a bilateral relationship, and the regulation of settlements therefore purports to concern the fair allocation of costs between these joint-providers.

120. DOCITA has argued over several years in the ITU that this model is inapplicable to modern international telecommunications business practice. Most international services may be provided by a multiplicity of technical and commercial models, and contestable markets can be encouraged in most situations. Even where there may seem to be an argument for "natural monopoly", open access regimes for infrastructure can create opportunities for competition as a driver of efficiency and customer focus.

121. DOCITA promotes the understanding of international telecommunications as a traded service, in which an operator in Country B provides a termination service to complete a call or deliver a message that is initiated through an operator in Country A. There are many examples of such traded service in the field of physical transport services. DOCITA sees the GATS principles on trade in services as fundamental to the development of efficient markets in international telecommunications. (see paragraphs , 41-43, and Section 5).

122. The ITU has an ongoing role in standardisation to facilitate interoperability of networks, and this may include technical and detailed agreements relevant to billing procedures, traffic measurement, quality factors, and other issues that are relevant settlements in the traded service. Without substantial change in the basic assumptions, the ITRs will continue to be used to defend the practices of those governments who do not wish to liberalise their international telecommunication markets as the WTO GATS rules would require.

123. For example, many countries do not permit alternative calling procedures, because such procedures have a direct (negative) impact on their accounting rates revenues (though callback may actually increase wholesale accounting rate revenues at the expense of retail local collection charges). A number of these countries are very vocal in calling on other countries to help them to enforce their bans on such procedures. Such calls normally reflect that the national position is determined by the desire to protect the revenue of national carriers, rather than to facilitate cost-effective telecommunications services for their economy.

124. The Australian legislative framework permits the provision and use of alternative calling procedures on the basis that they are legitimate commercial activities that are to be expected and even encouraged in a competitive telecommunications environment. DOCITA recognises that such procedures are a means of circumventing the excessively high monopoly charging practices applied by some off-shore operators. We also recognise that the cheaper prices associated with such services have a direct beneficial impact on consumers, by enabling telecommunications service providers to offer international phone calls at lower prices. Our position remains that while it may be illegal for a consumer to access alternative calling services in some countries, it is

not illegal for Australia to offer such services as those services are not illegal in Australia.

125. It is noticeable that the countries that express greatest concern over accounting-rate bypass are those countries with proportionally large émigré or guest-worker populations living in more developed countries. A recent series of case studies done by the ITU on the economic effects of accounting-rate movements provides some illustration in Table 1.

Table 1: Telecommunications revenues and estimated net settlement payments of selected countries, 1996

Country	Total telecom revenue (US$M)	Net settlement payments(US$M)	% of revenues derived from net settlement payments
India	3,088.0	389.0	12.5%
Lesotho (1)	12.8	(.412)	-3.0%
Mauritania	27.4	.2	0.8%
Samoa	7.1	2.9	40.8%
Senegal	121.5	35.6	29.3%
Sri Lanka	166.4	62.3	37.3%
Uganda	47.0	3.0	6.3%
Total/average	3,470.2	493.4	14.3%

(1) 1997 figures
Source: Country Case Studies Second ITU World Telecommunication Policy Forum 1998.

6.2.1 National Policies

126. Government policies for the telecommunications sector comprise a mix of economic and social objectives. Typically, the government will require that certain public-interest objectives are met by the telecommunications operators. As an example, in Australia these include:

- Universal Service Obligation (USO);
- emergency call services;
- operator services and directory assistance;
- customer service guarantee;
- itemised billing of timed calls; and
- interconnection requirements for declared services

127. Governments may also implement retail price regulation and pro-competitive policies that constrain the commercial activity of operators. Many governments also place particular fiscal demands on telecommunications operators, especially where the operators represent a significant proportion of national foreign exchange earnings (eg Cook Islands) or where more conventional forms of taxation are deficient.

128. The Regulatory Principles annexed to the GATS Agreement on Basic Telecommunications recognise that Universal Service Obligations may be imposed on any foreign carrier wishing to operate within a national market, provided that they are transparent, non-discriminatory and not more burdensome than necessary. The WTO has not yet addressed the question of factoring such costs into the provision of international termination services to foreign networks. DOCITA would argue that similar principles should apply for all modes of supply – commercial presence or cross-border supply.

