

REACH LTD.

**SUBMISSION IN RESPONSE TO IDA'S PUBLIC CONSULTATION
POLICY FRAMEWORK FOR IP TELEPHONY AND
ELECTRONIC NUMBERING IN SINGAPORE**

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STATEMENT OF INTEREST

Reach Ltd. ("**REACH**") provides this submission in response to the Info-communications Development Authority of Singapore's ("**IDA**") Public Consultation *Policy Framework for IP Telephony and Electronic Numbering in Singapore* ("**VoIP Consultation**").

Our comments are made on behalf of our subsidiary, Reach International Telecom (Singapore) Pte Ltd. This entity is the holder of a Facilities-Based Operator Licence ("**FBO**") in Singapore under which it supplies a broad range of products to other operators. Aside from an overarching interest in Singapore being a competitive telecommunications hub, REACH has a particular interest in the VoIP Consultation as a provider of wholesale international capacity which supports other operators' VoIP services.

COMMENTS

General

REACH's principal activity in Singapore is that of an international carrier providing global connectivity services to other carriers and service providers. Therefore, REACH provides its comments herein largely from the perspective of a provider of wholesale capacity which supports both conventional circuit-switched traffic and IP Telephony (known generically as "Voice over Internet Protocol" or "**VoIP**"). Consequently, as not all the questions raised by the IDA in the VoIP Consultation are pertinent to the provision of wholesale capacity, REACH has addressed only those issues relevant to wholesale operators.

It is clear that VoIP has already established itself in the international telecommunications market, and is set to make further inroads into telecommunications markets globally. REACH is generally supportive of new technological developments which advance the telecommunications industry, as it is of VoIP advancements.

VoIP is being heralded as having the potential to bring fundamental change to the traditional structure of the telecommunications industry. As such, although VoIP is currently only in the nascent stage of development, regulatory policy introduced now must be forward looking and anticipate the future role and significance of VoIP. If VoIP regulation and practice set off on the wrong heading, it will be difficult to bring them back on course later as practices will have established themselves and may not be easily reversed or altered.

Therefore, while there may be a desire by regulators to be as light handed as possible in designing regulatory frameworks for VoIP – so as not to discourage the technical and market development of VoIP – the potentially far-reaching implications of VoIP and its impact on the existing structure of the telecommunications industry mean that regulation of VoIP should not be viewed in isolation of broader regulatory frameworks.

If VoIP is to have as significant an impact on the telecommunications industry as many industry observers anticipate, then regulation of “conventional” services needs to be reviewed in parallel. As VoIP offerings already demonstrate both demand-side and supply-side substitutability for conventional voice and other telecommunications services and enable market entry by new players with relatively little by way of capital investment requirements, the providers of conventional services will no longer have the same degree of market presence that they once had. In fact, if VoIP providers are subject to only the lightest of regulatory oversight, they will enjoy a distinct regulatory advantage over the providers of conventional services. While VoIP should be encouraged, it will have its own inherent advantages in gaining market presence without the need for a regulatory leg up as well.

Therefore, if a light-handed approach is taken to regulation of VoIP, regulation of comparable conventional services should also be reviewed to ensure that current regulation does not cripple providers of conventional services in competing with VoIP. There will need to be a level regulatory playing field – technologically neutral – if VoIP and conventional services displaying demand-side and supply-side substitutability are to be able to compete fairly.

Some changes which regulators will need to balance and accommodate in the regulation of both VoIP and conventional services will arise from the migration of operators’ revenue streams from conventional services to VoIP. These changes will mean the loss of some of these revenues to the telecommunications industry as a whole rather than just a redistribution of revenues between telecoms players – because some VoIP providers are not principally telecommunications operators these revenues will go outside the industry. Not only will this see a drying up of the well from which resources for telecommunications infrastructure are drawn – with potentially negative implications for new infrastructure investment – but these sources of revenue will also no longer be available to finance government policy and social objectives such as the provision of conventional universal services (let alone funding universal access to VoIP services). Governments should not continue to expect revenues from conventional services to be the sole (or perhaps even primary) source of funding for their social and other communications related goals.

