

SUBMISSION OF SINGAPORE TELECOMMUNICATIONS LIMITED

CHARGING FOR MOBILE PHONE SERVICES:

MOBILE – PARTY – PAYS (“MPP”)

VS

CALLING – PARTY – PAYS (“CPP”)

22 MARCH 2002

1. THE COMMENTING PARTY AND ITS INTEREST

- 1.1 Singapore Telecommunications Limited (**SingTel**) welcomes the opportunity to submit our views and comments to the Info-communications Development Authority of Singapore (**IDA**) in relation to the industry consultation paper “Charging For Mobile Phone Services: Mobile-Party-Pays (**MPP**) vs Calling-Party-Pays (**CPP**)”.
- 1.2 Companies in the SingTel Group are licensed to provide telecommunications services in Singapore including voice and data services over fixed, wireless and Internet platforms. The SingTel Group has subsidiaries whose businesses include mobile phone, paging and Internet services, publishing, consultancy, postal services, investments, repair of submarine cables and sale of telecommunications equipment. As a leading provider of telecommunications services and a leading proponent of innovation and competition, SingTel has a strong interest in effective pro-competition regulation of Singapore’s telecommunications industry.
- 1.3 This submission is structured in two parts: in Part 1, SingTel examines the state of competition in the Singapore mobile services market; undertakes an analysis of the CPP versus MPP models; and evaluates the impact of a change in the mobile charging model on investment and the long-term regulatory framework for telecommunications. In Part 2, SingTel responds to the specific questions raised by the IDA in its consultation paper.

2. EXECUTIVE SUMMARY

- The Singapore mobile services market is highly competitive under the existing MPP charging model. This is evidenced by the current mobile penetration rate (per person) of 72.7%, compared to a 48.5% penetration rate (per person) for fixed line services.
- The current MPP charging model has encouraged, rather than inhibited, a variety of service offerings for mobile customers, in turn enhancing the already pronounced competitiveness of the industry.
- The current MPP charging model has not inhibited nor prevented the introduction of mobile tariffs which deliver the benefits of CPP to mobile customers. For example, there are mobile tariffs offering free incoming local calls, bundles of free minutes of use etc.
- It is clear that there has been no evidence of market failure nor any compelling case established which necessitates a change from the current MPP charging model to the CPP charging model.

- The IDA’s previous examination of the viability of the CPP charging model unequivocally concluded that retention of the current MPP charging model was the most appropriate one for the long-term interests of the mobile sector and consumers. Nothing to date has altered the components of the IDA’s conclusion in the two years since that instance, rather, the mobile sector has continued to advance on both the competitive and take-up measures. Therefore, no regulatory justification exists to divert from the present MPP charging model.
- The implications of any change to the current MPP charging model cannot be isolated from the impact which such a dramatic regulatory intervention will have on the attitudes of investors towards the Singapore telecommunications market. This compounds the reasons why the proper regulatory action by the IDA in this matter is to maintain the status quo, enabling the mobile market to further develop benefits and competitive service offerings, as well as innovation in the form of new technologies rather than jeopardising the decisions behind those investments.
- The MPP charging model is clearly preferential to consumers and more conducive to the ongoing competitive development of the Singapore telecommunications market than CPP. In terms of price transparency, product development, tariff innovation and mobile usage drivers, MPP ensures that none of the negative aspects of mobile charging experienced under the CPP model are replicated in Singapore. This is self-evident when the success of the Singapore mobile market is examined in respect of each of these facets.
- The costs to end-users and industry of such implementation must also be considered, highlighting the resulting ongoing costs of the CPP charging model to the ultimate detriment of consumers. This includes the fact that a regulatory decision to change the mobile charging model will necessitate further regulatory action to support the new model including consumer education, the appropriate charging model and price under the new charging model. It would also be necessary to firstly determine the form of CPP which is to be implemented, which has not yet been considered by the IDA and therefore remains an unresolved yet critical factor in determining the future shape of the mobile sector.
- The risk of regulatory creep and market distortion in the face of an already highly competitive mobile market is therefore a real threat if a change to CPP is favoured over the current model. This risk is compounded by the threat to investment and to the development of emerging technologies if unwarranted regulatory intervention is pursued in the case of mobile charging. SingTel submits that for the IDA to diverge on such a dangerous course, away from a charging model which has delivered incomparable success, would be a regulatory mistake to be borne by end-users and the Singapore mobile sector.

- The rationale for supporting a change from the current MPP charging model to a CPP charging model cannot be supported. SingTel strongly recommends that in the long-term interests of the mobile sector, the IDA needs to reaffirm its rejection of a shift to the CPP charging model.

PART 1 - GENERAL COMMENTS AND VIEWS

1. Analytical Basis

- 1.1 In determining whether a change from the current MPP charging model to a CPP charging model for mobile services is warranted in Singapore it is necessary to assess:
- (i) *the status of competition in the Singapore market* – where the current MPP charging model has delivered significant market penetration and competition between mobile operators;
 - (ii) *the benefits to consumers* – where a change to the CPP charging model will have significant adverse implications for end-users;
 - (iii) *the compatibility of the MPP charging model with mobile data services* – where charging arrangements are clearly capable of adjustment under MPP to differentiate between voice and data services.
- 1.2 Any change to the current MPP charging model will constitute a significant overhaul of telecommunications policy, with broad and far-reaching implications for the development of the telecommunications industry in Singapore. For any such change to be implemented, it must first be demonstrated that strong grounds exist to warrant that change. SingTel submits that no compelling case exists for such a change; and furthermore that inadequate consideration has been given to the significance of the resulting implications in the context of the liberalisation of the Singapore telecommunications sector.
- 1.3 In the short period during which the framework under which full competition in telecommunications has been implemented, it is clear that liberalisation has served the sector well in terms of full competition and growth. The Telecom Competition Code is now the basis on which interconnection arrangements between operators are established, including interconnect charging and the Fixed-Mobile Interconnection (FMI) framework.

- 1.4 A policy reversal in the mobile charging model will be disruptive to the highly competitive nature of the sector, and will risk market distortion. This is particularly relevant given that the mobile industry is in a period of significant technological change and development, with mobile operators investing in new and enhanced network infrastructure to drive the development of new innovative products and services.
- 1.5 The IDA consultation paper does not clearly define CPP. There is no uniform approach regarding what types of calls are treated as CPP and what calls are excluded. Some jurisdictions exclude international calls and international roaming calls from CPP, some countries exclude calls from mobile-to-mobile while others do not.
- 1.6 Given the variants of CPP, the precise meaning of CPP in the context of Singapore remains unclear, such as whether it is the intention of the IDA that CPP applies to fixed-to-mobile, mobile-to-mobile, mobile-to-paging, or fixed-to-mobile roaming etc.
- 1.7 Furthermore, there is no uniform approach regarding whether calls to mobile numbers should be treated as fixed line services or mobile services. Some jurisdictions treat fixed-to-mobile calls as fixed line services with the charges determined by the fixed line operator, while others treat fixed-to-mobile calls as mobile services.
- 1.8 In Europe, in most instances, the fixed line operator determines the fixed-to-mobile call charge and pays the mobile operator a commercially negotiated mobile termination charge. Typically, in each case, the fixed line operator commercially negotiates the mobile termination charge separately with each mobile operator resulting in different fixed-to-mobile call charges depending on the terminating mobile network.
- 1.9 As the above illustrates, there are different ways to introduce and implement CPP, each variant raises separate and distinct issues. These issues are not discussed in the IDA consultation paper but must be considered and addressed, again reinforcing SingTel's submission in this paper that the regulatory impact of any change to the current mobile charging model has far-reaching ramifications beyond a decision to dispense with MPP.
- 1.10 For these reasons and those below, SingTel does not support any proposal to change the current MPP charging model with a CPP charging model.