129. This question is more significant where the income that a national carrier gains from high charges for international termination are applied to cross-subsidise domestic call charges. The issue of "call-charge rebalancing" is a major one for countries such as China and India, which have exercised this cross-subsidy on a very large scale and face substantial political obstacles to rapid adjustment.

130. In Australia's case, DOCITA estimates that the cost of providing the USO is unlikely to have a significant effect on the level of charges for international calls. Based on figures quoted in the Productivity Commission's current report on *International Benchmarking of Australian Telecommunications Services*, the USO cost represents around 1.1% of the Australian telecommunications services market (estimated at around $22 billion per year). Similar factors apply in other markets that have highly developed economies and telecommunication networks.

6.2.2 Interconnection Rules

131. Interconnection rules are critical to the competitive nature of a telecommunications market. A competitive domestic market is likely to deliver more competitive services for international traffic, even traffic with non-competitive markets. Australian legislation gives the ACCC power to approve only terms and conditions for access that it deems to be reasonable. When assessing the reasonableness of access rates in undertakings, the ACCC is required to take into account several factors including:

- promotion of long-term interests of end users;
- the legitimate business interests of carriers and their investment in related facilities;
- interests of persons with the right to use declared services;
- the direct costs of providing access;
- appropriate operational and technical requirements; and
- economically efficient operation of the service and the network.

132. DOCITA considers that Australian pro-competitive regulation encourages carriers to establish operations in Australia, which leads to downward competitive pressure on prices of international services, a wider range of services, and other user benefits.

6.2.3 Asymmetry in national regulation

133. It is rare to find identical regulatory structures in different national markets, although there is a growing body of commonality in national regulatory schemes as countries learn from each other's experience and conform to common basic commitments, such as those in the WTO agreements. Governments are naturally concerned about offering open access in their own markets to foreign commercial operators who enjoy protection in their home markets. Three kinds of responses to this issue are discussed below: multilateral agreements; bilateral reciprocity; and unilateral safeguards.

6.2.4 International Agreements

World Trade Organisation

134. DOCITA was an active participant in the development of the GATS Agreement on Basic Telecommunications (ABT) (see paras 80-81). At present the agreements cover the principles for the regulatory framework for basic telecommunications services, including competitive safeguards, interconnection, universal service, transparency of licensing criteria, independent regulators and allocation and use of scarce resources.

135. Settlement issues are not yet covered by the GATS ABT. During the last Round, it was agreed that the application of differential accounting rates would not give rise to action by Members under dispute settlement under the WTO; and that this issue would be reviewed not later than the commencement of the further Round of negotiations on Services Commitments, due to begin not later than 1 January 2000.

The International Telecommunication Union

136. The ITRs, as binding obligations on ITU members, provide the regulatory cover that allows some monopoly operators to charge accounting rates that are significantly above cost. In discouraging the practice of Least Cost Routing, the ITRs protect above cost charges (see Attachment 1). The charge for completing calls can differ substantially for different sources of traffic, even though the costs are essentially the same. In any event, accounting rates are generally above cost, which results in excess profits for telecommunications operators, for which consumers are paying.

137. The current accounting rate system is supposed to lead to fair division of costs between operators. Anecdotally, the procedures outlined in the ITU Recommendations (see Attachment 2) can be used beneficially to restrain rent-seeking by carriers in monopoly or protected markets when negotiating with carriers, such as Australian carriers, that operate in competitive markets. On the whole though, the accounting rates system provides no effective mechanism for relating costs to prices, and is no substitute for competition.

Bilateral Reciprocity

138. Reciprocity has until recently been a cardinal principle employed by the United States FCC in the issuance of licences and other market access privileges to foreign carriers and service providers. It is still normal for FCC orders to provide a rationale

that covers off the question of "equivalent opportunity" in the home markets of any entity that is gaining entry to the American market. Australia does not favour this approach, as it undermines the non-discriminatory "Most Favoured Nation" principle in the multilateral WTO environment. Reciprocity can only be an effective strategy where the regulator controls a significant market and is expected to maintain an interventionist, *ex ante* control of market entry.

