

**STARHUB'S RESPONSE TO IDA'S CONSULTATION PAPER –**  
**DESIGNATION OF SINGAPORE TELECOMMUNICATIONS LIMITED'S**  
**LOCAL LEASED CIRCUITS AS MANDATORY WHOLESALE SERVICE**

StarHub Pte Ltd ("**StarHub**") makes this submission in response to IDA's invitation for comments on its consultation paper *Designation of Singapore Telecommunications Limited's Local Leased Circuits as Mandatory Wholesale Service* ("**the LLC Paper**").

StarHub supports IDA's proposed regulatory approach as set out in the LLC Paper. In particular, StarHub submits that IDA should exercise its rights under section 1.6.2 of the *Code of Practice for Competition in the Provision of Telecommunications Services* ("**the Code**") to designate local leased circuit ("**LLC**") services provided by Singapore Telecommunications Limited ("**SingTel**") and its associated entities "wholesale services" under Appendix 2 of the Code. StarHub submits that IDA should, in making that designation, require that SingTel supply LLC services on a retail minus basis.

StarHub also submits that SingTel should be required to allow FBOs to co-locate equipment at SingTel exchanges for the purpose of interconnecting FBO trunk LLC circuits with SingTel tail circuit LLCs. This requirement should also be effected by an amendment to Appendix 2 of the Code requiring that co-location be made available on a cost recovery basis.

## **1 Executive Summary**

- 1.1 There is currently a lack of effective competition in the retail market for LLC services and other downstream markets that rely on LLC services as essential inputs, including those for broadband, Internet and mobile services. This lack of effective competition is contrary to the best interests of end users and IDA's goals of maximising the take-up of broadband services.
- 1.2 The lack of effective competition in the retail LLC market and associated downstream markets is attributable to SingTel's continuing dominance in the wholesale LLC market and its ability to use that dominance to constrain pricing flexibility and prevent other FBOs from competing effectively. SingTel's ability to do this is attributable to its ubiquitous coverage, particularly where customer tail circuits are concerned, and its ability to leverage off its long held dominance in other markets such as International Telephone Services ("**ITS**") and International Carrier Services ("**ICS**").
- 1.3 StarHub submits that there is considerable evidence to demonstrate that SingTel continues to use its dominant position in the LLC market and that the existing level of regulation is therefore inadequate. This issue is dealt with in the confidential attachment to this submission. Other carriers have also formally and informally made representations to IDA regarding the unreasonable terms and conditions on which SingTel provides LLC services and the need for additional regulation to address this.
- 1.4 Appropriate regulatory intervention is essential given that LLC services are a critical building block for the provision of competitive downstream services. A lack of effective regulation has a significant effect on the ability of FBOs, such as StarHub, to compete in downstream markets by hampering StarHub's ability to provide services utilising the LLC services. This is ultimately detrimental to Singapore consumers who are deprived of the superior range of services and lower prices that an effective and fully competitive telecommunications market offers.
- 1.5 However, regulation must strike a balance between the need to ensure fair and reasonable access to LLC services for non-dominant FBOs toward effective retail competition, and the need to retain sufficient network roll-out incentives toward the long-term goal of facilities-based competition. StarHub submits that a "retail minus retail costs" pricing methodology is most appropriate to achieve this balance and that ongoing monitoring of SingTel's retail prices will be required to ensure compliance.
- 1.6 Furthermore, StarHub submits that the additional regulation will be required for a sufficient period of time to ensure that SingTel is not able to immediately reassert its dominance once that regulation is lifted. Otherwise the benefits to competition that have been achieved may

easily be lost. StarHub submits that a period of 3 years for LLC services in CBD areas and 5 years for other LLC services would be appropriate. These timeframes should, in StarHub's view, be subject to review and a further public consultation 6 months prior to their scheduled expiry.

- 1.7 StarHub submits that Singapore's international regulatory obligations and the approaches of comparable jurisdictions to the regulation of LLC services support the proposed regulation of LLC services, subject only to the need to ensure that the pricing methodology is appropriate to Singapore's particular circumstances (i.e. the need to ensure that sufficient infrastructure investment incentives remain).
- 1.8 StarHub's detailed submissions below refer to the corresponding questions in paragraph 4 of the LLC Paper as referred to in the heading to each section of the submission. StarHub also attaches proposed amendments to Appendix 2 of the Code for IDA's consideration.