2. THE SINGAPORE MARKET UNDER THE MPP MODEL

Characteristics of the Highly Competitive Singapore Mobile Market

- 2.1 The following evidence is indicative of the beneficial results which continue to be delivered under the current MPP charging model:

Mobile Penetration and Growth has surged

- 2.2 Mobile customer numbers increased by **90.7%** from **1,531,700** in January 2000 to **2,920,100** in January 2002. The substantial growth in customer numbers over this period has meant that the level of mobile penetration (per person) has increased from **47.6%** to **72.7%**. The growth trends in the five years since January 1997 display an even more pronounced expansion, from a base of **414,000** or **13.6%** penetration.
- 2.3 The Singapore mobile market has one of the highest levels of mobile penetration in the world. Mobile penetration in Singapore is significantly higher than in many countries operating under a CPP charging model. For example, mobile density in Australia, which has a CPP model, is 56% - significantly lower than that of Singapore.

New Entrants and Flexibility of Charging Models

- 2.4 The mobile market is a competitive multi-operator environment with three (3) national GSM networks offering nationwide coverage. Since the IDA's previous review, a third mobile network operator has entered the Singapore mobile market in the form of StarHub Mobile Pte Ltd (StarHub Mobile).
- 2.5 Since the entry of StarHub Mobile as the third mobile operator in April 2000, market shares of SingTel Mobile, MobileOne (Asia) Pte Ltd (M1) and StarHub Mobile have varied evidencing the dynamic and competitive nature of the mobile market.
- 2.6 Furthermore, StarHub Mobile entered the mobile market on 1 April 2000 with a mobile tariff under which mobile customers are offered free incoming local calls. This has enabled StarHub Mobile to engage in product differentiation to attract customers, demonstrating that MPP enhances rather than inhibits customer choice. StarHub Mobile's extension of its free incoming local call promotion until 31 March 2004 further demonstrates the ongoing role the market places on the current charging model as a means to deliver competition. Indeed, the development of the mobile market here proves that there is no shortage of innovation and mobile operators successfully working within the current MPP charging model to achieve market growth and to meet the demands of the market.

2.7 The mobile market also supports a Mobile Virtual Network Operator (MVNO) providing alternative pricing and service options to end users, again displaying the diversification of service delivery which has been achieved under the current MPP charging model.

MPP encourages Tariff Diversity

2.8 The mobile market reflects a variety of mobile tariffs to address the needs of customers with different profiles. The current MPP charging model has produced:

- diversity of service offerings under MPP which offer tangible benefits for the mobile customer;
- competition between mobile operators which arises from such innovative diversification; and
- tariffs for Singapore mobile customers are focused on the exercise of customer choice.

2.9 Mobile tariffs are diverse and reflect a variety of pricing and packaging combinations addressing various customer requirements. The result is that the market itself has already delivered mechanisms to meet consumer demands for greater control over incoming call charges without the need for a conversion to CPP.

2.10 Vigorous competition between the three mobile operators has driven tariff diversity under the MPP charging model. All three mobile operators offer a range of different mobile tariffs targeted at different customer segments. Mobile operators offer a range of price plans with different monthly subscription charges and incoming/outgoing call charges bundled with minutes of use, SMS and value-added features. By way of example, SingTel Mobile offers the following mobile tariff price plans:

Classic: \$28 subscription per month, call charges pk 20 c/m, offpk 10c/m, 200 minutes of free talktime per month, 360 free SMS (local), caller ID, voicemail, number retention.

Premium700: \$88 subscription per month, call charges pk 12 c/m, offpk 10c/m, 700 minutes of free talktime per month, 360 free SMS (local), caller ID, auto roam, e-ideas, voicemail, number retention.

pod Lite: \$9.90 subscription per month, call charges pk 20 c/m, offpk 10c/m, 700 free SMS (local), 30 minutes of free talktime per month, caller ID, voicemail, number retention.

pod Zoom: \$48 subscription per month, call charges pk 20 c/m, offpk 10c/m, 500 free SMS (local), 300 minutes of free talktime per month, caller ID, e-ideas, voicemail, number retention.

- 2.11 M1 and StarHub Mobile similarly offer a range of mobile tariff price plans offering different monthly subscription, call charges, SMS and value added features. For example, StarHub Mobile offers *StarHub Powerplay* which includes 80 minutes a month of free outgoing minutes and free incoming local calls. The entry of Virgin Mobile (Singapore) Pte Ltd has further stimulated tariff diversity.
- 2.12 Aggressive competition has brought forth innovative offers and features that address consumer concerns over incoming calls. To give an example, SingTel Mobile offers Caller-ID and provides voicemail facilities for customers. When launching these offers, SingTel Mobile kept in mind that there are customers who may want the choice of assessing whether they wish to receive incoming calls. These particular offers address these specific needs and they provide mobile subscribers with an opportunity to assess the value of incoming calls without the need to incur incoming call airtime charges.
- 2.13 Mobile customers are able to decide whether to proceed with the call and incur the airtime charge, or to terminate an incoming call to avoid the incoming airtime charge. The availability of free Caller-ID has also reduced the reticence of mobile customers to make their mobile numbers available. In addition, low subscription rates for our price plans increase mobile customers' willingness to leave their mobile phones switched-on.
- 2.14 Furthermore, StarHub Mobile has entered the market with a mobile tariff which offers it mobile customers free incoming local calls. This offer has been in place since 1 April 2000 is evidence of the fact that the existing MPP charging model does not inhibit nor prevent the introduction of new and innovative mobile tariffs to address the requirements of customers.

MPP promotes Product Innovation

- 2.15 New and innovative products and services are a feature of the market, including services such as prepaid, SMS, *Send, Local Direct Dial (LDD), Wireless Access Protocol (WAP), General Packet Radio Services (GPRS) and e-ideas. Customers also enjoy significant non-price benefits, such as improved network coverage (including in-building coverage) and quality and value added services have been introduced.
- 2.16 Pre-paid mobile services were introduced in 1999, driven primarily by the need to address the requirements of mobile customers who wish to exercise strong control over their mobile charges. Pre-paid services have proven to be a great success in