6.2.5 Unilateral Competitive Safeguards

139. Australia's approach to dealing with market asymmetry is the establishment of competitive safeguards through the International Rules of Conduct (see paragraphs 21-24). As a transparent, non-discriminatory, and *ex post* measure, these rules are consistent with multilateral commitments. In the two years since opening of the Australian market, Australian users have benefited from the free market entry and exit of foreign service providers regardless of the conditions in the markets from which such operators may have come. There has been no case where an operator lodged a complaint under these Rules, suggesting that existence of a mechanism for remedy has been sufficient deterrent to conduct that would attract regulatory attention.

> *6.3 (c) examine and report on the competitive conduct and investment behaviour of Australian firms in the international telecommunications market both domestically and internationally (for instance their participation in global alliances and new infrastructure investment) and whether any linkages may be drawn with prevailing international settlement arrangements;*

140. DOCITA does not collect comprehensive information on the competitive conduct and investment behaviour of Australian firms.

141. There is no regulatory restriction on Australian carriers participating in global alliances or any other commercial relationships. The normal rules on access to facilities and on anti-competitive conduct will be supervised by the relevant regulators. Appeal could also be made under the International Rules of Conduct if the activity of a global alliance or other relationship were suspected of amounting to "unacceptable conduct" under those rules.

142. Global alliances are one example of a range of new commercial practices in international telecommunications that invalidate the regulatory assumptions of "bilateralism". Global wholesale carriers such as PanAmSat or (in future) Project Oxygen also make it unnecessary for individual carriers to negotiate directly with every carrier who might terminate a service for them. To remain valid, the international regulations must recognise the participation of new entities such as those that aggregate traffic from a number of sources and deliver it with greater efficiency than a myriad of bilateral relationships could achieve. They present a major argument for the transition to "termination charges" as the basic service applied to exchange of international traffic, in that they obviate the need for the origin of traffic to be considered in arranging for its termination.

6.4 (d) examine and report on community benefits from reform of settlement arrangements, examining both the domestic and international components of the international telecommunications market, including;

6.4.1 (i) benefits attributable to previous reform of settlement arrangements;

143. The reform of settlement arrangements commenced at an international level over ten years ago, when a number of countries first started to liberalise their telecommunications markets. The reform process is continuing, in response to telecommunications market evolution.

144. The results of reform through the ITU Recommendations process are difficult to quantify. In the ITU, principles and agreements are negotiated in an environment where it is presumed that regulators take responsibility for the outcomes in the markets. However, implementation of the principles or agreements depends on commercial operators who in many cases have, or are acquiring, complete freedom to operate as businesses in an open market. Most such businesses therefore have conflicting interests with regard to the regulations. They may support them when it is in their commercial interest, and ignore or oppose the same regulations in the opposite commercial circumstances (eg when either a net buyer, or a net seller, of termination services with a particular correspondent's market).

145. It is easy to conclude that regulatory reform in the ITU has at best followed regulatory reform in key individual markets (particularly the OECD countries). As competitive markets have developed in Europe, the Americas, and Asia, the ITU has become less a forum for championing the interests of national carriers. Most former monopoly carriers now have another life as competitive entrants in other markets, and therefore support regulation that is conducive to competition.

146. A corollary of that development is that as governments have implemented more liberal domestic policies, there has been a reduction in the capacity or will of governments to impose regulation on their own carriers. While this has facilitated market-driven benefits to accrue to users in liberalised markets, it has reduced the commitment of many governments to pursuing reform of the regulations in the ITU. In turn, this has left the processes to be influenced disproportionately by those hard-line conservative national administrations which seek to retain protectionist regulatory shields.

147. The WTO has gained in credibility as its agreements are seen to produce economic benefits, and has also continued to develop more inclusive processes for negotiation and outreach. This has greatly reinforced the efforts of those countries seeking to promote liberal reform in telecommunications markets. The GATS ABT was a further milestone. It has had beneficial effects not only in the specific market opportunities that were conceded in national commitments, but also in entrenching market-based policy norms in a telecommunications industry that has had a very persistent ethos of public monopoly.