## **2 Definition of LLC services [Paragraph 4.1(c) of the LLC Paper]**

- 2.1 In response to IDA's invitation for a technical definition of LLC services (paragraph 4.1(c) of LLC Paper), StarHub submits that the following definition should be adopted for LLC services to be designated under the Code:

*Local leased circuit services from 64kbps to 155Mbps (STM1) provided by Singapore Telecommunications Limited ("SingTel") between any two designated points on, or reasonably proximate to, SingTel's network including, but not limited to, points of interconnection with another FBO's network ("POIs") customer premises, specific outdoor locations or lamposts ("LLCs"). The LLCs include both point to point and multipoint to point services and all elements of those services including, but not limited to, tail, trunk and grooming services.*

## **3 Current state of competition for LLC services [Paragraph 4.1(a) of the LLC Paper]**

- 3.1 IDA has invited comments on the current state of competition in the Singapore market for LLC services (paragraph 4.1(a) of the LLC Paper). StarHub submits that the existing regulatory structure has not been sufficient to promote effective competition amongst providers of LLC services and has resulted in market failure. This is principally because the incumbent carrier, SingTel, continues to dominate the market and uses that dominance to restrict the ability of competitors to compete efficiently in downstream markets. For example, based on StarHub's investigations and independent analyst reports, SingTel retains 80 to 85% of the retail LLC services market. SingTel's conduct in dealing with StarHub in relation to LLC services (as summarised in Attachment C to this submission which is confidential) provides further evidence of this market failure.
- 3.2 SingTel is also pricing the LLC services at such a level that an efficient operator is unable to profitably re-sell the services to its customers, or use the LLC services as inputs to downstream services, at a profit. Although certain provisions of the Code are directed at preventing "price squeeze" behaviour of this kind, the imprecise drafting of these provisions, together with the high evidentiary requirements for enforcement action and the other well recognised limitations of *ex post* regulatory intervention (such as the difficulty in achieving timely outcomes and addressing industry wide problems) mean that *ex ante* regulation is clearly required. Effective competition in retail LLC markets can simply not be achieved where competing FBOs are frequently unable to source crucial network building blocks at less than the incumbent's retail prices.

## **4 IDA's Proposed regulatory approach [Paragraphs 4.1(b) and 4.1(f) of the LLC Paper]**

- 4.1 As set out below, StarHub agrees with IDA's proposed regulatory approach of designating LLC services a "wholesale service" under Appendix 2 of the Code and requiring SingTel to allow FBOs to co-locate equipment at SingTel exchanges for the connection of trunk circuits.

### **Designation of LLC services**

- 4.2 In order to facilitate effective competition in the LLC services market and associated downstream markets, IDA should regulate access to LLC services by designating them as a “wholesale service” under Appendix 2 of the Code. StarHub submits that this is the most efficient way to achieve effective competition in the market for LLC services and downstream markets which rely on them as an essential input. Regulation should continue until such time as effective facilities-based competition has been established and SingTel is no longer able to leverage its control of bottleneck transmission infrastructure to harm competition in downstream markets. If regulation is only selectively applied or is removed too early, SingTel may aggressively discount in certain areas where it faces competition, and subsidise these discounts via monopoly charges elsewhere, such as in its recently introduced “Zone” LLC pricing.
- 4.3 Premature removal of price regulation for LLC services by the FCC in the United States (where they are known as special access telecommunications services) has resulted in substantial price increases, given the lack of effective competition. Dominant operators have enjoyed vastly increased profits as a result. This in turn has led to negative flow-on economic effects, including stifled job creation and depleted investment capital available to non-dominant FBOs for LLC services infrastructure development.
- 4.4 Given SingTel’s level of dominance, StarHub submits that IDA’s proposed 2-3 year time frame is too short to achieve effective facilities-based competition, particularly in the more outlying parts of Singapore. Accordingly, StarHub submits that the designation of LLC services in CBD areas should remain for an initial period of 3 years and in all other areas should remain for an initial period of 5 years. StarHub submits that these timeframes should be reviewed, and a further consultation process undertaken, 6 months prior to their scheduled expiry.
- 4.5 Furthermore that review should, in StarHub’s view, take account of the fact that in some instances (eg. outlying areas), it may simply never be economic for new infrastructure to be rolled out. Particular routes may be already adequately served by the available transmission capacity and traffic volumes would not support duplicate infrastructure. This is evident in many other jurisdictions, for example the outlying areas and islands of the British Isles. In such circumstances, StarHub submits that longer-term regulatory intervention to promote access may still be required, consistent with international best practice in relation to the regulation of bottleneck transmission infrastructure.
- 4.6 StarHub submits that the promotion of access to SingTel LLC on a wholesale basis would not discourage infrastructure roll-out, in particular as the access will be subject to a sunset. Rather it would actually **encourage** roll-out by enabling that roll-out to occur on a progressive basis using a combination of “build and buy”. The provision of access to existing infrastructure would allow StarHub and other carriers to attract the investment capital required to engage in further network roll-out. Therefore, such access is a necessary pre-condition on the path towards full facilities based competition. The combined “build and buy” approach is significantly more efficient and enables roll-out to occur initially on the routes where roll-out is most critical and on a timely basis. It also discourages unnecessary and costly duplication of infrastructure on routes which are best serviced only by existing infrastructure by ensuring the existing infrastructure is efficiently shared, thereby also maximising the infrastructure owner’s return on investment.
- 4.7 StarHub submits that the availability of LLCs at “retail minus” rates should be limited to Facilities-based Requesting Licensees consistent with IDA’s historical approach on dark fibre and IPLCs and the need to encourage facilities-based competition.