- attracting new subscribers to the mobile market. As at January 2002, there were some 713,300 prepaid SIM card subscribers in Singapore.
- 2.17 The mobile industry has also seen the introduction of mobile data services such as SMS and WAP/GPRS services. Singapore has one of the highest usage of SMS per capita in the world. SMS has grown rapidly with mobile customers in Singapore sending an average of 2.5 SMS messages per day (as at June 2001).¹
- 2.18 With the exception of the Philippines, Singapore mobile customers are the most prolific users of SMS in the Asia-Pacific. Apart from simple person-to-person SMS, value-added SMS services have also been introduced. For example, SingTel Mobile offers **Send* which enables mobile customers to receive location-based information on nearby amenities, general services such as petrol stations, post offices, ATM machines, 4D/Toto outlets, fast food centres, cafes and supermarkets within the mobile customer's vicinity.
- 2.19 With **Send*, mobile customers do not need to register or subscribe to the service and are able to enjoy the benefits of receiving instantaneous information on the public amenities and services around their current location. **Send* is also a relatively faster and cost-effective to use when compared with calling information service with mobile customers charged 20 cents per request regardless of the number of SMS messages received. Further, all the help menus are free of charge and there is no call tariff levied on the dial-out when sending the short code.
- 2.20 A further example of innovation is SingTel Mobile's LDD which enables calls to be made between local SingTel Mobile customers and SingTel Mobile inbound roamers keeping the call within the local SingTel Mobile network. SingTel Mobile is the first in the world to introduce this technology. The SingTel Mobile customer no longer needs to call IDD to contact an inbound roamer on the SingTel Mobile network, resulting in substantial savings for both parties.
- 2.21 SingTel Mobile was the first operator to introduce the concept of wireless Internet to Singapore, through technologies such as WAP and high-speed platforms such as GPRS. It can transmit broadband multi-media data such as news, interactive information and entertainment at speeds of up to 115 kilobits per second.
- 2.22 SingTel Mobile customers currently have access to e-commerce services on their mobile phones. These include taxi booking, food ordering and the purchase of movie tickets. Furthermore, they are charged only when data is transmitted and not for the length of time they stay connected.

¹ Merrill Lynch, *Mobile Data in Asia* (No 5) 6 August 2001.

3. THE COMPETITIVE NATURE OF THE MOBILE TELECOMMUNICATIONS SECTOR

The IDA FMI Policy Review 1999/2000

- 3.1 It is significant to consider the IDA's previous conclusions regarding the desirability of amending the current MPP charging model, as well as the commonality between the issues currently under consideration.
- 3.2 The IDA's 1999/2000 Review of Fixed-Mobile Interconnection examined the specific question of whether the CPP charging model should be adopted industry-wide in replacement of the MPP charging model. The IDA's conclusion in that instance reveals the imperatives of end-user take up and competitiveness of the sector as a whole in its decision against the implementation of CPP:

*"The IDA's assessment is that CPP is neither necessary nor sufficient to boost the take-up of mobile phone and paging services. Consumers would benefit more if the overall affordability and competitiveness of subscription and usage costs, including handset costs, allowed them to take up subscription and communicate via their mobile phones."*²

- 3.3 Further, the IDA concluded that:

*"The IDA's assessment is that the costs of any change would likely outweigh any potential benefits for both consumers and industry for now."*³

- 3.4 The conclusions reached by the IDA less than two (2) years ago in its previous review remain valid today. There is no market evidence to even remotely suggest that the IDA conclusions of May 2000 are no longer applicable. To the contrary, there is clear market evidence to suggest that the IDA conclusions were correct, most notably in the facets of take-up trends and competitiveness, which continue to be rapidly enhanced since that decision.
- 3.5 A cornerstone of policy development is that changes should only be implemented where there is a demonstrated need to do so in the face of all the evidence.
- 3.6 SingTel contends that since the previous examination of this issue, the mobile market has responded by confirming the IDA's reasoning even in the face of rapid technological change. It therefore follows that the surest way to ensure that the

² IDA Decision, Review of Fixed-Mobile Interconnection, 3 May 2000 at para 9.

³ *ibid*, at para 19.

benefits of competition continue to be delivered to customers is for the status quo to be maintained in respect of mobile charging.

The IDA's regulatory mandate in the absence of Market Failure

- 3.7 The key driver for intervention to change the current MPP charging model would be demonstrable evidence to suggest that the market has failed to deliver benefits to consumers and industry alike (for example, lack of price or product innovation, or reduced innovation). By any objective measure, there is clearly no evidence of any market failure resulting from the current MPP charging model.
- 3.8 This approach is consistent with the basis of the Telecom Competition Code, where the IDA affirmed that market forces are preferable over regulation in the promotion of consumer welfare. In respect of the scope of any regulatory intervention which is considered necessary in the event of market failure, the IDA's mandate in the Telecom Competition Code is that regulatory requirements will:
- be carefully crafted to achieve clearly articulated results and no broader than necessary to achieve IDA's stated goals (s. 1.5.3);
 - be based on sound economic principles and be technologically-neutral to the extent feasible (s. 1.5.4); and
 - be applied as a result of open and reasoned decision-making (s. 1.5.6).
- 3.9 Given the vigorously competitive and rapidly emerging technologies driving the Singapore mobile market, there is a clear risk that unnecessary regulatory intervention could distort this present vibrancy.
- 3.10 This is particularly important in the current period of technological change and development when mobile operators are investing in new and enhanced infrastructure to drive new and innovative products and services. Now is the critical time for Singapore to consolidate the sectoral advantage of its mobile telecommunications market as an attractive one in which to invest and innovate. The substantial telecommunications investment, with returns based on a long-term timeframe, requires operators to have certainty when making significant investment decisions a number of years in advance. The state of regulation and any perceived uncertainty associated with regulation, including the state of the market and factors which may inhibit return, are paramount in any investment decision.
- 3.11 Such investment decisions have already been made based on the IDA's previous consideration of the appropriate mobile charging model for Singapore, as well as

the IDA's mandate for regulatory intervention. A decision which not only distorts the market but also the stability of that market's regulatory regime is one which will be unfavourably viewed by the market and result in consumer detriment at the very time when Singapore is in a unique position to capitalise on the benefits of innovation in mobile services.

- 3.12 The IDA is therefore contemplating a decision that will have a significant impact over the coming years. SingTel considers that this decision cannot be made in isolation from those implications, as significant competitive and technological change in the mobile market and the telecommunications industry generally is presently taking place and will accelerate over the short term as current investments in such technologies are realised.

Investment Incentives

- 3.13 It is critical that the regulatory framework maintain and encourage the incentive to invest as it is this investment that that will deliver new innovative products and services from which customers will benefit.

- 3.14 As OFTEL has noted:

“Inappropriate regulation can distort markets by providing the wrong investment signals and undermining incentives to innovate and is always second best to competition in terms of benefiting and protecting consumers.”⁴

- 3.15 The regulatory framework therefore plays a critical role with respect to market risk and regulatory risk. The structure and incentives in the regulatory framework determine the level of investment at a point in time, whilst the frequency and predictability of regulatory change affects the attitude of investors towards investment. In order to realise the benefits of competition, the regulatory framework must establish appropriate incentives to invest and must develop and evolve in a stable and predictable manner to minimise regulatory risk.

- 3.16 Mobile operators have made substantial investments in existing 2G network infrastructure and in enhancements to the existing mobile networks such as GPRS to drive the development of new innovative products and services. Further, the mobile operators have successfully obtained 3G spectrum and 3G licenses and are expected to make further substantial investments in deploying 3G network infrastructure over the coming years. A telecommunications company, like any

⁴ OFTEL, *Developing a long term strategy to achieve the best deal for telecoms customers* (11/99)

- other company, must generate returns consistent with their level of investment and must be able to replace their capital assets. In addition, they must pay returns on capital (whether equity capital or debt finance) to compensate providers of capital for the opportunity cost of providing the necessary funding.
- 3.17 Mobile operators have also made substantial investments in network infrastructure on the basis that they will be able to generate the necessary returns on the investment under the existing regulatory framework. Furthermore, mobile operators have spent significant amounts on acquiring 3G spectrum and in obtaining 3G licenses on the similar expectation of generating returns under the existing regulatory framework.
- 3.18 SingTel believes that the IDA must take into consideration the substantial investments already made by the mobile operators.

