

# tele.net

a magazine for service providers and large enterprise customers



## Making the Switch

Key issues in implementing number portability (See Inside)

Naveen Suri, Vice-President, Global Services, Telcordia



**Budget 2007  
makes token  
gestures**

12



**Interview  
with GTL's  
M.G. Tirodkar**

36



**telefocus:  
Convergence  
gains ground**

50



**Profile  
of MTNL's  
A.K. Arora**

65

# Making the Switch

Key issues in implementing number portability

**Naveen Suri, Vice-President, Global Services, Telcordia**

For service providers and regulators worldwide, number portability is a challenge and an opportunity. It allows consumers to retain their existing telephone numbers when they switch from one service provider to another. Regulators want to use number portability to minimise competitive barriers, conserve and optimise national numbering resources, and enable the freedom and new services that it brings to consumers.

Regulators play a vital role in the development and implementation of number portability by providing the link between the law and actual implementation. Their role includes choosing an implementation method, creating an industry consortium, developing an RFP and selecting a vendor to operate a neutral number portability administrative system. This is no small task, which is why regulators frequently leverage the experiences of their counterparts in countries that have already implemented number portability.

Number portability is gaining momentum globally. Hong Kong and Singapore were the first Asian countries to implement the system, and the European Union mandated it for all of its member states. Average port rates per annum vary widely even within the same region. For example, in Europe, the rate is 0.1 per cent in

Portugal and 19.6 per cent in Finland. The rate in Western countries averages 4.5 per cent. Based on the porting experiences in 19 countries, there are three factors that heavily influence porting rates:

- Subscriber awareness – Do consumers understand wireline and wireless number portability? Do they know that it is available?
- Simplicity and speed – How easy is it to port a number? How long will the process take?
- Zero/Low cost – How much will service providers charge customers to port their number?

It is important to note that porting between CDMA and GSM service providers can be achieved and is being done today in countries such as the US. When customers switch from a CDMA service provider to a GSM service provider, they need a new handset instead of just a new SIM card. However, this requirement does not prevent number portability. Instead, it's simply a customer education issue.

There are two key aspects to number portability. These are:

- Network related – How does a service provider route a call to a ported number?
- Business related – What must a service provider do when a user requests a port?

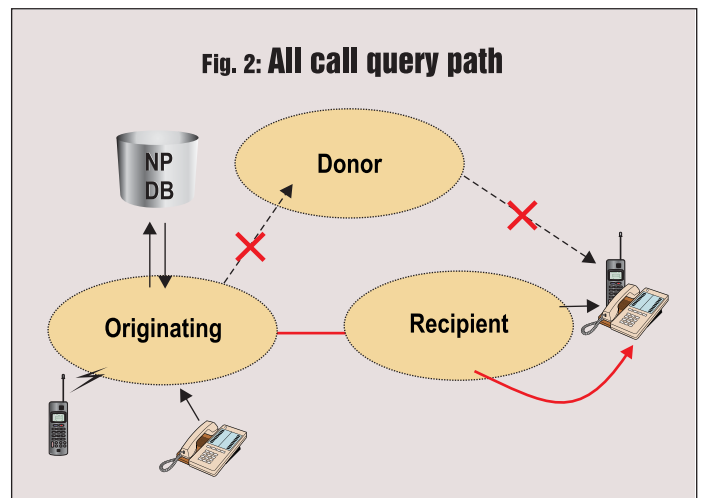
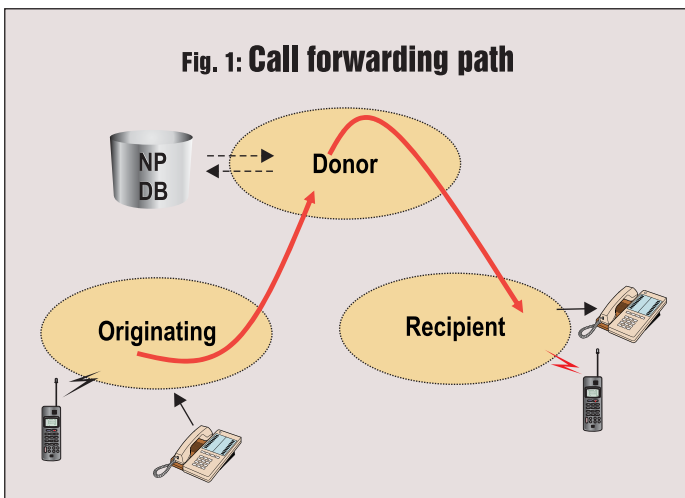
Service providers and regulators have

to sort through multiple network call-routing options. The two most prevalent options are call forwarding and all-call query (ACQ). One way to understand each option's advantages and disadvantages is by looking at how it has fared in other countries. For example, countries such as France initially chose call forwarding, where the originating operator routes the call to the service provider that originally served the customer being called. This "donor" operator then forwards the call to the service provider that the customer ported to, called the "recipient." Fig. 1 illustrates this call path.

Call forwarding has several major drawbacks, including:

- Calls to ported numbers don't go directly from the originating operator to the recipient, so call routing is neither optimised nor efficient. In fact, call forwarding creates "tromboning", which incurs additional transit/interconnection charges.
- The donor operator often charges the originating operator for call handling. These overhead costs inhibit the donor operator's ability to price its services competitively yet profitably.
- The originating operator has no control over the quality of service provided by the donor operator.