### **Co-location requirements**

- 4.8 StarHub agrees with IDA’s proposal to require SingTel to provide co-location services at SingTel exchanges for connecting SingTel tail-circuit LLCs to FBOs’ trunk-circuit LLCs. StarHub submits that co-location should also be available at SingTel managed facilities including, but not limited to, its Global Network Command Centre (GNCC), Pickering Centre, Telepark and Expan to enable competing FBOs to more efficiently service their retail customers and other co-located operators. StarHub submits that these requirements should

also be effected via an amendment to Appendix 2 of the Code. Access to co-location and interconnection at SingTel exchanges and SingTel managed facilities is crucial to facilitate effective competition in the LLC services market and associated downstream markets.

- 4.9 Without appropriate co-location and interconnection rights, StarHub and other FBOs would be forced to purchase both the SingTel tail-circuit to its customer's premises or point of termination *and* the SingTel trunk circuit to the StarHub/FBO exchange in order to provide LLC services to customers not directly connected to a StarHub/FBO tail-circuit. This would impede the ability of StarHub and other FBOs to compete effectively and discourage StarHub and other FBOs from building their own infrastructure, given that operators would be forced to use SingTel's trunk circuit to provide LLC services to that customer anyway.
- 4.10 Co-location is therefore required to enable effective facilities-based competition in relation to the trunk circuit and ultimately effective competition in the provision of LLC services to customers. Without mandatory co-location, SingTel will continue to be able to use its position as the dominant operator and owner of most tail circuit infrastructure to force other FBOs to also use SingTel's trunk circuits in providing LLC services to customers.
- 4.11 StarHub submits that SingTel should be required to provide access to co-location space on a non discriminatory, pro-rata cost recovery basis consistent with clause 5.3.5.5.2 of the Code. In particular, SingTel should not be allowed to add any "premiums" such as "Connection Services" for interconnection into a SingTel tail circuit or equipment, on to its costs of supplying these services. Otherwise, the benefits of this approach could be lost.

#### ***Draft provisions for insertion into the Code***

- 4.12 StarHub attaches for IDA's consideration proposed amendments to Appendix 2 of the Code reflecting the approach set out above. The proposed amendments are contained in Attachment B to this submission. StarHub submits that IDA should also ensure that a mechanism is put in place by SingTel to allow for a smooth and cost free (from the acquirer's perspective) process for migrating LLCs from existing contracts to SingTel's RIO.

### **5 Policy basis for increased regulation**

- 5.1 StarHub submits that there is a clear policy basis for designating LLC services and the associated co-location of equipment as wholesale services under Appendix 2 of the Code for the following reasons:
- (a) LLC services constitute critical network infrastructure to which access is essential if FBOs are to compete effectively with SingTel in downstream markets. LLC services are key input components, or "building blocks", for many downstream competitive telecommunications services such as virtual private networks, broadband services, mobile services and international private leases;
  - (b) Insufficient regulation at the wholesale level enables vertically-integrated incumbents to effectively deny access to infrastructure, thereby reducing competition at the retail level. The principle of asymmetric regulation embodied in the Code is intended to promote access to, and interconnection with, SingTel's network infrastructure as the dominant licensee, thereby facilitating efficient market entry and stimulating retail competition;
  - (c) Increased retail competition is likely to result in superior product offerings for Singapore consumers at lower prices, thereby increasing economic efficiency, benefiting end consumers and increasing Singapore's international competitiveness. Increased retail competition is consistent with the objectives of the Code, the Telecommunications Act 1999 and the Info-communications Development Authority of Singapore Act 1999;
  - (d) In the absence of sufficient regulation of LLC services and the ability to co-locate to achieve interconnection, FBOs are unable to compete in areas where utilisation rates mean that infrastructure building is simply not economically feasible at this stage. Further, there will be areas where the volume of use is unlikely to justify the cost of

additional infrastructure even in the long term. Additionally, there are no capacity constraints affecting SingTel's relevant LLC services. If each FBO were compelled to roll-out its own LLC network for each route on which its customers require LLC services, this would significantly increase the cost of market entry (with a consequent impact on both upstream and downstream markets). It would also result in inefficient duplication of infrastructure, thereby increasing the costs to Singapore end consumers and ultimately reducing Singapore's international competitiveness (as well as causing unnecessary road and transport disruption).

- (e) Notwithstanding the urgent need for the specific regulation outlined above, an appropriate balance must be achieved between the need to encourage infrastructure roll-out toward long-term facilities-based competition and the need for existing infrastructure to be used efficiently to ensure effective retail competition. StarHub submits that the effective absence of specific regulation with regard to such a significant network building block fails to achieve that balance but an approach whereby specific regulation is combined with sunset provisions and the opportunity for review will achieve such a balance.