Implications for Third Generation (3G)

- 3.19 The combination of rapid growth in mobile subscription with a variety of mobile tariff packages and product offerings and with continuing investment and innovation points to the Singapore mobile market being highly competitive. There is no evidence of market failure and any unnecessary regulatory intervention is highly likely to result in market distortion leading to, amongst other things, disincentives to invest. This is a particularly important consideration given the unknown and uncertain implications of such a policy change on 3G.
- 3.20 SingTel believes that there is a need to consider the implications for 3G. It is important that the IDA recognises that originating operators (whether fixed or mobile) may not be able to differentiate between calls terminating on 2G or 3G networks. Further, we would expect to see dual 2G/3G in the market until such time that the rollout and coverage of 3G is complete. This will take some time and consumers will demand a single mobile number. Given the inseparability of 2G and 3G issues, unnecessary regulatory intervention poses significant risk of market distortion.
- 3.21 A policy change will raise further commercial challenges facing the deployment of 3G services. The 3G mobile operators need to have certainty that the mobile charging model is still going to work in such a way that allows the 3G mobile operators to generate the same return on investment as originally envisaged. The consequences of such a policy change will add to the uncertainty surrounding 3G.

Conclusion

- 3.22 The current MPP charging model for the Singapore mobile sector has led to massive growth in its subscribers, innovation and diversity. It is imperative that the IDA does not consider a departure from the present mobile charging structure in isolation because, as confirmed by its own conclusions in its previous consideration of this same issue, the overriding determinant of its decision making process must be the long term benefits to consumers. By any objective measure, the evidence shows that the MPP charging model has served the Singapore mobile industry exceptionally well.
- 3.23 The magnitude of the impact of the IDA's consideration on the long term consequences on the Singapore telecommunications market cannot be underestimated. The next section of this submission focuses on the specific characteristics and outcomes of the present MPP charging model which demonstrate its effectiveness over CPP.

4. COMPARING MPP AND CPP

Introduction

- 4.1 MPP was initially introduced and operated as a means to introduce competitive pressure on mobile prices, without fixed line pricing impacting upon mobile pricing.
- 4.2 The OECD's May 2000 study of mobile pricing structures and trends, for example, specifically considers the growth rates between MPP and CPP countries. The OECD concluded that the success of individual mobile markets should be the appropriate measure of the appropriateness of the relevant charging model for that market.
- 4.3 SingTel submits that the IDA should employ the OECD's analysis about the many factors which influence growth rates in MPP and CPP countries. There are no grounds, based on the OECD's findings, for a move away from MPP in Singapore. In this section, SingTel analyses how MPP has driven the development of a successful Singapore mobile market; the benefits it has delivered to consumers in terms of product and tariff innovation; and demonstrates how the current status of the market could not have been achieved under a CPP model.

Advantages of MPP

- ***Choice and transparency***

4.4 SingTel submits that MPP promotes transparency of price offerings, whereas CPP is a non-transparent model.

4.5 Under the MPP charging model, mobile users have choice in their decision to answer calls and incur charges, with full knowledge of the amount and pricing structure of those calls as a subscriber to a particular mobile network. This price transparency and choice is to be contrasted with the CPP model. The CPP model has been criticised in Australia for its lack of transparency as follows:

“there is customer ignorance by the calling end-user of the mobile carrier being called and the specific access prices for GSM termination charged by that mobile carrier. As a result of this ignorance, the end-user, who possibly only knows the market shares of the mobile carriers, can only estimate the average access price for GSM termination across all mobile carriers.”⁵

4.6 The reality of CPP is that fixed users have little or no price transparency in relation to the price of the call and the components of the charge (e.g. the mobile termination component). The CPP model is the antithesis of choice and transparency when compared with the MPP model.

4.7 In addition, Singapore mobile customers have a choice of mobile operators and a range of offerings when choosing a mobile package which allows them to choose how incoming calls will be charged. For example, there is the choice of paying for all incoming calls, with full transparency of the charges to them for receiving calls. Alternatively, there is a vast array of mobile tariff packages, where incoming calls are free, to enable the mobile phone user to decide whether or not to accept the call.

4.8 These flexible mobile tariff structures which have developed under the MPP charging model therefore reflect the transparency of the current charging regime.

- ***Pricing***

4.9 As noted above, the assumption that CPP is the true “user pays” pricing model is misguided, because the user has neither choice nor knowledge of the precise cost of a call.

⁵ ACCC, “Pricing methodology for the GSM Termination Service”, Final Report, July 2001

4.10 Not only does the MPP charging model encourage greater competition for mobile user patronage, but that competition is apparent in innovations under the MPP charging model which cannot be replicated under CPP. These are detailed further in this submission, but as noted above include competition between operators for mobile users to determine whether they wish to take a call and incur the charges for that call; and free talktime.

- *Catering to specific needs*

4.11 Following from these innovations in competitive pricing, MPP also offers inherent benefits to certain categories of mobile users who prefer an incentive to incur costs for calls received. The most notable are business customers, who may prefer their customers to call them on their mobile numbers so that it operates in the same way as a “freecall” number.

4.12 In turn, the MPP charging model provides scope for attractive bundled services for business customers and enhanced competition on price between mobile operators.

4.13 The United States’ evaluation of whether to introduce CPP reinforces the fact that the MPP charging model is a competitive driver for mobile markets. While the FCC determined not to impose a ruling for CPP in its final analysis, the relevance for the Singapore mobile market is the ability for operators to devise service offerings. As noted above, these innovative service offerings include free incoming local calls, bundled free airtime minutes, free Caller-ID etc.

4.14 Applying the FCC’s analysis, regulatory action to impose CPP is therefore unnecessary. As other commentators have noted, the United States wireless world has moved on from the CPP debate due to the operation of the market:

“Most people now get buckets of minutes with their initial cell phone purchase and wireless airtime rates are rapidly falling toward 10 cents per minute. The result: it no longer matters who pays for the call...Not only will a CPP service cost the caller a hefty premium; worse, their associates will also be reminded of this every time they try to make a wireless terminated call.”⁶

The Inherent Disadvantages of CPP

4.15 In order to fully evaluate the comparative benefits of MPP as against CPP, it is important to consider how CPP is incapable of delivering the competitive benefits associated with MPP. SingTel submits that the CPP charging model is inherently flawed, weighing heavily in favour of the MPP charging model.

⁶ <http://www.thestandard.com/article/display/0,1151,14356,00.html>

- 4.16 It is clear that in Singapore the choice in mobile operators has resulted in innovative service offerings and enhanced competition, removing the disincentive for mobile customers to disclose their numbers based solely on cost-saving imperatives. These innovations include addressing the issue of desirability for being charged for a call which a mobile customer may not wish to receive, for example, StarHub Mobile's free incoming local call offering, SingTel Mobile's free Caller –ID, bundles of free minutes of use etc. The market has therefore, of its own competitive accord under MPP, dispelled any notion that mobile customers may be less likely to provide their phone numbers. As a result, mobile penetration and service utilisation is extremely high and competitive.
- 4.17 MPP has also been the charging basis for the development of choice of service offerings, such as pre-paid mobile. The IDA's January 2002 take up rates for pre-paid SIM services stands at 713,300 subscribers. Since their introduction in 1999, the uptake of pre-paid mobile services has steadily increased, peaking in late-2001 at 987,100 subscribers. The take up rate has therefore remained relatively steady, although the current attractiveness of pre-paid services also needs to be considered in light of the competing attractiveness of post-paid service offerings between mobile providers. As such, the trend for pre-paid services needs to be considered in light of the relative attractiveness of traditional monthly subscription service offerings.
- 4.18 It is also clear that in Singapore, unlike other jurisdictions with CPP charging models, mobile communications have become a competitive alternative to the fixed network. This is because under MPP, a mobile service is not competing with an equivalent pricing structure for the fixed network operating with CPP. Again, the evidence clearly proves that the mobile penetration rate in Singapore is nearing saturation level, in many respects evidence that mobile wireless is a competing alternative to the fixed network. This is supported by the IDA's fixed line penetration rates for January 2002, which is 48.5% compared to 72.7% for mobile services. Singapore's mobile market now far exceeds that of the fixed line market.
- 4.19 CPP could not have encouraged mobile services to a more competitive alternative to the fixed network in Singapore in the way MPP has.