6.4.2 (ii) benefits attributable to increased domestic competition, especially since 1 July 1997;

148. The reforms to Australian telecommunications regulation which commenced on 1 July 1997 have provided significant benefits to Australian consumers from open competition through:

- the introduction of new suppliers,
- lower prices and more varied pricing packages, and
- the introduction of new services, including international telephone services.

149. Quantifiable benefits are now available in the international market where competition is highly evident. The absence of restrictions on market entry has seen the arrival of a range of new suppliers of telecommunications infrastructure and services.

150. There are currently 28 licensed carriers (eg Telstra, Optus, Vodafone, AAPT, Primus, Worldcom, Hutchison, PowerTel) and scores of carrier service providers (eg BT, WorldxChange, One.Tel). The international market has been targeted by new entrants, with call charges falling significantly, especially in peak times and to heavily-called destinations such as the US, NZ and the UK. Reductions of up to 65 percent or more for some international calls have occurred between June 1997 and June 1998 (see Table 2).

Table 2: Telstra's June 1997 charge compared with cheapest charge available at December 1998)

Destination of call	Unit of measurement	Most expensive time to call			*Least* expensive time to call		
		Telstra June 97	*Cheapest available December 98*	*Reduction (per cent)*	*Telstra June 97*	*Cheapest available December 98*	*Reduction (per cent)*
Flagfall	Cents	12	0 (T2, W)		12	0 (T2, W)	
Canada	$/minute	1.39	0.27 (D)	81	0.91	0.27 (D)	70
China	$/minute	2.62	0.99 (D)	62	2.28	0.99 (D)	57
Germany	$/minute	1.60	0.46 (D)	71	1.09	0.46 (D)	58
Greece	$/minute	1.99	0.52 (P)	74	1.70	0.49 (T)	71
Hong Kong	$/minute	1.28	0.46 (D)	64	0.85	0.46 (D)	46
Indonesia	$/minute	1.89	0.88 (D)	53	1.78	0.88 (D)	51
Ireland	$/minute	1.35	0.33 (D)	76	0.91	0.33 (D)	64
Japan	$/minute	1.71	0.46 (D)	73	1.39	0.46 (D)	67
Malaysia	$/minute	1.51	0.62 (D)	59	1.09	0.62 (D)	43
New Zealand	$/minute	1.03	0.27 (D)	74	0.72	0.27 (D)	63
Singapore	$/minute	1.28	0.47 (D)	63	0.85	0.47 (D)	45
UK	$/minute	1.28	0.27 (D)	79	0.91	0.27 (D)	70
US	$/minute	1.28	0.27 (D)	79	0.91	0.27 (D)	70
Vietnam	$/minute	1.99	1.27 (D)	36	1.89	1.27 (D)	33

D = Digiplus; P = Primus; T = Telstra; T2 = Tele2000; W = WorldxChange

Note: Rates shown are standard rates published by the carriers. Discounted rates, capped charges and other arrangements are also available.

Source: Communications Research Unit, DOCITA, from information published by the carriers

6.4.3 (iii) potential benefits from further reforms

151. The current international regulatory environment embodies several anomalies that need reform on a multilateral basis. In brief, these problems can be summarised as:

- WTO agreements do not yet adequately define and account for the trade in telecommunications services

- ITU Regulations do not reflect the current market-based global telecommunications system, and oblige governments to regulate in ways inappropriate to the marketplace

- Neither WTO nor ITU regulation adequately accounts for the significance of packet-switched data (principally the Internet) as the major common service platform for converged information services

- Internet self-regulatory arrangements do not adequately address the concerns of many governments concerning accountability for a public communications infrastructure that is expected to become economically and socially pervasive

152. Future reform in these international fora should correct these anomalies. By participating in multilateral processes, DOCITA helps to establish further market opportunities, guaranteed by international agreements, for Australian businesses in foreign markets. We can also establish a climate of greater certainty for both domestic and foreign investment in Australia's domestic markets.

