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3 August 2007

Mr Andrew Haire
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Dear Mr Haire

PUBLIC CONSULTATION ON THE PROPOSED REGULATORY FRAMEWORK FOR TELEPHONY SERVICES OVER WIRELESS BROADBAND ACCESS NETWORKS AND INTERCONNECTION FRAMEWORK FOR TELEPHONY SERVICES

We refer to IDA's public consultation on the above topic, released on 5 July 2007. StarHub is pleased to submit its comments in the enclosed Paper.

We look forward to working with IDA to ensure that the regulatory regime and interconnection arrangements remain robust and efficient, catering to future market developments and needs.

Yours sincerely
StarHub Ltd

Tim Goodchild
Head (Regulatory)

PUBLIC CONSULTATION PAPER –

PROPOSED REGULATORY FRAMEWORK FOR TELEPHONY SERVICES OVER WIRELESS BROADBAND ACCESS NETWORKS AND INTERCONNECTION FRAMEWORK FOR TELEPHONY SERVICES

Submission by StarHub

3 August 2007

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1. Introduction

StarHub welcomes the opportunity to make a submission as part of the consultation on the regulatory framework for telephony services over wireless broadband access networks and the interconnection framework for telephony services.

This submission is based on StarHub's experience, in interconnecting with multiple operators, and providing a variety of fixed and mobile services over multiple platforms.

2. Statement of Interest

StarHub Ltd is a Facilities-Based Operator ("FBO") in Singapore, having been awarded a licence to provide public basic telecommunication services ("PBTS") by the Telecommunications Authority of Singapore ("TAS", the predecessor to IDA) in May 1998.

StarHub Mobile Pte Ltd is a wholly-owned subsidiary of StarHub Ltd. StarHub Mobile Pte Ltd was issued a licence to provide public cellular mobile telephone services ("PCMTS") by TAS in May 1998. StarHub Ltd and StarHub Mobile Pte Ltd launched their PBTS and PCMTS services in April 2000.

StarHub Ltd acquired CyberWay Pte Ltd (now StarHub Internet Pte Ltd) for the provision of Public Internet Access Services in Singapore in January 1999. In July 2002, StarHub Ltd completed a merger with Singapore Cable Vision Ltd (now known as 'StarHub Cable Vision Ltd'), resulting in it becoming a wholly owned subsidiary of StarHub Ltd. SCV holds a FBO licence and offers cable TV services.

StarHub Online Pte Ltd ("StarHub Online") was incorporated in February 2005. StarHub Online holds a SBO licence and offers broadband services.

This submission represents the views of the StarHub group of companies ("StarHub"), namely, StarHub Ltd, StarHub Mobile Pte Ltd, StarHub Internet Pte Ltd, StarHub Cable Vision Ltd and StarHub Online Pte Ltd.

3. Detailed Submission

StarHub sets out its detailed submission on the points raised in the Consultation paper as below:

INDUSTRY TRENDS

IDA invites views and comments on the long-term market and technology outlook, in particular, the increasing deployment of IP-based networks and the increasing pace of FMC.

IDA also invites views on the impact of these developments on IDA's existing interconnection framework and number allocation framework.

Under the iN2015 Masterplan, IDA has planned to deploy a Next Generation Network, capable of delivering ultra-high speed connectivity to homes and businesses. Coupled with an extensive Wireless@SG network that has already been deployed, which gives users in-door and outdoor seamless wireless broadband access with speeds of up to 512kbps, StarHub believes that the pace of FMC will be accelerated.

However, while the infrastructure may be developing, the development of IP-based networks and the pace of FMC will depend very heavily on the development and availability of end-user devices (and currently, the number of GSM phones with Wi-Fi capabilities is limited). StarHub submits that multiple (circuit switched, wireless, IP-based) platforms will continue to co-exist independently, even in a FMC environment.

StarHub believes that the existing interconnection and number allocation frameworks are still relevant, even with these developments. With the convergence of services, it is even more important for IDA to ensure that the service characteristics of a particular service continue to be associated with a particular number range, to prevent customer confusion. The number level may be one of the few reliable indicators to inform the customer of the services' characteristics.

