iDA
SINGAPORE

Information Paper:

Mobile Number Portability in Singapore

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INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE

MOBILE NUMBER PORTABILITY IN SINGAPORE

1 MOBILE NUMBER PORTABILITY

1.1 Mobile Number Portability (MNP) is the ability for mobile phone subscribers to retain their mobile phone numbers when they change mobile operators. One of IDA's key goals is to foster effective competition and establish a globally competitive telecoms sector with multiple players offering innovative, high quality and cost effective services. MNP fosters competition by lowering the barrier for customers who wish to change operators. Recognising the consumer benefits, IDA required[1] mobile operators to implement Mobile Number Portability (MNP) from the onset of mobile competition on 1 April 1997.

2 DEVELOPMENT OF MOBILE NUMBER PORTABILITY IN SINGAPORE

2.1 In 1996, the Telecommunication Authority of Singapore or TAS (the precedent of Infocomm Development Authority or IDA) facilitated the Mobile Number Portability Working Group (MNPWG) formed by the mobile operators (SingTel Mobile and M1) to discuss the implementation of MNP in Singapore. Please refer to Annex 1 for key highlights in the development of MNP in Singapore since 1996.

The Technical Solution

2.2 The MNPWG discussed three possible technical solutions and finally agreed on the call-forwarding MNP solution in 1996. The solution was implemented a year later. The other technical solutions considered were the Originating Re-route (proprietary standard) and the Intelligent Network (IN) solutions. Both were rejected because the Originating Re-route solution would have deviated from the GSM standard and affected services such as international roaming, while IN technology for mobile networks was not mature at the time. The MNPWG, however, did not rule out adopting an IN Solution in the longer term.

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[1] MNP is a licence condition in all mobile operators' licences. They are required to implement MNP from the onset of commercial service.

2.3   When StarHub Mobile was licensed in April 1998, TAS requested that the MNPWG reviewed the technical solution for MNP. After months of discussion, it was agreed that the call-forwarding solution was still the most appropriate solution. The MNPWG also discussed the IN and Signalling Relay Function (SRF) MNP solutions but rejected both for several reasons. Firstly, the IN solution for GSM was then not finalised by the European Telecommunications Standards Institute (ETSI), and could not support non-call related services such as Short Messaging Service (SMS). Secondly, the MNPWG found that an IN solution was not commercially viable due to the high cost of investments required. Thirdly, the implementation of the SRF solution was costly and would have required extensive network changes. Lastly, the SRF solution worked only for GSM networks and could not support other standards like CDMA.

Number Portability Forum and the Number Portability Industry Working Group

2.4   In July 2001, IDA established the Number Portability Working Group (NPWG) to address the technical, administrative and fault reporting issues for Number Portability (NP) in a multi-operator environment. At the first meeting held on August 2001, all three mobile operators stated that they were satisfied with the current MNP arrangement and that there was no need to review it. Thus the NPWG focused on Fixed-line/1800/1900 NP. The proceedings of the NPWG are posted on IDA's website at www.ida.gov.sg under Policy and Regulation/Industry Working Groups.

3   RECENT REVIEW OF MOBILE NUMBER PORTABILITY

3.1   IDA believes it prudent to ensure that its policies remain relevant in a constantly evolving market. With the increased usage of mobile data/messaging services such as SMS and Enhanced Messaging Service (EMS), and SMS evolving into a service that every mobile customer expects to have, IDA recognised that the MNP solution, without the ability to support the SMS/EMS capability, was an impediment to consumers and further competition. In view of market developments since limited MNP was implemented in 1997, IDA saw a need to also review the general pricing for MNP services.

Review of the Technical Solution

3.2   Therefore on 30 May 2002, the MNP Industry Working Group was formed for a re-evaluation of the existing technical MNP solution. The MNP Industry Working Group comprised of representatives from SingTel Mobile, M1 and StarHub Mobile, with IDA acting as a facilitator. The MNP Industry Working Group was tasked to consider the technical solutions to support SMS/EMS portability. Since IDA maintains a technology neutral approach, the mobile operators were left to decide on the most appropriate and cost effective technical solution to implement so long as IDA's requirement for MNP is met. The MNP Industry Working Group has since agreed on a cost effective solution to implement SMS/EMS portability. The mobile operators will upgrade their MNP systems to provide SMS/EMS portability[2]by 1 October 2003.

Review of MNP Pricing

3.3   IDA recognises that all mobile customers benefit from the ability to retain their existing mobile numbers when they switch operators. The need to pay a monthly recurring MNP charge is a barrier to consumers wishing to switch operators but retain his mobile number. Such barriers impact both consumer welfare and the level of competition in the market. On 21 June 2003, the Minister announced that IDA had required the mobile operators to cease charging customers a monthly MNP fees by 1 August 2003. While there will no longer be monthly recurrent charges for MNP, mobile operators are allowed to charge a reasonable one-time administrative fee to recover processing costs for MNP applications. IDA's decision came after careful consideration of the potential benefits to consumers and further competition with the removal of monthly MNP fees. Potential benefits include enhanced market competition through the removal of barriers, resulting in better service quality, more competitive prices and a wider choice of products and services.

4   CONCLUSION

4.1   Moving forward, IDA will continue to monitor market developments and ensure that its policies remain relevant and conducive to foster effective market competition to the benefit of consumers in Singapore.

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[2] The mobile operators have initiated a self-driven working industry working group to address inter-operator MMS implementation and portability. IDA is monitoring the working group's discussions and will expect the mobile operators to implement MMS portability when it becomes feasible to do so.

Mobile number portability in Singapore - Chronology of events

Date	Event
19 Sept 1996	Singapore's telecom regulator, TAS, convened the mobile number portability working group (MNPWG) to discuss implementation of MNP with the start of mobile competition on 1 April 1997. The MNPWG comprised SingTel Mobile and MobileOne (M1). TAS participated in the working group as facilitator and observer.
18 Oct 1996	The MNPWG identified three possible solutions: Call forwarding, Originating Re-route and Intelligent Network (IN) solution. After careful study, the MNPWG proposed to adopt simple call forwarding solution for MNP in Singapore.
30 Dec 1996	SingTel Mobile and M1 requested that TAS determine the charges, when they could not agree to the inter-operator MNP charges.
3 Mar 1997	TAS determined the inter-operator charges for MNP.
1 Apr 97	M1 launched commercial services marking the start of mobile competition in Singapore. MNP was implemented.
Apr 1998	StarHub Mobile was licenced as the third mobile operator for launch of commercial service on 1 April 2000.
12 Oct 1998	The MNPWG, including StarHub Mobile, reconvened to discuss two MNP solutions identified: the GSM Signalling Relay Function (SRF) method; and the distributed IN database.
30 Mar 1999	The MNPWG decided that they would continue with the call forwarding solution with the launch of StarHub Mobile's services on 1 April 2000 as it was the most effective and efficient solution.
Dec 1999	IDA was formed in December 1999 as a result of a merger between the TAS and the National Computer Board.
1 Apr 2000	StarHub Mobile launched commercial service with MNP.
30 May 2002	With the mass adoption of SMS as a means of communication, IDA kick-started the MNP Industry Working Group to review the technical solution to cater to SMS & EMS portability. The MNP Industry Working Group agreed to a solution to cater for SMS/EMS portability on 29 August 2002.

Date	Event
21 Jun 2003	IDA requires the mobile operators to (a) cease charging customers monthly MNP fees by 1 August 2003; and (b) provide SMS portability by 1 October 2003.