6.5 e) any evidence on the effect of foreign policies on pricing and market access on Australian net traffic flows

153. DOCITA does not generally collect data on net traffic flows, as these are considered to be commercial matters.

154. If a carrier operating in Australia considered that another carrier was taking advantage of another country's policies in a way that constituted "unacceptable conduct", then that carrier would be able to ask the ACCC to investigate. In the absence of such a complaint, DOCITA would have to assume that no foreign policies were having the effect of supporting anti-competitive conduct in the Australian market.

155. DOCITA is aware of the situation in the ISP business, where non-US ISPs feel aggrieved that US ISPs demand that the non-US ISP pay for all costs of connection to a US access point. The market for exchange of ISP traffic is not regulated either in Australia or in the USA in any specific way. Therefore, the Australian International Rules of Conduct can not apply to this market conduct, because the US ISP in this scenario is not operating in Australia.

156. Australian and other non-US ISPs consider that they are being forced to make larger investments in trans-Pacific bandwidth capacity than would be the case if ISP settlement arrangements were related to traffic flows. However, this issue arises not as the result of policy, but in the absence of policy that there should be any regulated settlement arrangements in the ISP service layer.(see paragraphs 50-63)

6.7 f) examine and report on options for reform, including those appropriate for consideration in the context of future GATS negotiations for telecommunications from the year 2000.

157. The WTO, the ITU and less formal international collaborations all have roles to play in providing the global telecommunications industry with an integrated set of agreed policy principles that are backed up by national governments.

158. DOCITA's objectives for Australia's role in this reform process are:

- Ensure that multilateral agreements on telecommunications reflect the basic GATS principles of transparency and non-discrimination.

- Ensure that the principle of technology neutrality is observed wherever possible in the framing of regulation, so that regulation can be robust in the face of continuing development of telecommunications and information technology

- Ensure that the Australian government reserves sufficient powers to intervene where necessary to protect competition in the Australian market or other matters of significant national interest.

6.7.1 World Trade Organisation

159. The next Round of WTO services negotiations is due to commence by 1 January 2000. During 1999, the Council for Trade in Services will meet to develop work programs for the various services sectors. Australian representatives are participating in the development of these work programs and DOCITA is involved in briefing these representatives on telecommunications services issues.

160. The WTO agenda for telecommunications services will be developed in Geneva over coming months. Australia notified its support for settlement arrangements (the international or cross-border exchange of telephone traffic between carriers) to be included under the multilateral trading rules and disciplines of the GATS. Applying GATS rules to settlement arrangements should see significant downward pressure applied to the wholesale prices of international telecommunications.

161. Negotiation on these matters may also see some progress toward common services definitions on the components of Internet services (see paragraphs 65-76).

6.7.2 The International Telecommunication Union

162. At the Plenipotentiary Conference of the ITU held in November 1998, DOCITA succeeded in having a decision made that the Council would undertake a review of the ITRs on whether or not the ITRs are meeting the needs of all Member States (see paragraphs31; 67-68). DOCITA has been arguing in the ITU that the ITRs are not consistent with the spirit of the commitments many countries have made to the GATS and ABT. This issue will be progressed at the ITU Council meeting in June 1999.

163. DOCITA has been successful in achieving the in principle agreement by SG3, in December 1998, of a recommendation establishing an alternative settlement procedure, known as the “call termination procedure” (see section 5.2) The termination charge procedure is currently going through the ITU ratification process for Recommendations. This process is expected to conclude at the next meeting of SG3 in June 1999, whereupon the procedure will be incorporated in the Recommendation.

164. DOCITA is an active contributor to an ITU SG3 specialist group set up to develop transitional arrangements towards cost orientation from 1999 and beyond. This group is developing a set of guidelines, including target dates and cost reduction targets, that would see all countries move towards more cost-based accounting rates by 2001 (or longer for Least Developed Countries). The exercise is to some degree a simple price negotiation, but it also contributes to development of agreed cost methodologies, and to greater understanding of possible mechanisms for tariff

Attachment 1

Australia's Concerns with the International Telecommunication Regulations

1. Fundamentally, the ITRs are appropriate to a telecommunications industry structure that no longer exists as the general structure of global telecommunications.