ACQ avoids the problems that call forwarding incurs. It allows service providers to download updated routing information to their network elements. ACQ also enables efficient and optimised routing, with no tromboning, and it avoids disruptions if the donor operator goes out of business. ACQ also has minimal impact on signalling and call set-up



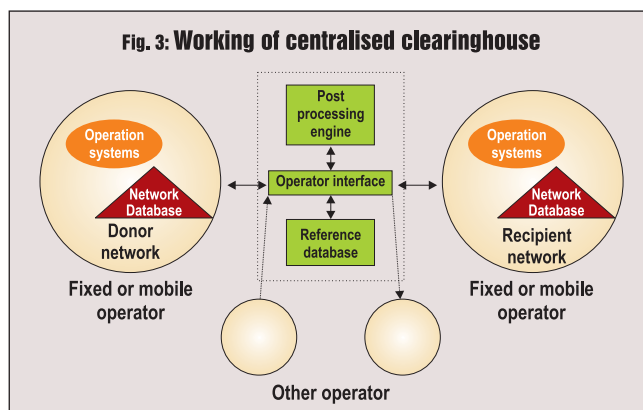
times, and it doesn't greatly increase network complexity. Fig. 2 illustrates ACQ's call path.

### The "clearinghouse" approach

Most countries favour a centralised business approach to managing number portability. A clearinghouse is a centralised database of all port information in a country or in a region, such as each of India's circles. Whenever a customer ports, the central database is updated and the change is distributed to the wireline and/or wireless operators in that country or region to update their individual databases. Fig. 3 illustrates how a centralised clearinghouse works.

Experience shows that a centralised clearinghouse is the only reliable way to achieve and maintain high levels of data accuracy and integrity. This approach has several other benefits, including:

- It is ideal for simultaneously supporting wireline, wireless and wireline-to-wireless number portability.
- It minimises the impact on number portability if one of the operators exits the market.
- It creates a single, standard mechanism supporting fair ordering, provisioning and notification.
- It can be expanded to support other



applications, such as ENUM and directory services.

- It enables regulators to more effectively audit and enforce number portability rules as well as promote competition.
- Optimised routing, reducing operators' overhead costs.
- Greater flexibility and more scalable than individual operators' number portability databases.
- Ability to evolve as the marketplace transitions from regional operators to national ones, which is a particularly good fit for India.
- Over the long term, it is the least expensive and most efficient solution for all operators in a particular country.

### Choosing a number portability supplier

Once a centralised clearinghouse approach is chosen, regulators and service providers

still have several other decisions to make. A major one is selecting the company that provides number portability-related services such as consulting and training, as well as the number portability infrastructure itself. At a minimum, regulators and service providers should look for:

- A company with extensive experience in both wireline and wireless number portability. Experience in multiple countries also is a

major asset because the company can leverage its experience abroad when identifying options. For example, Telcordia has enabled number portability implementations for more than 150 service providers in nine countries – the maximum by any company globally.

- A full suite of number portability solutions rather than just one or two areas. For example, the company should be able to provide number portability planning, advisory/consulting, gateways for service providers and the ability to operate the clearinghouse at the country level.
- Extensive experience in related areas, such as OSS and IMS. This experience is a plus because when advising service providers and regulators about their number portability options, the company can also identify ways in which the number portability solution can be used for other applications, such as ENUM, IP interconnection, common data infrastructure and directory services. By identifying and accommodating these types of synergies during the design stage, the company can help ensure that service providers and regulators do not waste money later by having to buy a separate platform for applications such as ENUM. This experience also is key to helping operators understand number portability's impact on their back-office systems.

Regardless of the country, number portability ultimately is an effort that requires service providers and regulators to work together to choose and implement the solution that best fits their market conditions. Operators and regulators worldwide are increasingly choosing a centralised clearinghouse approach because it provides the most cost-effective, efficient and flexible solution. ▲

## Number portability checklist

Here is an overview of the issues that regulators and service providers should consider when developing and executing a number portability strategy.

### Regulators:

- How are other countries managing number portability; what can be learned from those implementations?
- What are the business rules and how should they reflect each country's unique market needs?
- How much should service providers charge customers for ports?
- How should bad debt and transparency be handled?
- How can port orders be processed efficiently?
- What are the costs and how can they be recovered?
- Is a centralised clearinghouse the best solution for this country's telecom market? If so, who should operate the clearinghouse?
- Should routing be handled with call forwarding or all call query?

### Service providers:

- What is the most cost-effective way to route calls to ported numbers?
- What are the most effective procedures for porting numbers?
- What are the key considerations for establishing a clearinghouse?
- How will port orders be exchanged with other operators?
- How will charging and settlements be handled?
- How will number portability and the solution impact back-office systems?



---

For more information about  
Telcordia number portability offerings,  
please contact:

**Kshitij Lal**  
+91 9810297566  
klal@telcordia.com

**Naveen Suri**  
+1 732.763.9326  
nsuri@telcordia.com

For general information about Telcordia,  
contact your local account executive,  
or you can reach us at:

+1 732.699.5800  
telecom-info@telcordia.com

**[www.telcordia.com](http://www.telcordia.com)**