IDA should also be aware when designing its regulatory framework for VoIP that the economics of providing VoIP will almost certainly undergo evolution further down the road. During its introductory stage, VoIP has been able to hitch something of a free ride on the back of investment in domestic and international capacity for conventional services and the Internet. However, with the movement of revenues from conventional services to VoIP, these levels of investment in infrastructure for conventional services may not be sustainable – and the Internet is not “free”. Consequently, as VoIP usage increases, erodes revenues from conventional services, and demands a greater proportion of available domestic and international capacity, VoIP will no longer be able to

free ride on previous infrastructure investment for conventional services and the Internet. It will in future, therefore, be necessary for VoIP operations to generate sufficient revenues in their own right for these providers to invest in domestic and international capacity. If there is large-scale speculative entry into the VoIP market initially by operators with only short-term goals and of insufficient substance, once VoIP reaches a stage where it has to fully finance major infrastructure investment itself there is, on the one hand, likely to be a rash of failures and players leaving the market and, on the other hand, there may be a significant increase in VoIP prices to finance necessary infrastructure development. While REACH does not believe it is the role of regulators to intervene in such workings of the market, any VoIP regulatory framework developed now should recognise the likelihood of these outcomes – and not insulate new market entrants from market realities or send incorrect economics signals that regulation will unduly tilt the playing field in favour of VoIP operators and thereby encourage unsustainable market entry.

It is also necessary that any VoIP regulation be clear about the responsibilities and obligations of VoIP operators. Where regulation demands certain interconnection, numbering, social or other obligations, VoIP operators must be in no doubt that they are responsible for the associated cost – and the regulator must take strong enforcement action to ensure that these obligations and responsibilities are fulfilled. Equally, regulation should not unreasonably exempt services provided by one means of technology from such obligations if similar services provided by another technology still carry these obligations. To do so will only encourage arbitrage and bypass, with those operators who do comply with their obligations finding themselves facing unfair price competition from those who (legally or illegally) do not comply, and lead to market distortions.

Universal Service, Emergency Services, and Interception

REACH also anticipates that many new VoIP operators will be service providers, rather than facilities providers, and may not have an interest in accommodating universal service obligations and/or contributions (for either current conventional or potential VoIP universal services) and access to emergency services.

Further, REACH is also aware that, in recent years, regulators and governments around the world have been strengthening their national security powers and increasing their requirements for interception and monitoring of communications. While not suggesting that constraints should or need to be placed upon the development of VoIP because of security issues, where laws or regulation already exist or are introduced concerning the interception and monitoring of communications, the responsibility for compliance with such obligations in relation to VoIP communications should rest squarely with the relevant VoIP retail service providers. As the retail revenues from VoIP accrue to these operators, as well as having the end-customer access, so they should also expect to be held responsible for any associated costs and obligations concerning universal service, access to emergency services, and interception requirements, and not look to lay off these responsibilities onto the providers of conventional services or their wholesale providers.

Regulators will also need to stress to potential VoIP customers that in some emergency situations – when people most need to contact the emergency services – that VoIP will not be available. For example, where an accident, fire, or general power failure has cut electrical power, VoIP service to contact the emergency services will not be available (unlike conventional services which have their own independent power supplies). Therefore, the likelihood of people being trapped in lifts for extended periods will increase or, worse still, people on life support machines (for example, ventilators or dialysis machines) will be at higher risk of being unable to contact the emergency services. REACH believes that unfortunately, but inevitably, there is a high probability of a serious mishap or even a fatality arising from inability to contact the emergency services using VoIP regardless of how prominently VoIP providers place (mandated) warnings that their services will not connect to the emergency services – with an ensuing public outcry.

If IDA wishes to allow VoIP operators the discretion whether or not to provide access to emergency services, REACH believes that this discretion should be tempered by the associated numbering and interconnection rights granted to these operators – which REACH expands upon below.

