

Responses To

**INFO-COMMUNICATIONS DEVELOPMENT
AUTHORITY OF SINGAPORE
PUBLIC CONSULTATION ON THE POLICY
FRAMEWORK FOR IP TELEPHONY AND
ELECTRONIC NUMBERING IN SINGAPORE**

By



Asgent, Inc.

22 October 2004



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Company Information:-

Company: Asgent, Inc. (Japan) – Headquarter

Headquarter's contact: Mr John Okazaki – Executive Vice President & COO
Email: okazaki@asgent.co.jp

Website: www.asgent.co.jp

ENUM affiliation: Asgent, Inc. (Japan) is a member of ENUM Japan Council and Mr. Takaishi, Chief Researcher, is a member of the Council.

Product: Applico Security MoIP SIP product offerings

Local Representative office: Asgent, Inc. (Singapore)

Address: No. 8, Temasek Boulevard, #42-01, Suntec Tower Three, Singapore 038988.

Telephone: (65) 6832-7841

Fax: (65) 6832-7840

Main local Contact: Mr Edwin Koh – Regional Manager, Asia
Email : echiang@asgent.co.jp

Technical Consultant: Mr Gabriel Ng – Systems Engineer, Asia
Email: gng@asgent.co.jp



Responses to Public Consultation on the Policy Framework for IP Telephony And Electronic Numbering in Singapore.

Questions

IDA welcomes views and comments on the potential of and benefits arising from the deployment of IP Telephony; the likely services/applications to be deployed; and the potential demand from businesses and consumers. IDA further seeks comments on how IP Telephony is likely to change the telecommunication competitive landscape in Singapore.

Response:-

From our views, Applico Security products by Asgent, Inc. encompasses Multimedia over Internet Protocol (MoIP) which will allow real-time multimedia such as voice, video, presence, mobility and application/whiteboard sharing capabilities to businesses and consumers through hosting services or small & medium enterprises hosting with our Applico MoIP SIP switch. This Applico MoIP switch will take upon the SIP technology. (SIP – Session Initiation Protocol)

We would like to outline these benefits by segments:-

Benefit for Everyone

- **Unique**-Cutting edge multimedia SIP-enabled MoIP switch providing on-demand voice/video compression for crystal-clear real-time communications
- **Secure Functionality**-TLS encryption enabling secure SIP technology - leading the industry
- **Easy to Deploy**-Integrated secure multimedia hardware/software solution for quick and fail-safe deployment
- **Flexible**-Easily integrated with existing infrastructure or as a standalone solution
- **Interconnectivity**-Provides PSTN connectivity (IP / legacy based)
- **Increased Productivity**-Wireless hotspot, VPN (wildcard VPN without a public IP), NAT/PAT compatible for multimedia SIP-enabled access EVERYWHERE
- **Interoperability**-Fully compatible with Microsoft Messenger and Live Communication Server, PSTN Gateways and IP phones, and major soft switch and hardware SIP vendors

for Enterprises

- **Minimal client installation** required on desktops
- **Reduces costs** of MoIP communication (toll bypass) and increases productivity using secure technology



- **Reduces communications costs** for road warriors/telecommuters
- **Secure Functionality**-TLS, 3DES encryption, VPN (wildcard VPN support without a public IP address) provides secure SIP signaling/media via NAT/PAT traversal (IPsec or PPTP)
- **Investment Protection**-Adds SIP compatibility to existing infrastructure (preserves firewall investments since it is fully compatible with leading security firewall vendors)
- **Interoperability**- Standards-based solution fully implementing IETF's SIP-related RFCs and drafts

for ISPs

- **Profitable with Investment Protection**-Generates new revenue streams by rolling out new multimedia services utilizing existing infrastructure
- **Competitive Advantage**-Provides competitor differentiation through fully merged SIP-enabled multimedia solutions from home users to SMEs to enterprises
- **Improved Customer Satisfaction and Retention**-Adds value for existing customers
- **Economical**-Precious PUBLIC IP ADDRESS resources can be saved by using private IP addresses for multimedia SIP solutions

In this aspect, we foresee a great deal of potential businesses and users will benefit significantly to bring productivity using voice (in terms of IP Telephony) together with multimedia capabilities to enhance their real-time communications and collaboration efforts.

Questions

IDA welcomes views and comments on IDA's proposed regulatory approach to be taken to encourage the development of emerging technologies such as IP Telephony in Singapore.

Response:-

Asgent, Inc. welcomes and supports IDA's policy not to restrict the use of internet for voice and data communications. As stated in the policy goals, it is the national interest to encourage innovation in newly emerging infocomm technology, since the defacto will be created where the innovation goes fastest and most advanced under the most liberal conditions.

Questions

IDA welcomes views and comments on IDA's proposed licensing approach for providing IP Telephony in Singapore.

Response:-



Combination of FBO and SBO is reasonable. As seen in Japan and Korea, ADSL services prevail widely with the IP telephony applications. Asgent, Inc. will be glad to assist in sharing more information in this field from our Japan office.

Questions

IDA welcomes views and comments on the proposed phased approach in assigning new number levels to FBO and SBO (Individual) licensees for IP Telephony services. Please provide supporting reasons for the comments and proposals made.

IDA invites views on whether there is a need for IDA to take further measures to ensure that the national numbering resources continue to benefit End Users in Singapore such as requiring IP Telephony service providers to assign level “3” numbers to only users with valid Singapore addresses.