2. Some provisions of the regulations are not applicable to any substantially liberalised telecommunication market.

3. Because of this, governments that have liberalised their markets have to ignore those parts of the ITRs that are inappropriate. This has two undesirable results:

- The ITU's authority as repository of global agreements is undermined
- There is sharp division between those ITU Members who do not fully observe the ITRs and those other Members who seek to enforce full observance.

5. This is not a good situation, either for the governments concerned or for the ITU as an institution.

What are the problems?

6. Australia considers that a number of Articles in the ITRs if fully observed:

- Restrict the development of competition
- Support monopolies
- Require inappropriate levels of government intervention in telecommunications markets.

7. Some examples are:

- Article 3.3 requires that a direct route must be used where it exists between two administrations, even if it is not the most efficient route or the route preferred by both administrations.

    - This Article limits the ability of carriers or transit operators to compete for international telephony business by offering alternative (indirect) international routes at cheaper prices.

- Article 6.1.2 is anti-competitive in purpose and effect, requiring that "the charge levied by an Administration on customers for a particular communications should in principle be the same in a given relation, regardless of the route chosen by that Administration". There is no incentive for an Administration to choose, or agree to, the least expensive routes.

    - This is anti-competitive and inconsistent with any contemporary practice of commercial traffic management.

8. Appendix 1 generally results in there being no cost-related basis to the rates charged for the use of a particular route, or the differences in cost between different routes. It does not reflect the actual commercial practice of dynamic traffic management that is in everyday use, even by many small and developing country carriers that have adopted progressive policies.

The Effects

9. Application of certain Articles in their current form could cause countries to act in breach of their domestic telecommunications and competition policies and World Trade Organisation (WTO) treaty obligations.

10. It is unlikely that Administrations will breach their domestic laws or WTO Commitments in order to comply with the ITRs. In developed telecommunications markets, the value of domestic telecommunications is generally many times greater than the value of international telecommunications, so domestic laws will take precedence in policy decisions. ITU commitments do not have any enforcement provisions, whereas WTO commitments are subject to enforcement and penalties applied in other sectors. Therefore the neglect of inappropriate ITRs undermines the credibility and status of the ITU as the accepted forum of global consensus on international telecommunication regulatory issues.

11. The existence of the ITRs in their present form is commonly used as an argument for preserving government-administered, non-competitive telecommunications structures in those countries that are not WTO members.

12. The ITRs are also quoted in argument by some carriers in countries where governments have made WTO commitments, but the particular carrier seeks to resist implementation of the government's liberalisation commitments.

13. There is considerable potential overlap between the subject matter covered by the ITRs and that covered by the WTO to the extent that it deals with telecommunications services, and this will increase with the coming WTO negotiations.

14. Governments and telecommunication carriers have a growing need for clarity and certainty regarding the interaction between the various international obligations.

Possible Solutions

15. Australia strongly supports revision of the ITU basic instruments to restore the validity of the ITU agreements with regard to international telecommunications traffic. For this to occur, the ITU documents need to correctly identify the responsibilities of governments and the responsibilities of commercial entities. Any obligations on governments must be compatible with multilaterally agreed trade treaties and commitments.

16. Any attempts to amend the ITRs by a World Conference on International Telecommunications is unlikely to be either timely or effective in addressing these problems. The Constitutional requirement to hold such a Conference is itself a major

problem, because it imposes very long time-frames and prevents any rapid adaptation to new technologies and commercial realities.

17. Possible alternative procedures that could be considered as follow-up to this current process include:

- Propose amendments to the ITRs, with the amendments referred for adoption to the next Plenipotentiary Conference.

  - Article 8 of the ITU Constitution states that the Plenipotentiary "may deal with such other telecommunications questions as may be necessary". There does not appear to be anything in the Constitution that would prevent a Plenipotentiary Conference from amending the ITRs (though some Members might object).

- Propose amending the ITU Constitution to replace the ITRs with a more high-level and less detailed instrument that could be amended at each Plenipotentiary Conference.

- Propose amending the ITU Constitution to change the status of the ITRs so as to reduce the obligation on Members to enforce the ITRs on the commercial relationships between Sector Members.

Attachment 2

ITU Recommendations On Settlement Arrangements

Recommendation D.140

Recommendation D.140 establishes charging and accounting rate principles for international telephone services.