Currently, except for interconnection with Dominant Licensee, IDA has left non-dominant licensees to negotiate their own interconnect arrangements, subject to the obligations of the Telecoms Code. While it is clearly still necessary for IDA to take an active role where interconnection with the Dominant Licensee is concerned, we believe that there is a strong case for IDA to continue to allow non-Dominant Licensees to enter into their own arrangements via commercial negotiations. This regime has served the industry well, and we believe that there are sound reasons for continuing it.

StarHub therefore strongly believes that the interconnection regime today is still necessary and relevant, even with the introduction of convergence. Hence it is extremely important that sound frameworks for interconnection and number allocation are maintained, to ensure that such distinctions can be maintained. StarHub will detail this position in the number allocation and interconnection sections (below).

NUMBER ALLOCATION FOR TELEPHONY SERVICES ON WBA NETWORKS

IDA invites views and comments on IDA's proposed conditions for the allocation of each number level in the light of industry trends. In particular, for convergent services offered over multiple platforms, do you agree that the numbers allocation conditions can be met as long as the service, as a whole, fulfils the number allocation criteria?

IDA invites views and comments on IDA's proposal to allocate number levels '3', '6', '8' and '9' to WBA operators for the provision of telephony services. In particular, do you agree that there is no need to include a requirement for "mobility" as a criteria for the allocation of level '8' and '9' numbers? If you propose to include the requirement for "mobility", please assist by defining "mobility", and determining when the requirement is met or unmet.

Number Allocation:

StarHub supports the proposed conditions for the allocation of number levels, provided that the services fully fulfill the number allocation criteria.

With the convergence of services, it is important for IDA to ensure that the service characteristics of a particular service continue to be associated with a particular number range, to prevent customer confusion. In fact, it is important for IDA to ensure that, in its number level allocation process, the criteria are fully met before number levels are allocated to operators. Ultimately, the number level may be the only reliable indicator for the customer of the service's characteristics.

The Consultation Paper has set out a proposed framework for allocating "3", "6", "8", and "9" series numbers to WBA operators for the provision of telephony services. StarHub generally agrees with the proposed number allocation process. However, we submit that if WBA operators are to be allocated "8" and "9" series numbers, it is important to establish a "level-playing field" between the WBA operators and the mobile operators. In particular:

- If mobile operators are subject to additional obligations (such as obligations to cover in-building areas), the WBA operators should be subject to similar obligations in order to obtain "8" and "9" series numbers; and

- If mobile operators offering prepaid services are required to fulfill a prepaid registration obligation, any WBA operator who offers a prepaid service should be subject to the same obligation if they wish to use "8" and "9" series numbers.

The Consultation Paper has also sought views on the need to impose the "mobility" criteria for WBA operators who are allocated "8" and "9" series numbers. Currently, mobile operators offering number levels "8" and "9" must ensure that their customers have full mobility (i.e. enabling uninterrupted, seamless call handover from location to location). This is an important characteristic for customers using number levels "8" or "9".

If WBA operators are allowed to offer services, based on "8" and "9" series numbers, without offering seamless call handover, this will create customer confusion. We therefore submit that any provider of telephony services should only be allowed to use number levels "8" or "9" if they fulfill the same conditions imposed on mobile operators, including the obligations to provide in-building coverage, registration of prepaid customers, and seamless call handover.

INTERCONNECTION SETTLEMENT REGIME

IDA invites views and comments on the proposed interconnection settlement regime for telephony services, in particular, whether:

a) the "Bill and Keep" interconnection regime is a viable long term interconnection regime for all forms of telephony services, and if so, at what stage should we move over to such a regime?

b) the interconnection settlement regime in the medium term should be based on the number level that reflects the service characteristics, regardless of platform or technology used;

c) the settlement arrangements under the Extended Interim Framework should be maintained for interconnection arrangements involving Level 3.

a) Long term interconnection settlement regime for telephony services

StarHub does not believe that a Bill and Keep ("BAK") regime would be a viable long term regime for all forms of telephony services. As detailed below, a BAK would clearly be inappropriate for a market such as Singapore, where network sizes and traffic flows are clearly uneven.