- 5.2 An analysis of IDA's historical policy rationale supports these conclusions. For example, IDA initially chose to regulate dark fibre which is a product used to provide LLCs (although at a significantly greater cost to market entrants as they were first required to install equipment to activate the dark fibre). In paragraph 3.2.12 of IDA's paper of 15 September 2000, describing the policy rationale behind the Code, IDA commented that:

"Appendix Two...preserves the requirement, first included in the revised Proposed Code, that a Dominant Licensee allow Facilities-based Requesting Licensees to lease dark fibre. However, the Dominant Licensee will be allowed to offer dark fibre at wholesale rates, rather than at prices based on forward looking economic cost ("FLEC"). IDA is requiring the Dominant Licensee to offer dark fibre to Facilities-based Requesting Licensees on a wholesale basis to reduce their difficulty of entering the Singapore market. IDA is directing the Dominant Licensees to offer dark fibre at non-FLEC prices to encourage Facilities-based Licensees to ultimately build their own network infrastructure."

Ultimately, it is the **price** of access which influences the "build or buy" decision of FBOs, rather than access itself (although access itself is clearly required for FBOs to be in a position to make that decision). Accordingly, the IDA can ensure network roll-out incentives are retained by mandating access on reasonable terms (to prevent the incumbent from denying access to critical bottleneck infrastructure), but also by adopting appropriate regulation of the access price to maintain roll-out incentives. The appropriate access price to maintain roll-out incentives while ensuring effective competition is covered in paragraph 6.1 below.

- 5.3 Furthermore, regulatory intervention by IDA in designating LLC services a wholesale service would be entirely consistent with international best practice, as identified in paragraph 7 below.

## **6 Proposed Pricing Principle [Paragraph 4.1(e) of the LLC Paper]**

- 6.1 With respect to IDA's requested views on its proposed pricing principles for LLC services (paragraph 4.1(e) of the LLC Paper), StarHub submits that a "retail minus" pricing methodology would be appropriate to ensure fair access to LLC services for non-dominant FBOs and effective retail competition, while retaining network roll-out incentives.
- 6.2 Retail minus pricing is intended to set a maximum charge for a wholesale service equal to the retail price for that or an equivalent service less the retail costs generally incurred by the retail activity for that service.
- 6.3 For example, the Australian Competition and Consumer Commission ("**ACCC**") defines "retail minus" as the retail price less the retail costs (avoidable costs) which the access provider would avoid if it ceased provision of retail services completely for the service in question. It is the average cost of retailing the service, which the access provider could conceivably avoid, which is deducted from the actual retail price. This means that an FBO which is a more

efficient retailer of the service than the dominant access provider will be able to offer the retail service at a lower price than the dominant licensee.

- 6.4 Retail minus is also known as “retail minus avoidable costs” or RMAC, but the ACCC stresses that the emphasis is on costs that would be avoided with the cessation of retail supply, not costs that will actually be avoided by the access provider in wholesaling the services. This distinction is not an important one because the costs actually *avoided* by an inefficient dominant operator where it provides the service on a wholesale, as distinct from a retail, basis are likely to be much less than the *avoidable* costs or the costs it would avoid if it ceased retailing the service altogether. These costs include, at a minimum, the costs of retail marketing and sales, the costs of finance and retail billing (including bad debt), retail computing costs and customer service costs (back and front office). StarHub submits that IDA should employ the term “retail minus retail costs” to avoid confusion between avoidable and avoided costs, and for the purposes of this submission, StarHub’s references to “retail minus” should be read accordingly.
- 6.5 The advantages of a retail minus approach to pricing in this case include the likelihood of it providing effective retail competition in the short to medium term, while preserving FBO incentives for network roll-out in the longer term. It should also avoid the undesirable delay and complexity involved in determining a cost based price for LLC services at this stage. The avoidance of such delay is crucial having regard to the urgent need to further regulate the provision of wholesale LLC services to address the market failure referred to above.
- 6.6 Based on an assessment of SingTel’s current standard pricing for LLC services and the level of discounts it offers to customers off that pricing, StarHub submits that the appropriate deduction for SingTel’s average retail costs is between 40% and 50% off SingTel’s standard retail prices (including off its standard volume discounts. StarHub makes this submission on the basis that SingTel’s normal discounting in the market, which is of this order of magnitude, would presumably not be so great that it would involve SingTel supplying the services at less than their wholesale cost. However it is crucial that the level of discount must be, *and remain*, sufficient to allow an efficient operator to compete with SingTel on a retail basis. This may necessitate an ongoing monitoring by IDA of SingTel’s standard LLC pricing and the corresponding level of “retail minus” discount to ensure that SingTel does not simply inflate its “standard” LLC charges. It may also require IDA mandating that SingTel publish its standard LLC prices and discounts to ensure sufficient transparency to the process.
- 6.7 It is also important to ensure that the “retail minus” pricing methodology applies to all charges for the LLC services, including installation, usage, grooming and maintenance charges. Otherwise SingTel would be able to recoup any lost margin on the recurring charges by increasing one-off or incidental charges. It is also important to ensure that SingTel’s RIO Schedules and price lists for the LLCs truly reflect their status as a wholesale service i.e. a service where the FBO acquiring the service is able to acquire a service which can be supplied without branding it as a SingTel service.