Evaluation

- 4.20 It is clear that CPP could not have produced these benefits and that its introduction could not ensure the continued competitive development of the Singapore mobile sector to the degree it has evolved to date.
- 4.21 Importantly, the MPP charging model has asserted considerable competitive pressure between mobile operators on incoming and outgoing call prices, which is

not a feature of the CPP charging model and still inhibits the competitiveness of those markets which operate under it.

- 4.22 The MPP model therefore continues to serve the Singapore mobile market and consumer well.
- 4.23 Taking into account the above comparisons and the benefits of the MPP charging model over CPP, it is clear that market forces have delivered a highly competitive and consumer-oriented mobile market in Singapore. The next section of this paper will examine the reasons why the only course to sustain this competitive status is maintenance of a mobile charging system which fosters the operation of these market forces.

Costs to industry and end-users

- 4.24 In the absence of an identifiable need for regulatory intervention to introduce CPP, SingTel considers it necessary to examine the negative impacts of its introduction on industry and mobile users. The OECD's analysis identified two leading impediments in this respect:

- ***User Notification***

Users need to be notified that they are being charged, or will incur a different charging rate, to call a mobile number. While it may be apparent to a user that a mobile number is being called instead of a fixed line service, the user will still have minimal idea as to the precise cost of that charge due to the terminating charge component which is set between networks.

A customer education system would therefore need to be implemented to facilitate this change. Furthermore, SingTel submits that there will be less transparency in call charges under the CPP model than there is in the MPP model. The ability to fix this transparency problem should not be underestimated and has been recognised by other regulatory authorities. Fixed line users are likely to become unwilling to pay for calls to mobile phones, thus creating a natural cognitive barrier to the success of CPP.

- ***Billing and Collection Services***

SingTel's detailed comments in respect of the IDA's specific requests for comment on this point are set out in Part 2 of this submission. It is important again to note that any decision to implement a major regulatory change will be accompanied by the need for the IDA, as the regulatory authority, to ensure that the new billing arrangements will enable competition between fixed and mobile networks. Industry will need to devise the technical standards necessary to collect and pass on all information required to bill the calling party. The bill and collect

mechanism will be completely transformed and a new billing and clearing mechanism devised, the costs of which are unlikely to be capable of being fully absorbed by all operators and, therefore, likely to be passed on to end-users.

Is the CPP model the acceptable norm ?

4.26 Inherent in the IDA's consultation paper is the notion that the CPP model is the norm, as evidenced in its Attachment 1 listing the vast majority of countries with CPP charging systems.

4.27 The negative impacts of changing to a CPP charging model were recognised in India's consideration of whether a change from an MPP charging model was justified. As one commentator noted:

“Clearly, if a CPP system is introduced, local calls to mobile numbers will be as expensive as long-distance ones depending on call duration, and there is bound to be a demand for a dynamic locking facility to block calls from fixed lines to cellphones...If CPP is still introduced in India, it will be against the wishes of consumers and an enormous cost to subscribers.”⁷

4.28 While the mobile penetration rate in India is not comparable to that of Singapore, the question still remains as to whether end-users have a full understanding of the costs associated with its implementation. As detailed later in this submission, fixed-to-mobile calls will be discouraged and the costs of those calls dramatically increased if CPP is introduced.

4.29 Furthermore, it is misguided to assume that CPP-based regimes have inherently competitive mobile pricing structures by virtue of their charging systems alone.

4.30 In the United Kingdom, OFTEL's recent analysis identified that while it did not dispute the applicability of the existing CPP charging model, taking into account a number of other competitive factors in that market which required further stimulus in order to reduce call termination charges, the intensity of competition under CPP was reduced in comparison to MPP:

“The overall effect of the CPP principle in the retail market is that, whereas mobile networks have an incentive to keep the price of those services required and paid for by the owner at a level to attract and retain customers, they have less incentive to keep the price of calls to mobiles low. This is because callers cannot take their business elsewhere if

7. <http://www.rediff.com/money/2001/sep/10dalal.htm>

dissatisfied as the caller has to use that network to reach that particular number.”⁸

CPP contains an inherent cross-subsidy

- 4.31 A move from MPP to CPP would also involve the introduction of a cross-subsidy from fixed line customers to mobile customers. The benefit of the current MPP charging model is that it is a user-pays system involving no cross-subsidy between fixed and mobile users. Under a CPP approach, fixed line customers subsidise mobile customers because fixed customers fund the cost of terminating fixed to mobile calls.
- 4.32 It is universally accepted that the role of regulation should be to eliminate cross-subsidies. The introduction of CPP would have the reverse effect.

Conclusion

- 4.33 Singapore enjoys unprecedented mobile penetration levels, choice of operators and a vast array of service offerings. The validity of changing the current MPP charging model is therefore highly questionable in the face of this evidence.

⁸ OFTEL, *Review of the charge controls on calls to mobiles*, 26 September 2001.

PART 2 - SPECIFIC COMMENTS

SingTel provides the following comments and views in response to the specific queries raised by the IDA in its consultation paper:

(a) *IDA invites views on the financial, operational and behavioural implications and impact of a move to CPP charging method for mobile phone services. In particular, we would like comments on the likely impact on both mobile and fixed customers with the move to CPP.*

1.1 SingTel believes that there is no justification for the IDA considering such a fundamental policy change. There is a raft of indicators of the vigorous competition occurring in the mobile market.

1.2 Notwithstanding the above, a policy change from the existing MPP charging model to a CPP charging model is likely to have the following effects:

Mobile Tariffs - There will be a need to rebalance mobile tariffs to adjust for the shift from MPP to CPP.

Fixed Tariffs - There will be a need to rebalance fixed-to-mobile tariffs to adjust for the shift from MPP to CPP.

Mobile Penetration and Subscriber Growth – Mobile tariff re-balancing may increase the entry price and depress mobile penetration and mobile subscriber growth.

Investment Incentives – a change may adversely effect the incentives to invest.

Customer Confusion – higher fixed-to-mobile and mobile-to-mobile call charges may result in customer confusion particularly where call charges differ depending on the terminating mobile network.

3G – it would be expected that mobile termination rates for 3G and 2G will differ and it is also likely that initially services will be provided using 3G and 2G networks – adding to the complexity and creating customer confusion.