BAK as a Model for Interconnection:

It is important to note that the BAK model has a number of downsides, including:

- Under the existing regime, operators have to pay for calls their customers originate, including "unwanted" calls to the fixed-line PSTN operators. The regime therefore acts to discourage unwanted or nuisance calls. However, under a BAK regime, there are no longer any incentives for operators to control the traffic they send to other networks, as they no longer pay terminating charges to the PSTN operators. A BAK model may therefore encourage spam and unwanted telemarketing calls.

- BAK could encourage operators to relocate or adjust their points of interconnection, so as to minimize the costs they incur in terminating calls, and to increase the costs of the operators originating the traffic. Under the current CPP model, terminating operators are adequately compensated for the costs they actually incur.

- BAK could increase arbitrage opportunities and the incentive for international operators to misrepresent the traffic flows. Under the existing regulatory framework, international operators have to pay Singapore operators a settlement charge for terminating calls. In a BAK model, international operators might choose to terminate their international traffic locally, paying the terminating operators nothing (on a BAK basis).

- As it is highly likely that traffic flows will not be balanced, BAK can be inequitable, as it is likely to require one operator to perpetually terminate other operators' calls free-of-charge. A BAK model might therefore discourage the terminating operator from expanding its network and systems if it is not sufficiently compensated, potentially resulting in a degradation of service delivery.

- BAK charging can also lead to inefficient outcomes. Under the existing CPP system, an operator receives direct compensation for the costs it incurs in terminating the in-bound traffic of other operators. However, under a BAK regime, operators terminating inbound traffic will still need to recover the termination costs they incur from other services, which is inherently distorting.

We believe that it is important for any consideration of BAK to take into account the interests of the telecommunications wider sector. The existing PSTN and mobile operators have made significant investments in the current architecture and system designs. Moving away from the current model would require the existing operators to incur costs and redesign their networks.

A BAK model could be applicable for operators whose network sizes and traffic flows are equivalent. BAK is also based on the assumption that both the called and calling parties benefit equally from the call. In the Singapore context, neither of these assumptions may be correct.

We therefore submit that BAK may be an inappropriate long-term model for the Singapore market.

b) Same interconnection settlement regime for similar services

The Consultation Paper has proposed a regime in which the interconnection framework would be based on the assigned number levels, as the number level should reflect the characteristics of the service, regardless of platform or technology used.

StarHub agrees with such a regime, provided the number allocation framework (as outlined above) is also adopted. As highlighted above, going forward it may be increasingly difficult to distinguish between platforms and technologies, and so relying on the number levels assigned might be the only way to differentiate services.

IP telephony operators (including WBA network operators offering telephony services), would be viewed as fixed-line or mobile operators if they adopt the Level 6 or Level 8/9 number (respectively). However, we submit that these operators must fulfill <u>all</u> of the conditions and criteria set for the use of the respective number levels, in order to use those

numbers. Subject to this requirement, the respective interconnection regimes for the respective number levels should apply.

c) Interconnection settlement regime for services using Level 3 numbers

The Consultation paper has proposed allowing operators with "3" series number ranges to commercially negotiate their own interconnection arrangements. We strongly believe that interconnection agreements between non-dominant licensees (including operators with "3" series number ranges) should be determined through commercial negotiations.

As noted earlier, BAK arrangements usually apply to operators of similar size and balanced traffic flows, and IDA has also noted that operators with "3" series number range are already adopting BAK arrangements with each other. The fixed-line PSTN operators and the mobile operators still operate under the CPP and MPP regimes respectively. StarHub believes that these regimes are still relevant and should be retained.

In addition, it is important to note that operators with "3" series number ranges do not need to make significant network investments. Operators with "3" series number ranges can simply rely on other operators' broadband networks to provide a service to customers. This is very different from PSTN and mobile operators who have made significant investments in their networks. We therefore believe that it is necessary for operators with "3" series number ranges to compensate the existing operators accordingly for interconnection.