## **7 Singapore’s international regulatory obligations and international best practice support more focused regulation [Paragraph 4.1(d) of the LLC Paper]**

- 7.1 StarHub submits that Singapore’s international regulatory obligations also support more focused regulation of LLC services. For example:
- (a) Articles 5(a) and (b) of the WTO Annex on Telecommunications, for example, require Singapore to ensure that access is provided to leased circuits on reasonable and non-discriminatory terms and conditions;
  - (b) Articles 9.2.1 and 9.3.1 of the Telecommunications Chapter of the US-Singapore Free Trade Agreement require Singapore to ensure that access to leased circuits is provided on reasonable and non-discriminatory terms; and
  - (c) A similar obligation is also contemplated by Articles 3:1 and 9:3 of the Telecommunications Chapter of the Australia-Singapore Free Trade Agreement.

7.2 In addition, Singapore's international obligations under the US-Singapore and Australia-Singapore Free Trade Agreements also require Singapore to:

- (a) ensure major suppliers (such as SingTel) in Singapore accord treatment to other services suppliers in a way that is no less favourable than such major suppliers would accord themselves, their subsidiaries, their affiliates or any non-affiliated service suppliers regarding availability, provisioning rates or quality of telecommunications services.<sup>2</sup>
- (b) ensure major suppliers in Singapore allow other services suppliers to purchase services for resale on reasonable terms, and do not impose unreasonable or discriminatory conditions or limitations on the resale of the public telecommunication services.<sup>3</sup>

7.3 StarHub submits that international best practice on *ex ante* asymmetric sectoral regulation, as adopted by section 1.5.3 of the Code, supports the need for more focused regulation of LLCs.

7.4 Current international best practice on the need for *ex ante* asymmetric regulation in the telecommunications industry (as opposed to a reliance on *ex post* competition law enforcement) is clearly articulated by the ITU's November 2002 background paper on *Competition Policy in Telecommunications*. In this paper the ITU reasoned at paragraph 4.2.2 that:

"In most countries, asymmetrical regulation is typically applied in the context of interconnection and access with a view towards balancing the need for contractual freedom between non-dominant operators against the reluctance shown by incumbent operators in offering these services. While the scope of *ex ante* interconnection and rulemaking varies from country to country, a good global benchmark is found in the WTO Reference Paper.

Reflecting the WTO Reference Paper benchmark, the scope of interconnection and access provision in telecommunications is now largely determined by *ex ante* regulation, moving many potential disputes from the general ambit of competition law to the more specific ambit of telecommunications regulation, specifying precisely, on an *ex ante* basis, the range of facilities and services major suppliers are required to make available and on what basis. Mandatory interconnection and access by major suppliers on regulated terms have largely taken the place of competition law prohibitions against anti-competitive conduct such as the refusal to deal or the "Essential Facilities Doctrine", discrimination, anti-competitive pricing and tied sales and bundling."

7.5 StarHub notes that the principle of *ex ante* regulation is adopted in section 1.5.3 of the Code which provides that "to the extent that a given market is not yet competitive, significant *ex ante* regulation is likely to remain necessary". StarHub submits that *ex ante* regulation of access to LLC services is clearly a more appropriate regulatory means of promoting access, consistent with international best practice, as opposed to relying on *ex post* competition enforcement under section 7 of the Code.

7.6 The OECD has also made the following recommendation for telecommunications regulators in OECD nations:

"The other major concerns for business users and new entrants, in respect to broadband access, are, in some countries, the ongoing high cost of traditional leased line products and tardy performance in provisioning this infrastructure for competitors. In markets where alternatives are not available new entrants continue to depend on access to incumbent facilities to serve their business customers. The reason for this is that it takes time to develop alternative local infrastructure. At the same time, because experience shows that entities with monopoly power over essential facilities will act in anti-competitive ways, regulatory authorities need to apply and oversee

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<sup>2</sup> Article 9.4.1, Chapter 9 US-Singapore FTA and Article 9.1, Chapter 10 Australia-Singapore FTA.

<sup>3</sup> Article 9.4.5, Chapter 9 US-Singapore FTA and Article 9.5, Chapter 10 Australia-Singapore FTA.

competitive safeguards. An important means to accomplish this task involves the use of benchmarking. The main focus of this benchmarking needs to be the pricing and provision of local leased lines that business users and new entrants need to connect to their backbone networks.”

- 7.7 These recommendations are consistent with the current international trend towards more focused regulation of wholesale leased circuits, including LLC services, given their crucial role in ensuring the competitiveness of downstream markets. StarHub has summarised the approaches of various jurisdictions to the regulation of wholesale leased circuits in Attachment A to this submission.