Numbering, Number Portability, and Interconnection

Numbering and Number Portability

REACH suggests the IDA consider a further numbering option, Option E, which is for FBO VoIP service providers to use the existing level '6' numbers, and for Service-Based Operator (“**SBO**”) VoIP service providers to be granted a special number range. This would create less disruption to existing numbering structures and systems, yet allow sufficient expansion to cater for new entrants – with, perhaps, the SBO special number range split to differentiate between those VoIP operators who provide access to emergency services and those who do not.

REACH agrees with IDA that it would be inappropriate to mandate number portability for new service providers this stage. If, as is projected, there is to be a proliferation of new entrants, REACH anticipates that there will be a raft of new technical, administrative, and cost issues to be resolved in relation to number porting for such a number of varied and inexperienced operators before mandated number portability can be considered as a general requirement. Once the industry has some experience of larger scale VoIP activities, IDA should undertake a technical and economic review of the feasibility of blanket number portability in conjunction with the telecommunications industry. Also, application of a numbering option which allocates a special number range to VoIP operators will not easily facilitate number portability.

In contrast, given the larger scale and permanency of FBO VoIP service providers, number portability between these operators should be required.

REACH also comments that, regardless of what measures are taken by IDA, it will be virtually impossible to restrict number usage to valid Singapore addresses only.

Interconnection

IDA has proposed that where a VoIP service provider wishes to interconnect to the PSTN or mobile networks, that existing FBO and SBO licensees must observe the interconnection requirements stipulated under the Telecom Competition Code to allow interconnection. VoIP service providers must similarly allow interconnection by existing FBO and SBO licensees if requested by these licensees.

While this is a laudable proposal, REACH believes that although the interconnection arrangements under the Telecom Competition Code may be appropriate and sufficient for current interconnection requirements, these interconnection arrangements may not have the necessary breadth to cope with a large influx of VoIP service providers and the complexity of interconnection configurations that will result – particularly in relation to charging arrangements for off-net calls and number dipping. REACH, therefore, considers that the IDA should undertake a detailed review of the potential interconnection configurations which may arise from large-scale VoIP operations together with associated charging arrangements and number dipping obligations and responsibilities. REACH suggests that such review be undertaken in consultation with the telecommunications industry, and that IDA issue formal VoIP interconnection guidelines at the conclusion of the review in order that all players can clearly understand their respective obligations. REACH would again make the point that as such interconnection arrangements are for the benefit of providers of retail VoIP services, it should be these operators who are responsible for related interconnection and number dipping costs.

Initially, any-to-any interconnection should be an obligation only for FBO VoIP service providers until the interconnection review suggested above is completed. During this period, interconnection rights should be reserved for those operators with an obligation to enable any-to-any interconnection. Certainly, and as an incentive to do so, SBO VoIP operators who do not provide access to emergency services should not enjoy interconnection rights but obtain such interconnection through commercial negotiation. Again, as it is the VoIP operator who will benefit from interconnection its operations, it is this party which should be responsible for any related charges.

Licensing Arrangements

REACH has commented above, licensing arrangements (or rather rights under the respective licences) should align with the service levels provided by respective VoIP operators (for example, numbering rights varying depending upon provision of access to emergency services). Such arrangements could be aligned with IDA's proposed number differentiation criteria in paragraph 29 of the VoIP Consultation.

CONCLUSION

In summary, REACH supports the further development and spread of VoIP. However, REACH believes that further detailed review of proposed regulatory arrangements concerning key issues like interconnection is needed before the VoIP regulatory

framework is set. As commented, if VoIP regulation sets off down the wrong road now, it will be very difficult to change direction in the future.

REACH certainly does not wish regulatory impediments to be put in the way of VoIP's development. At the same time, and unlike the experience in newly deregulated and developing telecommunications markets, VoIP is entering an already highly competitive market in which VoIP has its own advantages. In such an environment and with such ease of market entry, VoIP should be expected to compete on its own merits – rather than being given a regulatory piggy back on the backs of the products and services it competes against.