StarHub submits that the CPP interconnection arrangements for fixed-line PSTN operators and the MPP interconnection arrangements for mobile operators should be retained. Interconnection between WBA operators and PSTN operators (or between WBA operators and mobile operators) should be based on the existing arrangements. Nevertheless, for interconnection between 2 similar WBA operators, those operators should be free to adopt a BAK arrangement, if they so wish.

StarHub also submits that the Extended Interim Framework should be retained in so far as the charges for origination, termination and transit are concerned. Operators with "3" series number ranges should still be responsible for the other costs, including the cost of opening new number levels and the cost of links. As the Consultation Paper has raised the issues of cost of opening new number levels and the cost of links in the subsequent section, StarHub will detail its position on these issues in the section below.

IDA invites comments on whether

a) the cost of opening up new number levels should be borne according to a 'BAK' arrangement, i.e., each operator bears its own cost of opening up a new number level, except in the case of opening of access codes e.g. 00x, 15xx, 1800; and

b) the hub operators in wholesale agreements with Level 3 operators should be considered as transit providers, and whether Level 3 operators in such agreements would still need to enter into separate interconnection agreements with the operators at the other end of the call.

a) Cost of opening up new number levels

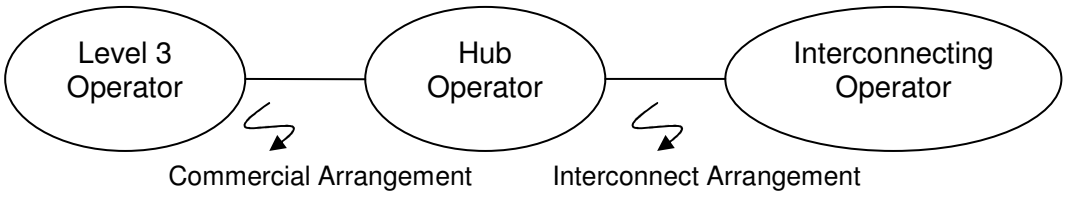
As the Consultation Paper has identified, the benefit of access for operators offering services using access codes (such as 00x and 15xx) are accrued primarily to those operators themselves. It is therefore only appropriate that these service providers bear the full cost of interconnection, including the cost of opening new number levels and the cost of the links.

Existing fixed-line and mobile network operators have made considerable investments in their networks, and have heavy regulatory obligations, including obligations to provide nationwide coverage (even in areas when the population density may be low). The PSTN and mobile operators do not charge each other for the cost of opening up new number levels, recognizing that they will benefit equally, given that each operator has invested substantially to roll out a nationwide network.

However, we do not believe that such arrangements should be extended to other operators. WBA operators can choose to focus their network investment in the densely populated areas, while VoIP operators will have little investment at all. StarHub submits that the level of investment and the extent of the operator's network must be taken into account in considering the model to adopt for the cost of opening number levels.

We believe that adopting a BAK model for opening up new number levels would inevitably result in the existing PSTN and mobile operators subsidizing new entrants, and would clearly contradict the "cost causality" principle. Therefore, unless the new operators have fulfilled the same rollout obligations as the existing PSTN and mobile operators, those new operators should continue to pay for the cost of opening of number levels on the PSTN and mobile networks. We also believe that this principle should apply to the provision of interconnect links (please see below).

b) Wholesale arrangements with Level 3 Operators



For ease of reference, StarHub has shown the diagram above to depict IDA's "Hub Operator" concept. Operators with "3" series number ranges are referred to as "Level 3 Operators".

In general, StarHub is agreeable to the idea that, if the Level 3 Operators were to choose to hub behind another operator ("the Hub Operator"), then it is solely up to the Level 3 Operator to decide if it wishes to enter into a separate interconnection agreement with the Interconnecting Operator or not.