## **8 Conclusions**

- 8.1 International best practice and an analysis of the Singapore market both indicate that specific *ex ante* regulation of SingTel’s LLC services is required to address the current lack of effective competition in the retail LLC market and downstream markets relying on LLCs as essential inputs. LLCs are crucial network building blocks which must be made available to competing FBOs on reasonable terms and conditions to allow for efficient build/buy decisions and provide a reasonable return on investment for the incumbent.
- 8.2 The need for a quick and decisive regulatory intervention together with the need to encourage longer term investment in infrastructure indicate that a “retail minus” pricing methodology should be applied to the LLC services. This should be effected by the designation of LLCs (including all their component services) as wholesale services under Appendix 2 of the Code, thereby requiring SingTel to include them in its RIO.
- 8.3 In order to allow FBOs to properly access and interconnect with SingTel’s LLCs, IDA should also designate LLC co-location under Appendix 2 of the Code. Co-location should be provided on a cost basis as required by the Code and should be made available at SingTel exchanges and managed facilities.
- 8.4 StarHub’s prepared amendments to the Code are set out in Attachment B.

**ATTACHMENT A THE APPROACHES OF OTHER JURISDICTIONS TO THE REGULATION OF WHOLESALE LEASED CIRCUITS ALSO SUPPORTS MORE FOCUSED REGULATION IN SINGAPORE**

**A1 Australia**

A2.1 Australia has regulated access to wholesale leased circuits since June 1997 via the declaration of the “domestic transmission capacity service” (for bandwidths of 2Mbit/s and above) and the “digital data access service” (for bandwidths less than 2Mbit/s).

A2.2 Australian FBOs must provide access to wholesale leased circuits on reasonable and non-discriminatory terms and conditions, subject to enforcement action. Binding arbitration by the regulator may be requested if a dispute over access arises, including if commercial access negotiations stall or fail. The arbitral determination may be made retrospective to the commencement of negotiations.

A2.3 Australia’s rationale for regulating access to wholesale leased circuits was as follows:

- (a) The decision on declaration of wholesale leased circuits was “*considered in terms of whether the services exhibit bottleneck characteristics*”. Tail-end transmission in particular was considered to “*exhibit similar bottleneck characteristics to that of the local network*”.
- (b) In relation to other types of transmission, Australia reasoned that “*an important element to determining whether the cost structure of transmission on particular routes can be characterised as a natural monopoly is the volume of traffic*”. As a result, all routes are declared except the very high traffic volume routes between the major Australian cities, which are currently highly competitive with around five different suppliers of wholesale leased circuits on these routes.
- (c) More importantly, the provision of wholesale leased circuits “*on more competitive terms*” was considered to “*directly impact on competition in dependant markets which rely on the use of those wholesale leased circuits. These markets particularly include long-distance and international services, data-related services and IP-based services.*”
- (d) Similarly, Australia reasoned that “*broadband applications and other high bandwidth requirements are becoming more widespread*” and so the need for leased circuits for such applications was “*continuing to grow strongly*”. Australia therefore reasoned “*that a more competitive wholesale transmission market would have a significant effect on a large array of new and innovative retail services*”.
- (e) Australia concluded that “*more efficient prices and more reasonable terms and conditions in the provision of wholesale transmission services would have a positive impact on efficient investment in downstream markets*”. That is, if “*upstream access providers made access to wholesale transmission services physically difficult...then this would most likely prevent efficient investment levels downstream*”.<sup>1</sup>

A2.4 Australia confirmed its continuing intention to regulate these services in 2002.

**A2 European Union**

A2.1 The competitive provision of leased circuits has been considered increasingly important for the European economy and for the rapid emergence of electronic commerce. This has led to increased regulation of wholesale leased circuits, particularly in the last 3 years.

A2.2 At present, the provision of leased lines is regulated in the EU by the specific "Leased Lines Directive" and by the more general "Interconnection Directive":

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<sup>1</sup> Report by the ACCC “Competition in data markets - a final report on whether to declare certain ISDN services, and whether to amend declarations for the digital data access service and transmission capacity under Part IXC of the Trade Practices Act 1974 (1998).