Mobile Tariffs

- 1.3 As we have indicated above, mobile operators have made substantial investments in network infrastructure on the basis that they will be able to generate the necessary returns on the investment under the existing regulatory framework. The existing mobile tariffs are designed to generate the necessary returns within the existing regulatory framework. A fundamental change in the regulatory framework will necessitate mobile tariff rebalancing to ensure that the mobile operators are able to earn the required returns on their investment.
- 1.4 Mobile operators provided a variety of mobile tariff price plans which differ in terms of monthly subscription, incoming/outgoing call charges and are bundled with free minutes, free SMS, value added features etc. Whilst it is unclear how a CPP charging model would be implemented, it is clear that adopting a CPP charging model will impact upon mobile subscription charges and mobile outgoing call charges.
- 1.5 A change to a CPP charging model will increase the cost to the mobile A-Party for a mobile-to-mobile call and any reduction in incoming revenue from mobile termination services will increase mobile subscription charge and overall mobile outgoing call charges. The effect of such an increase in mobile subscription charges and mobile outgoing call charges may reduce total mobile take-up and usage by consumers. Mobile tariff rebalancing may effectively increase the cost of becoming and remaining a mobile customer.
- 1.6 As the IDA acknowledged in its decision in May 2000:
- “...fixed-line users and other mobile phone subscribers may likely refrain from calling mobile phone subscribers unless necessary.”⁹*
- 1.7 SingTel agrees that the likely effect of a policy change to CPP is that it is likely to discourage some types such as fixed-to-mobile calls and mobile-to-mobile calls.

Fixed-to Mobile Tariff

- 1.8 Under the existing MPP charging model, fixed line customers calling mobile customers are only required to pay a local call charge. This has meant that fixed line calling parties are encouraged to call mobile customers as the cost is no different to that charged for calling another fixed line.
- 1.9 With a change to a CPP charging model, the fixed line customer will be required to pay the costs associated with the use of the mobile network. As such, the fixed-to-mobile call charges will increase dramatically. It is likely that fixed-to-mobile

⁹ IDA Decision, Review of Fixed-Mobile Interconnection, 3 May 2000

calls will be discouraged and fixed customers will be less inclined to make a fixed-to-mobile call.

- 1.10 The higher fixed-to-mobile call charges will adversely effect residential and business customers.

Mobile Penetration and Subscriber Growth

- 1.11 The current MPP charging model has resulted in increasing mobile penetration. Over the period January 2000 to January 2002, mobile penetration rates have increased from 47.6% to 72.7%.
- 1.12 A change to a CPP charging model will necessitate mobile tariff rebalancing. The effect of such rebalancing may be to slow the growth in mobile penetration.

Investment Incentives

- 1.13 As indicated in our earlier comments, a change to the existing MPP charging model to a CPP charging model may adversely effect the incentives to invest.

Customer Confusion

- 1.14 While it may be apparent to a user that a mobile number is being called instead of a fixed line service, the user will still have minimal idea as to the precise cost of that charge due to the terminating charge component which is set between networks.
- 1.15 A customer education system would therefore need to be implemented to facilitate this change.

3G

- 1.16 In the event that CPP were introduced, the commercially negotiated mobile termination charges are likely to differ between 2G and 3G. This is likely to lead to costly attempts to set up billing arrangements to allow differential billing of retail and interconnect charges. Assuming that it is technically possible, it would have effects for consumers:
 - higher costs: because of the cost of establishing complex billing and network systems.
 - confuse consumers: as they may not know if they are calling a 2G or 3G mobile customer.

- 1.17 To further add to the complexity, it is likely that at the time of initial 3G service rollout, 3G network coverage will not be as extensive as the current 2G networks. Customers will expect voice coverage and it is to be expected that calls will be delivered to these customers over both 3G and 2G networks depending on coverage and supporting in-call hand-over.

Other Issues

- ***Contractual Relationships***

- 1.18 The contractual relationships follow from the decision as to the type of CPP call charging model and the whether fixed-to-mobile calls are considered to be fixed line services or mobile services.
- 1.19 Under the current MPP charging model, with respect to a fixed-to-mobile call, the fixed line operator provides a local call service to the fixed line calling party and the mobile operator provides a mobile service to the called mobile party. In effect it is a dual service provided by both the fixed line operator and the mobile operator i.e. the fixed line operator provides its fixed line subscriber with a local call service under its contract with the customer and the mobile operator provides a mobile service to the called mobile party under its contract with its mobile customer.
- 1.20 If, for example, CPP is introduced and a fixed-to-mobile call is considered a fixed line service, there is only one service being provided by the fixed line operator to its fixed line customer. Under this scenario, the mobile operator is not providing a mobile service for calls to mobile subscribers, the fixed line calling party is no longer providing a mobile service to its mobile customer but is instead providing a mobile termination service to the fixed line operator. The fixed line operator sets the retail fixed-to-mobile tariff, bills, collects and is entitled to the economic value in the call. In addition, the fixed line operators provides customer service, handles billing disputes, fault reporting etc.
- 1.21 In contrast, if CPP is introduced and a fixed-to-mobile call is considered a mobile service, the service is provided by the mobile operator to the fixed line customer. Under this scenario, the mobile operator sets the retail fixed-to-mobile tariff and the fixed line operator bills and collects on behalf of the mobile operator. In this scenario, customer service, fault reporting, billing disputes etc. are the responsibility of the mobile operator. It is similar to the current arrangements in place between the host network and 1900 Service Providers for calls to 1900 Information Services.

- ***Calling Party Notification***

1.22 Under the current MPP charging model, fixed-line customers making a fixed-to-mobile call are charged the local call charges. The introduction of CPP would result in a fixed tariff rebalancing for fixed-to-mobile calls fixed line customers would see a significant increase in fixed-to-mobile call charges.

1.23 Under a CPP regime, fixed line customers will be exposed to the risk of incurring high call charges. As such there may be a need to adopt a calling party notification scheme whereby all calling parties are notified of the terms and conditions, including price, for CPP calls, and are given an opportunity to terminate the call to avoid incurring the additional charges. The notification process could consist of the following elements:

- notice that the call is to a mobile customer;
- notice that the calling party will be responsible for the airtime charges;
- the per minute/per page rate that will be charged; and
- an opportunity for the calling party may terminate the call prior to incurring any charges.

1.24 Implementing calling party notification would be technically difficult and involve incurring significant expense, including but not limited to the modification or upgrading of local telephone exchange switching systems to support this. Such notification will not address the non-transparency issues associated with CPP, as discussed above.

- ***Call Barring***

1.25 Under a CPP regime, fixed line customers will be exposed to the risk of incurring high call charges.

1.26 Currently many Centrex business customers seek to control costs by blocking high cost calls from certain lines. They are presently able to do so by programming switches or PABXs to identify such calls on the basis of the dialled code.

1.27 Residential customers will also be exposed to the potential of incurring high call charges for fixed-to-mobile and the issue of call blocking will need to be addressed.

- ***Network Reconfiguration***

1.28 The introduction of CPP will require a reconfiguration of the various networks, both fixed line and mobile. The degree and extent of such a reconfiguration is driven by the way in which CPP is implemented. However, there is no doubt that the introduction of CPP will change traffic patterns and volumes in the fixed and mobile networks, thereby requiring the re-dimensioning of trunking and switching resources required to be deployed.

1.29 This is above and beyond the changes to the interconnect configuration which would also flow from a policy shift.

- ***Payphones***

1.30 Under the current regime, payphones simply levy the same local call charge for calls to a fixed, mobile or pager. The payphones currently could not support charging a higher fixed-to-mobile charge, nor would they be able to levy different charges for fixed-to-fixed and fixed-to-mobile calls.