If the Level 3 Operator enters into a separate interconnection agreement with the Interconnecting Operator, then the Hub Operator will simply function as a transit provider, and the current arrangements for a transit provider should continue to apply.

If the Level 3 Operator chooses not to enter into a separate interconnect arrangement with the Interconnecting Operator, but instead relies on the Hub Operator to establish the interconnect arrangements, then the Hub Operator's responsibilities are more than a transit provider. In this situation, the Interconnect Arrangement between the Hub Operator and the Interconnecting Operator will have to take into account the following considerations:

- A Level 3 Operator who chooses to go through a Hub Operator to interconnect with the Interconnecting Operator, compared to one who chooses to interconnect directly with the Interconnecting Operator, should be subject to similar terms and conditions, including termination charges, and the costs of opening new number levels. We can see no reason to have a different treatment for the two scenarios.

- In the event that the Level 3 Operator chooses to go through a Hub Operator, the Hub Operator would have to bear all responsibilities, including charges, payments, indemnities, liabilities, network changes and fault escalations, for all matters related to the Level 3 Operator's number levels and traffic. It would not be possible for the Level 3 Operator to directly engage with the Interconnecting Operator.

- In the event that the Level 3 Operator chooses to terminate the Commercial Arrangement with the Hub Operator, and migrate to a direct interconnect arrangement with the Interconnecting Operator, the Hub Operator would have to facilitate such a migration.

In addition, while StarHub notes that interconnection with Dominant Licensee can be addressed by the RIO, we would highlight that the Dominant Licensee should not extend the scope of the RIO to cover the arrangements as described above, except where the Level 3 Operator chooses to establish a separate interconnect agreement with the Interconnecting Operator (in which case, the Dominant Licensee functions solely as a transit provider under the RIO).

An operator who interconnects with SingTel under the RIO is required to provide SingTel with symmetrical charges. Given that these charges are mandated and audited by IDA (based on SingTel's network costs), the Interconnecting Operator has to adopt the same charges for SingTel's traffic terminating on the Interconnecting Operator's network. However these charges do not necessarily reflect a fair compensation for the costs the Interconnecting Operator incurs. Therefore if SingTel were to extend its wholesale arrangement to other operators, the Interconnecting Operator should not be required to provide the same RIO charges (including terms and conditions) to SingTel's wholesale customers.

Consistent with the RIO principles, the Transit Operator should leave the Originating Network Operator and Terminating Network Operator to negotiate their own commercial terms.

StarHub submits that, if a Level 3 Operator was to enter into a wholesale arrangement with the Hub Operator, and does not wish to enter into a separate interconnection arrangement with the Interconnecting Operator, the Hub Operator should not be considered as a transit provider. The Hub Operator should further negotiate with the Interconnecting Operator for such Interconnect Arrangements on a commercial basis. The Hub Operator should only be considered as a transit provider when the Level 3 Operator enters into a separate interconnection agreement with the Interconnecting Operator.

We believe that these arrangements will facilitate entry into the market, without discriminating against any of the operators.

DIRECT VS INDIRECT INTERCONNECTION

IDA invites views and comments on the proposed POI Interconnection Arrangement, i.e., that each licensee designates a POI for the origination and termination services it provides, and licensees are responsible for all costs on their side of that point of interconnection, including the costs of interconnection links.

What would be the impact of implementing this proposal on technological and economic efficiencies, both for existing operators (fixed and mobile) as well as IP telephony operators and WBA operators that offer telephony services?

What are the challenges to moving from the current arrangements to this proposed POI Interconnection Arrangement?

What are the long-term implications of this proposed POI Interconnection Arrangement as networks evolve over time?

POI Interconnection Arrangement:

The Consultation Paper has based its analysis of the POI Interconnection Arrangements on two points:

- First, that the existing indirect interconnection arrangement could possibly override the economic considerations and lead to inefficient interconnection arrangements; and

- Second, that the party initiating a request for interconnection is placed in a disadvantaged position right from the start, as the existing arrangement tilts the balance in favour of the party receiving the interconnection request.

StarHub believes these assumptions are flawed.