- (a) The Leased Lines Directive is aimed at ensuring the availability of a minimum set of leased lines in recognition that leased lines are vital to the development of competition, as they are the only means by which new entrants can compete with incumbents. Under the Leased Lines Directive, EU Member States must ensure that operators with significant market power provide a minimum set of leased lines and are required to encourage the provision of high speed leased lines.
- (b) The Interconnection Directive sets out a framework for fair, proportionate and non-discriminatory interconnection. Leased lines are highlighted in the Interconnection Directive as being of major importance at the European level and, accordingly, operators with significant market power are subject to specific access obligations.
- A2.3 A new communications regulatory package (including five new directives) was adopted by the EU in March 2002. The new directives are to be implemented in Member States by 24 July 2003. As part of the new regulatory package, Member States are required to carry out a review of competition in the leased lines markets (including wholesale terminating segments and wholesale trunk segments) to ensure that these markets are appropriately regulated.
- A2.4 The European Commission (EC) completed a specific inquiry into leased circuits in the EU in December 2002. This inquiry was initiated because the EC considered that "*the competitiveness of the EU economy heavily relies on the availability of advanced communications infrastructure*", and that a current weakness in achieving this was the generally expensive, insecure and slow access to the Internet and e-commerce.
- A2.5 The EC reasoned in this inquiry that improved access to wholesale leased circuits was important for the following reasons:
- they form the critical building blocks for access, such as Internet connectivity and associated products and services in media, communications and entertainment industries;
  - new entrants depend on the availability and pricing of leased lines to expand and improve their networks more quickly than is possible by installing their own infrastructure;
  - service providers rely on them as the basic transport infrastructure upon which their wholesale and retail services are built;
  - with the expansion of the Internet, leased lines are relied on extensively by ISPs to build backbone networks and by large customers to access ISP facilities, thus becoming crucial for the availability and affordability of networks;
  - they play a role in broadband traffic insofar as the attractiveness of xDSL or the wireless local loop is dependent on pricing; and
  - they are used by large business users as the means of linking their locations world-wide for the transport of internal voice and data communications traffic.
- A2.6 As a result of the inquiry and EC investigations of regulation of leased lines in particular countries, a number of EU Member States have adopted regulatory measures to require their incumbent operators to provide access to wholesale leased circuits. Belgium, France, UK, Netherlands, Italy and Spain, for example, have so far each required the incumbent to make a wholesale leased lines offer, in most cases within the incumbent's RIO.

### **A3 United Kingdom**

- A4.1 In November 1999, OFTEL began a review of national leased circuits to determine the appropriate level of regulation. The review was prompted by concerns about insufficient competition, particularly in the wholesale market. Leased circuits were considered to be a key telecommunication service for many UK businesses and were considered important to

other telecommunications operators and service providers in underpinning many other services (eg. the use of leased lines by mobile networks for backhaul and backbone purposes, and for ISPs for Internet connectivity).

- A4.2 In its review, OFTEL focused on the underlying conditions at the wholesale level, which OFTEL split into two markets – wholesale trunk segments and wholesale terminating segments (i.e. access tails). OFTEL identified that there was insufficient retail competition for the supply of access tails or insufficient competition in the market for wholesale terminating segments. A particular concern to OFTEL were barriers to entry created by the structure of the wholesale market. OFTEL's principal concern was that retail telecommunications suppliers were dependent on the acquisition of access tails from British Telecom (BT), as incumbent.
- A4.3 OFTEL has therefore concentrated on promoting access to wholesale leased circuits provided by BT. In particular:
- In line with the EC's position, OFTEL has confirmed that BT must provide access to wholesale leased circuits under the EU's Interconnection Directive.
  - BT has been specifically required to offer to enter into agreements with specified operators for the supply of access tails at all bandwidths to 2.4 Gbit/s at wholesale pricing on a reasonable and non-discriminatory basis. Previously, BT was only offering such access tails to other carriers at retail prices. OFTEL reasoned that by implementing such regulation, it was enhancing competition in downstream markets and attempting to prevent a "price squeeze" by BT.
  - More recently, OFTEL has set specific terms and conditions for the supply of wholesale leased circuits to guarantee the timely delivery of the wholesale products.
- A4.4 As part of its implementation of the new EU communications directives, OFTEL is currently (April 2003) conducting a further market review of wholesale leased circuits with a view to further ensuring that other operators and service providers are able to compete fairly by taking appropriate regulatory action against BT as necessary.
- A4.5 In addition, OFTEL has recently published a consultation document reviewing competition in a number of fixed narrowband markets (at both the retail and wholesale level), including those for services equivalent to ISDN2 and ISDN30. As a result of the review (and its initial findings that BT is clearly dominant in many of the markets considered), OFTEL is proposing continuing regulation of these services at the wholesale level, including a new regulation to require BT to provide wholesale ISDN services to telecommunications operators that want to compete in the business market.

#### **A4 France**

- A4.1 In February 2002, the Autorite de Regulation des Telecommunications ("ART"), the French national telecommunications regulator, instructed France Telecom to introduce wholesale leased circuits into its Reference Interconnect Offer and to alter its conditions for delivery of leased circuits, including applicable penalty clauses. Around the same time, ART ruled on a dispute between WorldCom and France Telecom, requiring France Telecom to provide leased circuits on a wholesale basis to WorldCom. The aim of these decisions was to facilitate the development of a wholesale leased circuits offer by France Telecom to enhance competition in the leased circuits market and to directly impact on the cost of high-speed access services.
- A4.2 The new Reference Interconnection Offer from France Telecom has facilitated greater opportunities for tailoring the use of leased circuits more closely to telecommunications operators' and their customers' needs by creating a true "wholesale" service, rather than simple resale. In a February 2002 press release, ART commented that its goal was to "*stimulate the development of competition on the data transmission market across France, by allowing France Telecom's competitors to complete their own medium and high-speed leased lines networks.*" ART has said it intends to review pricing and technical conditions relating to leased lines on an annual basis.