D.140 recommends that when establishing or revising accounting rates, these rates should be cost-orientated, take into account relevant cost trends, and apply to all relations on a non-discriminatory basis. Cost-orientation may be achieved on a scheduled basis, normally over a period of one to five years.

The elements to be taken into account when determining international accounting rates include:
- network elements
- international transmission facilities
- international switching facilities
- national extension
- related costs
- direct costs
- indirect or common costs
- other related costs.

Accounting rates and accounting rate shares are established and revised through bilateral agreement, including agreement on the approach to be used.

Recommendation D.150

Recommendation D.150 contains a range of procedures for accounting in international telephony. Its major principle is that Administrations should be remunerated on the basis of the facilities made available. In the ITU, the term "Administration" includes recognised operating agencies (ie carriers). The procedures are:

Flat-rate price procedure

A procedure where the Administration of the country of destination receives payment for the facilities made available at a flat-rate price fixed by it as a price per circuit. The price per circuit covers:
- the international circuit section provided by the country of destination
- the use of its international exchange
- the national extension.

In establishing these flat-rate prices, Administrations should take into account the principles in Recommendation D.140 and/or the principles in ITU-T regional Recommendations (such as D.500).

Traffic-unit price procedure

A procedure where the country of destination receives payment on the basis of the price fixed by it per traffic unit. The price is related to the facilities made available and takes account of:

- the international circuit section provided by the country of destination
- the use of its international exchange
- the national extension.

In establishing traffic-unit prices, Administrations should take into account the principles contained in Recommendation D.140 and/or the principles in ITU-T regional Recommendations.

Accounting revenue division procedure

A procedure where the accounting revenue from the traffic exchanged in a relationship is divided between the Administrations of the terminal countries, in principle on a 50/50 basis. A sharing basis of other than 50/50 may be agreed if both Administrations agree:

- that cost-orientated accounting rates have been achieved
- that the costs incurred by each Administration for the provision of international telephone service are not essentially equivalent.

The Administration of each terminal country in principle pays an appropriate share, normally half, of any remuneration due to the Administrations of transit countries.

In establishing these rates, Administrations should take into account the principles contained in Recommendations D.140 and D.155.

Use of procedures

The flat-rate price procedure, the traffic-unit price procedure or the accounting revenue division procedure may be used to remunerate Administrations of countries of destination.

The flat rate price procedure is used to remunerate Administrations providing direct transit via other countries.

The traffic-unit price procedure is used when transit traffic is not handled on direct circuits (eg traffic passing by switched transit). The remuneration for transit routing through one or more countries is made to the Administration of the country of the first transit exchange used, which fixes a price per unit of handled traffic. The price also includes remuneration of the Administrations of other transit countries, if any, and to the Administration of the country of destination, where appropriate. This procedure is in recognition that traffic routed through subsequent transit exchanges may not carry identification of the country of origin of the traffic.

Current Amendments

Current amendments to D.150 have been agreed in principle by Study Group 3 and are expected to be ratified at the next meeting in June 1999. These proposed additions to D.150 are:

Section 1 Draft proposed additions to Recommendation D.150

2 In establishing the following procedures, administrations should apply the principles of:*

- *Transparency;*
- *non-discrimination;*
- *cost-orientation;*
- *other principles contained in Recommendation D.140 as applicable.*

2.4 Settlement rate procedure

2.4.1 Under this procedure the Administrations of origin and destination will bilaterally agree to a cost-orientated settlement rate in accordance with Recommendation D.140.

2.4.2 The rate may differ in each direction and may also differ according to the domestic delivery network on which the traffic terminates.

2.5 Termination charge procedure

2.5.1 Under this procedure the administrations of destination receive a payment on the basis of a cost-orientated termination charge which they set by reference to a mutually acceptable costing methodology or, when available, a costing formula/methodology contained in ITU-T Recommendations, for traffic received from administrations with which the application of this procedure has been bilaterally agreed.

2.5.2 The termination[1] charge should comprise:

a) The use of its international exchange.

b) The national extension.

Components a) and b) should normally be separately identified.
In addition,

c) Where it is bilaterally agreed to use an international circuit provided by the administration of destination, to terminate an international call, then the costs associated with the use of that international circuit section should be added to the call termination charge.