StarHub offers both direct and indirect interconnection to operators requesting interconnection to StarHub's networks. Depending on the operators' needs and traffic patterns, they are free to interconnect directly, or through a Transit Operator to reach

StarHub's networks. In fact, StarHub does not require operators to interconnect with StarHub fixed-line network and StarHub mobile network separately but instead offers operators interconnection through StarHub fixed line POI. Operators seeking interconnection with StarHub do not therefore need to duplicate its resources to interconnect with StarHub fixed-line and StarHub mobile network separately. StarHub has therefore taken into consideration the economics of such an arrangement and strongly believe that it is a more efficient form of interconnection.

The existing fixed-line and mobile network operators have set up and configured their networks in full compliance with the existing interconnect regimes, CPP for PSTN and MPP for mobile. We would be concerned if these operators now have to absorb significant costs in moving to a new regime.

While the Consultation Paper considers the impact of interconnect arrangements on the party initiating interconnect requests, we believe that it is important for IDA to take into account the interests of the sector overall, including the existing operators. The existing interconnect arrangements take into consideration the interests of both the requesting operator and the operator receiving the interconnection request. Adopting a different model may tilt the balance the other way and thus adversely impact the existing users ultimately.

We would respectfully note that the POI Interconnection Arrangement set out in the Consultation Paper has not taken into consideration the following factors:

- Under the current indirect interconnection arrangements, the Originating and Terminating Operators set up their respective interconnection arrangements with the Transit Operator for transit services. In addition, both the Originating and Terminating Operators would also need to establish an indirect interconnection arrangement. Adopting a POI Interconnection Arrangement as proposed in the Consultation Paper would require all existing interconnection arrangements to be terminated and new interconnection arrangements on POI to be re-negotiated, which would involve significant resources, time, and disruption.

- The Consultation paper has assumed in its illustrations that it is possible for operators to designate POIs at other operators' switches. Designating POIs at other operators' switches require a complex negotiation between the operators involved, as it may require the designated operators to partition its switches or otherwise predefine the scope of such POI allocation to the requesting operator. Such an arrangement is very different from the current interconnect arrangements. There is also no certainty that such an arrangement is commercially feasible.

- To ensure network efficiency, an operator can choose to configure its network to interconnect directly with a limited number of operators, while interconnecting indirectly with the others. Requiring such operators to reconfigure their networks could well result in inefficient interconnection arrangements. For example, a SBO may only interconnect with a single PSTN operator, and rely on that operator to indirectly interconnect with the rest of the market (including PSTN, mobile and WBA operators). If the arrangements proposed in the Consultation Paper are adopted, and the designation of POI at other operator's switches could not be

agreed commercially, the SBO could end up having to set up multiple interconnect arrangements with each of the POIs designated by the other operators.

Interconnect Link Costs:

StarHub believes that the sharing of link costs is only appropriate for PSTN to PSTN interconnection. For other forms of interconnection, we believe that the principle of cost causality should be maintained, so that a new operator entering the market (and causing additional costs to be incurred) should be responsible for establishing the links. This arrangement is fully consistent with IDA's stated policies on interconnection.

In addition, we believe that existing operators, who have already made substantial investments in their networks, should not be required to incur any additional costs to reconfigure, redesign or otherwise make any changes to their networks to allow new operators to interconnect with their networks. Any such consideration should be left to commercial negotiations between existing operators and new operators.

In considering the appropriate interconnect arrangements, we believe that the Consultation Paper should look beyond the impact of interconnect arrangements on new operators. Instead, the paper should also consider the impact to the industry as a whole, taking into consideration how any changes would affect existing operators and end users.

Impact of implementing IDA's POI Interconnection Arrangement and the challenges to move from the current arrangements:

As highlighted above, moving to such a proposal will require existing operators (PSTN and mobile) to re-establish their interconnect arrangements. Some operators will have to re-configure their networks, as well as re-establish their direct and indirect interconnect arrangements. If operators are able to designate their POIs at other operators' switches, this will certainly create complexity in the arrangements. In the event that such arrangements cannot be established, and each operator designates its POI at its own switches, this could necessitate inefficient direct interconnection. Inefficient direct interconnection could increase costs, and act as a barrier to entry for new operators seeking to interconnect.