- ***Value Added Services***

1.31 There is currently no solution available to pass information needed to bill a calling party using calling cards or Virtual Private Networks (VPNs).

1.32 For Intelligent Network (IN) or forward routing services such as the Single Number Service which involve flexible routing, it is unclear who should be responsible for the cost of a call in the event that the call ultimately terminates on a mobile.

- ***Billing and Collection***

1.33 Under the existing regulatory framework, for the purpose of billing the local call charge, the fixed line network does not need to know whether the call is to a fixed, pager or a mobile. The local call rate applies in each case.

1.34 Currently, there is no need to create Call Detail Records (“CDRs”) for fixed-to-mobile calls in the local exchanges. With the introduction of CPP, billing from the local exchange will not be possible and there will be a need to create CDRs within the fixed line network. This would incur additional network resources, both to create and to store the CDRs for the purpose of billing and collection.

- 1.35 The switches will need to be polled at regular intervals to retrieve the raw billable CDR records. These raw records will then need to be formatted such that they may be processed by downstream retail billing systems. The large volume of records will require investment in the collector system for the retrieval of these raw records.
- 1.36 The formatted CDR records will need to be rated to attach the appropriate fixed-to-mobile call charge. The current billing systems will also have to be enhanced to process as well as store the CDRs. This will involve the rating of records and require additional expenditure and incur processing costs.
- 1.37 Depending on the billing requirements of the mobile operator (e.g. itemized, identifying the mobile operator on the bill etc.) adding the charges to the fixed line customers existing bill may be complex.

- ***Customer Care***

- 1.38 The introduction of CPP has the potential to create confusion for fixed line customers.
- 1.39 Fixed line customers are used to paying the local call charge for calls to mobile and are likely to be confused by CPP. Further, the experience in other jurisdictions is that fixed-to-mobile charges vary depending on the mobile operator terminating the call – further confusing customers.
- 1.40 In addition, the introduction of CPP will generate increased queries from customers. This could have a significant operational impact.

(b) IDA therefore seeks views on the move to CPP, or the possible implementation of different charging methods for voice and data services. For example, CPP for voice and MPP for data services. Or to implement a single charging method, i.e. either CPP or MPP, for both voice and data services.

- 2.1 As detailed above, the Singapore mobile market is highly competitive. To make such a significant and fundamental policy change as that being considered by the IDA is to risk market distortion. This is particularly relevant given the fact that the mobile industry is in a period of significant technological change and development, with mobile network operators investing in new and enhanced network infrastructure to drive the development of new innovative products and services. It is critical that the regulatory framework maintains and encourages the incentive to invest as it is this investment that will deliver new innovative products and services from which end users will benefit.

- 2.2 There is no evidence of any market failure. To the contrary, the market evidence supports the conclusion that the mobile market is vigorously competitive. There would appear to be no justification to change the current MPP charging model.
- 2.3 SingTel believes that the conclusions reached by the IDA in May 2000 remain valid today. SingTel severely doubts whether matters have changed sufficiently since May 2000 for there to be any justifiable change in policy.
- 2.4 With respect to mobile voice services the current MPP charging model has been successful in developing and growing the mobile market. The market evidence clearly shows that the Singapore mobile market is vigorously competitive. The current MPP charging model has produced a variety of mobile tariffs aimed at addressing the needs of various customer segments, which we have discussed at some length in our comments above. For example:
- StarHub Mobile offers a mobile tariff under which incoming local calls are free. This serves to evidence the fact that the existing regulatory framework has not prevented or inhibited the development of new and innovative mobile tariffs aimed at addressing the particular needs of the customers.
 - SingTel Mobile and M1 offer various bundles of free minutes with their mobile tariff packages. In addition, mobile operators like SingTel Mobile offer free value added services such as Caller ID as part of their mobile tariff packages.
 - The charging method for SMS in Singapore is one under which the sending party is charged rather than the receiving party. The party receiving the SMS does not incur a charge. SMS has continued to develop in Singapore and mobile customers are now able to request value added SMS services such as those offered via SingTel Mobile's **Send*.
 - In the case of value added SMS services offered via **Send*, mobile customers request the provision of information and are charged on a per request basis regardless of the number of SMS messages received. Further, all the help menus are free of charge and there is no call tariff levied on the dial-out when sending the short code.
- 2.5 The charging method which has developed in Singapore is consistent with that adopted in other jurisdictions. In fact, the adoption and use of SMS by mobile customers in Singapore far exceeds that in most other jurisdictions. Not only has the existing regulatory framework enabled high mobile penetration levels to be achieved, there is no market evidence to even remotely suggest that it has impeded or distorted the development and growth of SMS in Singapore. To the contrary, the evidence suggests that significant mobile subscriber growth, high

- mobile penetration levels and intense competition in the mobile market has helped fuel the growth in SMS usage.
- 2.6 Similarly, with respect to other mobile data services such as those offered via WAP and GPRS, there is no market evidence to suggest that the current regulatory framework has inhibited or impeded mobile data usage or growth.
- 2.7 The mobile charging method adopted by mobile operators in Singapore for WAP/GPRS services is consistent with the mobile charging methods offered by mobile operators in other countries. The generally accepted mobile data charging method for WAP/GPRS includes charging for data sent and data received. In effect, it is not unlike the current mobile charging method for voice services in Singapore. For example:
- SingTel Mobile offers a standard GPRS package with a one-time registration charge, no monthly subscription and usage charges of 0.5 cents per kb sent or received. This mobile data charging scheme is similar to those available in other jurisdictions. In the UK BTCellnet offers a GPRS service where mobile subscribers are charged a monthly subscription amount and are charge for data sent and data received.
 - Similarly, Vodafone (UK) offers a range of GPRS plans with different monthly subscription and bundled kb/MB usage and different data sent/data received charges for data usage beyond the bundled amount.
 - In Australia, Optus, Vodafone and Telstra similarly offer GPRS on the basis of charging for data sent and data received. AIS in Thailand offers GPRS on similar charging basis.
- 2.8 One of the barriers to mobile data take-up faced by mobile operators in many other countries is the fact that their mobile customers are not familiar with a mobile charging method involving incoming/outgoing payment. In our view, the fact that mobile customers in Singapore are accustomed to paying for incoming and outgoing services places mobile operators in Singapore in an ideal position to rapidly develop and grow mobile data services as mobile customers are familiar with the charging method.
- 2.9 In terms of 3G services and applications, as the IDA has pointed-out, the method of charging is uncertain and is likely to be dependent on a combination of the type and nature of the service involved and the operation of competitive market forces. Given the uncertainty surrounding 3G both in terms of the technology, handsets and 3G services and applications, any unnecessary regulatory intervention serves only to increase the level of uncertainty and would pose a very real risk of distorting the market.

2.10 The above highlights the following:

- The Singapore mobile market already displays a variety of mobile charging methods for voice and mobile data.
- The mobile charging method for data services such as SMS and WAP/GPRS have developed in a manner consistent with overseas jurisdictions.
- There is no market evidence to suggest that the current MPP charging model has distorted the market, impeded or inhibited the growth and development of the market (whether voice or data).
- The mobile charging method for 3G services and applications is uncertain and difficult to predict and unnecessary regulatory intervention poses significant risk of market distortion.
- The IDA should allow the market to continue to operate and develop competitively without unwarranted and unnecessary intervention.