This charge should be, cost orientated, separately identified and bilaterally negotiated. Where the administration of origin does not use the international circuit section offered by the administration of destination no charge would be applied.

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[1] A schedule of charges may be needed to account for cost differences and commercial factors.

d) Any additional costs that are imposed on a carrier by national regulation and that are a condition of operating its domestic network and providing termination of international traffic.

The administration should make available to its international correspondents concerned a detailed list of any additional cost elements, as described in d) above, together with associated national laws and regulations.

2.5.3 The same termination charge shall be applied to all traffic from any source arriving at the administration in the country of destination, unless it can be demonstrated that there are significant differences in the costs. The level of charge, and the methodology for determining variations of the charge, shall be non-discriminatory, and shall be made available on a transparent basis to all administrations.

2.5.4 Administrations should periodically review their termination charges and appropriately revise them to maintain at the cost-orientated levels consistent with the principles agreed for the termination charge procedure in 2.5.1 above.

2.6 Other procedures

For traffic between two countries with open and competition orientated telecommunications markets, administrations may elect to use other procedures where such procedures are more suited to the nature of their relationship. Where such traffic is terminated by a third administration the procedures should not affect the remuneration of that terminating administration without that administration's prior agreement.

2.7 Consideration regarding the choice of procedure

Administrations will bilaterally agree the remuneration procedure that is most appropriate to their needs. In absence of agreement, the last agreed procedure will continue to apply."

Recommendation D.500R

Recommendation D.500R outlines the principles to apply to accounting rates applicable to telephone relations between countries in Asia and Oceania. It states that where analytical cost data is available, such data should form the basis for bilateral negotiations, as provided in the ITRs and D.140. Where such data cannot be made available, distance-based maximum accounting rates are recommended, with the distance measured between appropriate international exchanges in the originating and destination countries. Each country should normally constitute a single area for the purpose of fixing accounting rates.

Recommendation D.155

Recommendation D.155 outlines guiding principles governing the apportionment of accounting rates in intercontinental telephone relations.

For traffic over direct circuits (ie direct relations), D.155 provides that a sharing basis other than 50/50 may be agreed if both Administration agree that cost-orientated

accounting rates have been achieved and that the costs incurred by each Administration are not equivalent.

For traffic over switched transit relations it provides that the cost of transit shares should be deducted from the accounting rate then divided according to the principles for direct relations.

For temporary alternative routes, D.155 provides that the accounting rate should be allocated in two terminal shares and one or more transit shares, normally according to the principles for traffic over direct relations and switched transit relations. In these temporary circumstances, all concerned Administrations may agree to special accounting arrangements, such as waiving fees or lowering fees.

Glossary of Acronyms

ABT	WTO Agreement on Basic Telecommunications
ACA	Australian Communications Authority
ACCC	Australian Competition and Consumer Commission
ACIF	Australian Communications Industry Forum
APEC	Asia-Pacific Economic Cooperation
APII	Asia-Pacific Information Infrastructure
APT	Asia-Pacific Telecommunity
CPI	Consumer Price Index
DFAT	Department of Foreign Affairs and Trade
DOCITA	Department of Communications, Information Technology and the Arts
ESCAP	Economic and Social Commission for Asia and the Pacific
FCC	United States Federal Communications Commission
GATS	WTO General Agreement on Trade in Services
GII	Global Information Infrastructure
INMARSAT	International Maritime Satellite Organisation Agreement
ISPs	Internet Service Providers
ITU	International Telecommunication Union
ITU-D	ITU Telecommunication Development sector
ITU-R	ITU Radiocommunication sector
ITU-T	ITU Telecommunication Standardisation sector
ITRs	ITU International Telecommunication Regulations
LCPP	Local Call Pricing Parity Scheme
MFN	Most-Favoured Nation
NOIE	National Office for the Information Economy
NUSC	Net Universal Service Cost
OECD	Organisation for Economic Co-operation and Development
PSTN	Public Switched Telephone Network
SG3	ITU Study Group 3
TPA	Trade Practices Act 1974
USO	Universal Service Obligation
WTO	World Trade Organisation