## **A5 Italy**

A6.1 The Autorita per le Garanzienelle Comunicazioni (**AGCOM**), the Italian national telecommunications regulator, has recognised the importance of access in the leased circuit market by regulating the pricing, quality and provision of the incumbent Telecom Italia's leased circuit services. In particular:

- in July 2000, AGCOM required Telecom Italia to reduce its prices for urban and inter-urban leased lines by an average of 23.7%;
- in October 2000, AGCOM modified Telecom Italia's service level agreement in relation to the delivery, maintenance and quality of leased circuits provided by Telecom Italia; and
- in 2002, AGCOM conducted an inquiry into Telecom Italia's compliance with its service level agreement which concluded that Telecom Italia had not paid penalties required for late delivery and service assurance.

A6.2 Generally, new entrants have seen AGCOM's regulatory action in relation to leased circuits as a positive step towards increasing competition. However, there are still complaints that competition is only being generated in certain destinations (lines between major cities) while in other destinations Telecom Italia and its major competition continue to be the only players.

A6.3 In March 2003, Telecom Italia was required to make a wholesale offer as a way of ensuring effective competition in the offer of circuits or data services. The wholesale offer is available for both ISPs and telecommunications operators and is based on a "retail minus" pricing model.

## **A6 Canada**

A6.1 Canada's approach to the regulation of wholesale leased circuits is usefully summarised in the following quote from an OECD study of Canadian telecommunications regulation in September 2002:

"Access to leased circuits is an essential requirement for new entrants to develop their network and their business. These circuits provide the main building block for new entrants to provide service to new customers and to build-up rapidly their infrastructure to provide wholesale and retail services. This is, in particular, important for local ends, that is short distance leased circuits, in that new entrants need to provide end-to-end leased circuits for their customers to connect premises. With the availability of unbundled local loops these can be substituted for low speed access. ADSL technologies now provide a possibility for higher speed access. However, for high-speed lines it may still be necessary to use dedicated leased circuits. These local leased circuits need to be priced at a wholesale rate for new entrants rather than at a retail rate. In other words the price charged by the incumbent for these circuits to a new entrant should be non-discriminatory i.e. should be equivalent to the transfer price paid by the incumbent to itself, and should differ from the price the incumbent charges to one of its commercial customers. For example, in the European Union the provision of leased line local ends are regarded as wholesale interconnect offer. The principle of pricing of leased circuits should not in fact differ to unbundling. The decision on how to price these circuits reflects to some extent the philosophy of the regulator, which has been to discourage resale on the basis that this discourages investment in facilities. However, both are essential and often complementary. In this context it is important for the regulator to promote competition as much as possible not only to permit it."

**ATTACHMENT B      PROPOSED AMENDMENTS TO APPENDIX B OF THE CODE OF PRACTICE FOR COMPETITION IN THE PROVISION OF TELECOMMUNICATIONS SERVICES**

**7.      WHOLESALE SERVICES**

**[7.1]    Local Leased Circuit services**

[7.1.1] [Singapore Telecommunications Limited and its affiliates] ("**SingTel**") must offer to make the following services available to Facilities-based Requesting Licensees on an "retail minus" price basis:

Point to point and multipoint to point local leased circuit services (including tail circuit and grooming services) at the following speeds:

- Nx64K
- E1
- Multiples of E1
- DS3
- STM1

**[7.2]    Local Leased Circuit services**

[7.2.1] SingTel must offer to allow Facilities-based Requesting Licensees to obtain LLC services in a timely and non-discriminatory manner. SingTel must provide maintenance and repair services equivalent to those it provides for LLC services supplied to its affiliates and retail customers. Service availability and quality must also be demonstrably equivalent to that of LLC services offered by SingTel to its affiliates and retail customers. Compliance by SingTel with these requirements should be capable of independent verification by IDA and competing FBOs.

[7.2.2] The price at which SingTel must offer LLC services is based on a "retail minus retail costs" methodology calculated by deducting SingTel's average retail costs from its retail LLC charges and benchmarked against other comparable jurisdictions for reasonableness. This pricing methodology should apply to all charges for the services including, but not limited to, installation, usage and grooming charges.

[7.2.3] In order to enable Facilities-based Requesting Licensees to access LLC services, SingTel must offer to provide co-location space to any Facilities-based Requesting Licensee to co-locate equipment at any SingTel exchange or managed facility including, but not limited to, SingTel's GNCC, Pickering Centre, Telepark and Expan for the purposes of interconnecting FBO trunk LLC circuits to SingTel local LLC circuits.

[7.2.4] SingTel must provide access to the co-location space on a non-discriminatory, pro rata cost recovery basis.