1. Background of the Product

While benefiting from the conveniences brought by the telephone, people are also annoyed by this kind of modern communication means and have put forward higher demands for mobile phone services. For example, the common subscriber hopes that his/her life can be separated from work, he/she can have cheap-charge VPMN (Virtual Private Mobile Network) service at work, and he/she will not be harassed after work, so that neither life nor work will be affected. The temporary subscriber needs to cancel his/her phone number in order to avoid future possible harassment resulting from making the number known while he/she was looking for jobs through employment agencies, or houses through real estate agents, so the temporary number, as a temporary identity, meets his/her needs for convenience and security. The public figure needs more than one phone number which can be controlled in a flexible way to shield him/herself from being molested by the media or the fans, so that his/her privacy will be protected, and his/her itinerary not affected. The businessperson, making frequent business trips out of the local area, needs more than one telephone number so that he/she won’t miss any call and can be saved a lot of phone charges. To meet these requirements, the subscriber needs to have more than one real phone number without having to change his/her SIM card or phone. This is called the solution of multi subscriber number, or MSN, which is the optimal solution.

2. Problems Faced

- Personalized requirements for mobile services: The subscriber has only one number so can’t make personalized setting aimed at different occasions or different group of people.

- Optimal customer experience: Currently there is no way of convenient setting of free switchover of multiple numbers.
3. MSN Solutions

MSN

The service of multiple subscriber number, or MSN, means that the existing subscriber, without having to change his/her phone or SIM card, can easily apply for one or more wholly-new and real numbers, which are bound to the Principal Number as supplementary number(s). The principal number and the supplementary number(s) can be switched in a flexible way, supporting such functions as incoming and outgoing calls, short message receiving/sending, logic power-on/off switch and call diverting. This service will not affect the functions or services at a discount of the principal number.

Service Functions

- Phone number setting: The caller’s principal number can be set according to his/her requirements.

- SMS: It supports SMS on the supplementary number(s).
  Status Setting: The corresponding numbers can be set to “on” or “off” status any time.

- Billing: The function fees and call charges incurred by the supplementary number(s) will be calculated into the subscriber’s real number, i.e, the principal number.

- Other personalized services: such as black/white list setting, power-on limit and personalized power-off tone, etc.
Construction Plan

- Designing Concept: Resources of multiple supplementary numbers are assigned to the principal number on the MSN platform and the codes of these numbers are set. The system will match the codes of the supplementary numbers according to the service code and extract the supplementary number, which is then substituted for the principal number and used for making calls or SMS.

- Platform Interface: Interface with Short Message (SM) gateway, billing centre and service management system is established, so it can support such functions as message-sending of the principal number and the supplementary number(s), as well as unified billing and state setting.

The networking plan is shown as Illustration 1 below.

Illustration 1  MSN Platform Networking Plan
4. Benefits MSN Service Brings

It satisfies mobile users’ personified requirements, i.e., their requirements for more than one phone number as different identities, and for optimal customer experiences. The subscriber can possess more than one real phone number without having to change his/her SIM card or mobile phone. In addition to this, the individual’s privacy is fully protected because the new number will use the format of the real number, therefore, not only is the original phone number protected, the credibility of the new number is enhanced as well.

5. Conclusion

The service of multiple subscriber number, or MSN, means the binding of more than one supplementary number to the principal number without changing the subscriber’s SIM card or mobile phone so as to meet his/her need for switchover of different numbers under different circumstances. Through this wholly-new value-added service, mobile users’ personalized requirements can be satisfied, customer experience can be upgraded, operation revenues increased and operator’s brand publicity uplifted.