IDA also invites views on whether there will be technical issues if IDA were to allocate numbers in blocks of 1,000 instead of the usual blocks of 10,000?

Response:-

The proposed phased approach in assigning new number levels to FBO and SBO licenses for IP Telephony services is agreeable.

While it is imperative to have domestic number allocation system, it will be determined in conformity with the worldwide standard or guidelines.

Questions

IDA welcomes views and comments on IDA’s proposed approach to apply the same interconnection framework under the Telecom Competition Code to IP Telephony service providers.

IDA also welcomes views and comments on whether the current interconnection framework is sufficient to address the interconnection arrangements with IP Telephony networks. Specifically, IDA invites views on issues such as interconnection configurations or models that are likely to arise, technical, financial and implementation considerations for interconnection. Please provide supporting reasons for each comment and proposal made.

Response:-

The IDA’s guideline on the restrictions on Interconnection and Access is basically acceptable. Yet, PSTN or Mobile network requirements may have to be reviewed and revised so that it will not hinder the interconnection and access with IP telephony.

Questions



IDA welcomes views and comments on whether there is a need for QoS to be established for IP Telephony. If so, what are the types of QoS needed and the minimum standards to be set?

Response:-

While we believe that QOS of IP telephony will improve drastically to match with the quality of regular PSTN line, we encourage that no regulations should be imposed on QOS, since end users are wise enough to select the services based on value for money and the service providers will meet the challenge to compete with others.

Questions

IDA welcomes views and comments on whether there are issues relating to the provision of emergency services in the context of IP Telephony. IDA further invites comments on the availability of operational solutions to address the issue of emergency calls.

Response:-

Asgent, Inc. would like to share this topic from our real experience on this issue. Issues on emergency call numbers starting from 1, 110 for police and 119 for fire and ambulance has been solved in Japan. There may be some ways to avoid the confusion with international calls with numbers starting with 9. Rather than putting the issue in the hand of service providers, we request iDA should set the guideline and have all service providers adhere to it.

Key obligation on the service provider is maintenance of privacy information. There should be strict guidance on security policy construction and its management and strict adherence of the policy must be monitored. Penalty on the loose management of the privacy information should be legist rated.

In addition, on the issue of provision of emergency services, there is a potential problem with implementation. Although emergency services are an important requirement, the identity and location of the caller cannot be positively verified. This is due to the fact that in the Internet domain, the source might not be who it claims to be. The location of the caller (local or overseas) is also difficult to verify. This gives rise to uncertainties during emergency calls where the operator cannot filter out real calls from prank ones and location of calls, in case the other party is unable to provide the information or complete the call.

Questions

IDA welcomes views and comments on whether there are issues that may pose problems to achieving number portability in future.

Response:-



When a customer changes the service provider for his/her reason, it is acceptable to follow the iDA guidelines.

However, it is anticipated that SBO and FBO companies are to fail in their business which will result in a merger and/or acquisition may take place. In such a case, it is cumbersome for end users to change numbers and some provisions should be determined that the same number is maintained for the end user.

The ease of implementation and low barrier to entry for VOIP will make ENUM very attractive to many players. Without enforcing number portability or a plan on how to enforce number portability right from the start, this will lock customers to the service providers who might not be willing to give up their customers. This might stifle competition and limit consumer choices.

Questions

IDA welcomes views and comments on the above differentiation approach. Please provide supporting reasons for each comment and proposal made.

Response:-

No comments

Questions

IDA welcomes views and comments on the potential of and benefits arising from the deployment of ENUM; the likely services/applications; and the potential demand from businesses and consumers.

IDA welcomes views and comments on whether there are other key international developments that IDA should take into consideration when developing the policy framework to implement ENUM in Singapore.

Response:-

Asgent, Inc. (Japan) is a member of ENUM Japan Council and Mr. Takaishi, Chief Researcher, is a member of the Council. Asgent, Inc. could assist iDA in assembling the information from Japan so that you will be credited to report both ENUM needs in your market as well as what new developments are progressing positively in Japan that could be shared with iDA.

ENUM is one of the most important features of IP telephony, since the international call is the most expensive communications on PSTN line. Thusly, the IDA's approach to comply with the international standard is greatly appreciated.

While no country in the world is using ENUM on a commercial base yet, Japan and Korea are the fore runners in this area and APRICOT 2005 in Kyoto will be the good opportunity to discuss and experiment the ENUM to make a consensus among major countries.



Asgent, Inc. (Japan) will be glad to assist or collaborate with iDA to contribute or share in the board of advisory committee in the on-going progress of this area of development.

Questions

IDA welcomes views and comments on the allocation of ENUM to only telecommunication service subscribers allocated with telephone numbers. IDA also invites views on what would be a suitable authentication mechanism and the frequency of re-authentication to ensure that the assignee is still using the assigned telephone number.

Response:-

For the time being the proposed guideline will work. Yet, when the IP telephony prevails, the proposed scheme of assigning ENUM number will become hindering factor for the IP service provider and give advantage only to telecommunication service provider.

Comment on re-authentication is the same as in number portability.

Questions

IDA welcomes views and comments on the proposed Registry-Registrar-Registrant approach for registering for ENUM.

Response:-

Asgent, Inc. agrees with the proposed scheme.

Questions

IDA welcomes views and comments on the approach to allow End Users to decide whether they want to register for ENUM and the information they want to make publicly available.

Response:-

Asgent, Inc. agrees with the proposed guideline.

Yet, maintenance of privacy information again should be strictly imposed to the service providers