(c) *IDA is interested in comments on the impact this change will have on the growth and usage of mobile data services and applications as compared to voice communications in Singapore.*

3.1 We refer the IDA to the above comments and evidence that Singapore market already reflects different charging methods for voice and data.

3.2 In terms of mobile data, the charging method for SMS in Singapore is one under which the sending party is charged rather than the receiving party. The party receiving the SMS does not incur a charge. SMS has continued to develop in Singapore and mobile customers are now able to request value added SMS services such as those offered via SingTel Mobile's **Send*. In the case of value added SMS services offered via **Send*, mobile customers request the provision of information and are charged on a per request basis regardless of the number of SMS messages received.

3.3 The mobile charging method adopted by mobile operators in Singapore for mobile data services offered via WAP/GPRS is consistent with the mobile charging methods for similar mobile data services offered by mobile operators in other countries. The generally accepted mobile data charging method for

WAP/GPRS includes charging for data sent and data received. In effect, it is not unlike the current mobile charging method for voice services in Singapore.

- 3.4 Mobile operators in Singapore, like their foreign counterparts, offer mobile data services via WAP/GPRS under a charging method with involves charges for data sent and data received. For example, SingTel Mobile offers a standard GPRS package with a one-time registration charge, no monthly subscription and usage charges of 0.5 cents per kb sent or received. This charging method for mobile data is consistent with the mobile tariffs offered by mobile operators in countries such as the United Kingdom and Australia.
- 3.5 The market evidence suggests that competition in the mobile market is working effectively and efficiently. There is no market evidence to suggest that regulatory intervention is necessary to correct any market failure or distortion.
- 3.6 As noted above, the uncertainty surrounding 3G both in terms of the technology, handsets and 3G services and applications means that any unnecessary regulatory intervention will only increase the level of uncertainty and would pose a very real risk of distorting the market. A fundamental policy change at this time can only serve to adversely affect the mobile market, particularly the development of 3G and other emerging technologies.

(d) IDA also requests suggestions and views on the possible safeguards or solutions to address and prevent mobile customers from being “unfairly” charged for “push” type services (like e-advertising or spam on mobile services) under the MPP charging method.

- 4.1 As the IDA is no doubt aware, with respect to SMS, in Singapore the sending party is charged rather than the receiving party. With respect to value added SMS services such as those delivered via SingTel Mobile’s *Send service, mobile customers request the provision of information and are charged 20 cents per request regardless of the number of SMS messages received. Further, all the help menus are free of charge and there is no call tariff levied on the dial-out when sending the short code.
- 4.2 In terms of mobile data services offered via WAP/GPRS, mobile customers are charged on a data sent/data received basis consistent with the charging approach adopted for similar mobile data services offered in other jurisdictions. Data is typically received by the mobile customer as a result of a request being made e.g. initiating a request to retrieve email. We have provided a number of examples of the mobile data tariffs in earlier comments.

- 4.3 Whilst e-advertising or spam on mobile services may be an issue in future, we do not believe that it is an issue today and certainly one which cannot be assumed to be capable of pre-emptive resolution by a change in the mobile charging model.
- (e) *IDA invites comments on the charges necessary to the existing Fixed-Mobile Interconnection (FMI) framework with respect to the overall Interconnection Framework under the Telecom Competition Code. For example, O/T/T including interconnection configuration, provision & payment for Interconnection Links between operators etc. if a CPP charging method is adopted.*
- 5.1 With respect to interconnection, there will be a range of interconnection issues which arise depending on the type of CPP which is implemented and whether fixed-to-mobile calls are considered a fixed service or a mobile service. We would expect that the introduction of a CPP charging model would require further extensive industry consultation specifically on interconnection issues.
- 5.2 The IDA's question raises complex issues categorising call services, which cannot be readily resolved. If, for example, fixed-to-mobile calls are considered mobile services, the fixed-to-mobile retail charge would be determined by the mobile operator. The fixed line operator would invoice the customer and bill and collect the fixed-to-mobile call charge. The fixed operator may retain the local call amount, a billing fee, a collection fee and a bad debt fee and remit the balance to the mobile operator. Under this type of scenario, the cost associated with the interconnect links would continue to be borne by the mobile operators as they are entitled to derive the economic value in the call.
- 5.3 However, in the event that fixed-to-mobile calls are considered fixed services, the fixed-to-mobile retail charge would be determined by the fixed operator. The fixed line operator would bill, collect and bare the bad debt associated with fixed-to-mobile calls. The fixed operator is entitled to retain the economic value in the call and would pay a termination charge to the mobile operator. Under this type of scenario, the cost associated with the interconnect links may be borne by the fixed operator as they are entitled to derive the economic value in the call.
- 5.4 It is necessary to examine the characteristics of the current FMI regime and its operation in the event that a CPP charging model is introduced. At present, these characteristics are:
- Physical Interconnection: interconnect links between the Fixed Network's Interconnect Gateway Switches and the Mobile Network are paid for by the mobile operator.

- Fixed-to-Mobile Traffic: no mobile termination charge is paid by the Fixed Network operator as the mobile operator charges the mobile customer for incoming calls.
- Mobile-to-Fixed Traffic: the mobile operator pays a termination charge to the Fixed Network operator.
- Mobile-to-Mobile Traffic: no mobile termination charge is paid as each mobile operator charges the mobile customer for the incoming/outgoing call.

5.5 In the event that the mobile charging method is changed and a CPP regime introduced, some likely changes to the FMI regime in the same areas above will be:

- Physical Interconnection: the responsibility for the interconnection links would depend on the type of traffic. For example, the Fixed Network operator may be responsible for the interconnect links to carry its own fixed-to-mobile traffic. The Mobile Network operator may be responsible for the interconnect links for mobile-to-fixed traffic.
- Fixed-to-Mobile Traffic: the Fixed Network operator will pay the Mobile Network operator a mobile termination charge.
- Mobile-to-Fixed Traffic: no change. The Mobile Network operator pays a termination charge to the Fixed Network operator.
- Mobile-to-Mobile Traffic: the Originating Mobile Network operator will pay a mobile termination charge.

5.6 However, the above delineation of responsibilities becomes more complex where the networks are indirectly interconnected via one or more third party networks. For example, where there is a mobile-to-mobile call transiting via a third party network, the Originating Mobile Network in addition to being responsible for the interconnect links between its network and the third party transit network and the transit network charge, they may also be responsible for the interconnect links between the third party transit network and the Terminating Mobile Network operator. Alternatively, this may form part of the mobile termination charge.

5.7 In addition to the complexity involved in determining the responsibility of the respective parties involved in the carriage of a call under a CPP regime, CPP will add additional complexity to the interconnect billing and settlement arrangements and the network and billing systems necessary to facilitate billing and settlement.

- 5.8 As the above indicates, the introduction of CPP will require network operators to enter into arrangements for the payment of mobile termination charges. As the mobile operators are non-dominant and the mobile market is vigorously competitive, agreements for mobile termination should be commercially negotiated between the parties. Hence, the risk of regulatory intervention distorting the market would be multiplied to the extent that the IDA considers it has a role in determining mobile termination, when in fact mobile termination charges will be required to be subject to commercially-negotiated terms in order to ensure investment return.
- 5.9 The imposition of a CPP charging model would therefore not only be an instance unwarranted regulatory intervention, but will generate further regulatory creep as new terminating charging methods risk becoming subject to regulatory oversight. The interconnect implications and effect in terms of a dual 2G/3G environment and ultimately a pure 3G environment are unclear and uncertain.