Current indirect interconnection arrangements allow operators to better manage their resources, as they only need to transit their traffic through a single operator. Operators who opt for indirect interconnection could bundle their traffic and deliver it through the same interconnect links and would not need to invest in high capacity interconnect gateway switches to cater for additional ports. As such, operators would then be able to channel their resources for better use and offer better commercial services to their end users. This would definitely result in a more efficient use of resources.

As highlighted above, a POI interconnection arrangement could reduce the competitiveness of some operators, as operators may be forced to utilize a substantial amount of their resources to meet a set of direct interconnection requirements that may not necessarily meet their objectives or justify their needs.

Long-term implications of IDA's proposed POI Interconnection Arrangement as networks evolve:

The current interconnection arrangements have already shown that it is possible for new operators, such as IP Telephony services providers, to interconnect with PSTN and mobile network operators.

As noted above, StarHub believes that multiple (circuit switched, wireless, IP-based) platforms will continue to co-exist independently, even in a FMC environment. The existing interconnection arrangements, with the correct interconnection and numbering allocation regime, will certainly be able to continue to support such evolvement.

However IDA's proposed POI Interconnection Arrangement could result in operators designating its POI at its own switch or another operator's switch. In the case of each operator designating its own POI at its switches, any changes to its switches will require the operator to deal with multiple operators to accommodate those changes which could be inefficient and resource-intensive. Where a POI is designated at another operator's switch, the designated operator may be required to partition its switches or pre-defined the scope of setting up such POI. In the event that the designated operator was to modify its switches, it may choose to discontinue such POI arrangements for other operators. Thus there is a likelihood that the proposed POI Interconnection Arrangement will create disruption to services, as networks evolve.

4. Conclusion:

StarHub believes that a clear and robust set of conditions must be applied when allocating number levels to WBA operators. In particular, we submit that, in order to minimize customer confusion:

(i) WBA operators allocated "8" and "9" series numbers must meet the same obligations in regard to coverage and registration as those imposed on mobile operators; and

(ii) Operators allocated "8" and "9" series numbers should be required to comply with the "mobility" characteristics of that number range.

StarHub submits that the existing interconnection framework has been effective, and is able to withstand the introduction of new technologies (such as WBA) and fixed-mobile convergence. The introduction of an additional bill-and-keep arrangement has a number of inherent disadvantages, and could lead to additional complexities in interconnect arrangements. We therefore strongly believe that the existing interconnection framework, based on CPP regime for fixed-line networks and MPP regime for fixed-mobile interconnection, should be retained. A BAK model should only be adopted where two directly interconnected operators wish to implement such an arrangement.

In considering any changes to the interconnect regime, we believe that it is important to take into consideration how any change will affect the existing PSTN and mobile networks. StarHub would submit that while it is important to allow WBA operators to

compete on a level playing field, it is equally important to ensure that existing operators (including PSTN and mobile operators) are not required to subsidize the WBA operators.

It is also important for IDA to continue to allow non-Dominant Licensees to decide among themselves the mode of interconnection to adopt, as each operator's needs are unique. We submit that the terms of interconnection should be resolved through commercial negotiations, as long as the Minimum Duties of Interconnection are met, and that regulatory intervention is not required.

We believe that the current interconnection regime for PSTN operators and the principle of "cost causality" should be retained to ensure stability and efficiency in the interconnect framework.

Adopting the proposed POI Interconnection Arrangements could have serious implications, as existing operators may well need to re-establish their interconnection arrangements, reconfigure their networks, and could necessitate inefficient direct interconnection arrangements. Such an arrangement could increase costs for all operators, and would be contrary to the "cost causality" principle. StarHub therefore respectfully submits that the current interconnection regime should continue.

StarHub would be pleased to discuss this matter further with IDA.