

Local Number Portability:

"You may experience a short delay..."

David Stewart considers the technical and regulatory challenges surrounding local number portability and some long-term benefits of intelligent network solutions.

Around the time of publication of this paper, the ACA is expected to have finalised its assessment of what constitutes the standard of 'full' local number portability under the *Numbering Plan 1997*. That decision represents a vital opportunity for the ACA to require Australian carriers to adopt an intelligent network ('IN') platform for call routing – as has been required by regulators in the US and Hong Kong. If that opportunity is lost, consumers (particularly business consumers) may have to bear the costs of a stop-gap, second-best solution which could delay the introduction of truly up-to-date technology in the largest network in Australia for years to come.

WHAT'S ALL THE FUSS ABOUT?

Number portability is the ability of customers of a carriage service to change their carriage service provider, while retaining the same phone number. Under the *Telecommunications Act 1997*, no formal distinction is necessarily made between a customer changing between switchless service providers amongst a single network, and customers who change from being connected from one network to another (they're both changing 'provider'). However, it is the second form of number portability – changing networks – which is crucial to competition between network providers.

Without number portability, competition between network providers for customers is chilled by the inevitable costs of changing telephone numbers which must be borne by a churning customer. Many businesses, particularly small to medium businesses, invest substantial amounts in the goodwill in and promotion of their phone number. While the impact is arguably less severe on residential consumers, the costs of changing numbers – which can include the indirect costs of missed calls and sheer inconvenience – mean that access to the lower prices offered by competitors may be lessened unless a simple, workable and affordable mechanism exists for the

customer to bring (or 'port') their number across from their old provider to their new provider.

TECHNICAL SOLUTIONS

There are two broad categories of technical approaches capable of achieving number portability.

The first category, 'call-forwarding' solutions, depend on the original network attempting to connect calls to a ported number, and then a subsequent re-routing of that call to the network of the new provider when that call attempt fails. Because call-forwarding is only triggered in the event of an unsuccessful call to the original network, such solutions invariably produce performance differences in connecting users to ported and non-ported numbers. In particular, the two-stage call routing process to customers of a rival network takes longer than connecting calls to one's own customers. This process is experienced by users as 'post-dial delay'.

One option for enhancing the performance of call-forwarding solutions is to engage in 'drop-back', whereby the number of superfluous circuits within the original network is reduced, though not eliminated. Nonetheless, such systems still have a process which relies on a 'normal call plus something extra' approach to dealing with a rival's traffic.

The second category, 'intelligent network' solutions, use a database which matches particular users and their telephone numbers with their network provider. This database is interrogated for every call, identifying whether the call needs to be connected to a point within the originating carrier's network, or elsewhere. Call routing, whether to a directly connected customer or to a rival's network, takes the same amount of time irrespective of whether the caller is attempting to reach the customers of the original provider, or their rival.

Call-forwarding solutions are generally characterised by the following features:

- there can be only two (or at most three) carriers involved in the porting of numbers;
- it is most effective where the proportion of calls to ported numbers is small compared to calls to non-ported numbers – put another way, where the call-forwarding network enjoys overwhelming market share compared to its rivals;
- it lends itself to attempts by network providers to require their rivals to bear costs, in the form of a 'call-forwarding charge' per call; and
- operators of existing networks based on technology similar to most incumbent ex-monopolist's networks around the world (such as Telstra's PSTN) are spared the cost of upgrading their equipment to accommodate the enhanced quality and breadth of service associated with IN solutions (since, once installed, IN databases can be used to activate a variety of services, other than LNP).

By contrast, IN solutions generally involve substantial set-up costs for operators who use non-IN-based networks, generate little if any incremental or 'per call' cost and are, generally speaking, readily scaled to include multiple carriers. In addition, IN-solutions, although more expensive where the market share of new entrants remains small, do not create increased congestion where the market share of the incumbent falls.

THE DIRECTION, THE PLAN AND THE SEEMING LACK OF DIRECTION OR PLANNING

Number portability is regulated by the *Numbering Plan 1997*, which is the regulatory instrument issued by the ACA under Part 22 of the *Telecommunications Act*. Section 458 of the Act provides that the ACA may include rules for 'the portability of allocated numbers' provided



that the ACCC has directed the ACA to do so.

The ACCC issued a draft direction to the ACA canvassing the issues shortly after the commencement of the Act, and a final *Direction* was issued to the ACA on 22 September 1997. That *Direction* provided that, amongst other things, the ACA must include rules on the portability of allocated numbers in the *Numbering Plan*, and laid out in detail what those rules were to be.

The *Direction* provided for two forms of local number portability: 'limited' number portability, required to be provided in the short term, and 'full' number portability (simply referred to in the *Direction* as 'number portability'). The ACA was directed to ensure that each form of number portability was to be offered by carriage service providers at the 'earliest practicable date' for that to occur, as determined by the ACA.

In its *Explanatory Statement* to the *Direction*, the ACCC identified the standard required for full number portability as being that carriage service providers could offer:

'equivalent services and features independent of whether the end-user is using or calling a number that has been ported from another carriage service provider. Any differences in the quality or reliability of services ... must not be apparent to end-users in a way that may affect the choice of carriage service provider by customers.'

The Commission nominated IN-based solutions as being capable of meeting this standard. Call-forwarding (and, in particular, Telstra's 'facilities re-direct' service) was specifically identified as being able to discharge the standard of 'limited' number portability (not full number portability).

The requirement of equivalence was subsequently set down in the *Numbering Plan* in clause 11.4, which provides that:

'A carriage service provided in relation to a ported number is an equivalent service if (and only if) any differences between it and a carriage service provided in relation to a non-porting number.'

(a) will not be apparent to a customer; or

(b) if they are apparent to a customer – will not affect the customer's choice of carriage service provider.'

THE OVUM REPORT

The ACA has subsequently specified 1 May 1998 as having been the earliest practicable date for the provision of limited number portability by all carriage service providers (a requirement overlapping substantially with the licence condition imposed on Telstra by the Minister in late 1997) and 1 January 2000 as the earliest practicable date for full number portability. Following this process, the ACA commissioned Ovum to produce a report identifying the technical solutions and issues associated with each of 'full' and 'limited' number portability.²

That report has been released for a second round of industry consultation. Ovum states in the report that it considers that 'non-equivalence' requires three things:

'Firstly, a difference in services, features, reliability or quality levels must be objectively caused by the implementation of local number portability. Secondly, this difference must be perceived by end-users. Thirdly, the end-user perception of the difference must be significant enough to affect the choice of carriage service provider.'

For reasons stated below, this third criterion should not be considered by the ACA and should not have formed part of the study.

WHAT THE LAW SAYS

It is not clear that an interpretation of the *Numbering Plan* which resulted in a call-forwarding solution which yielded post-dial delays capable of affecting consumer choice being an acceptable form of number portability in the long-term could be reconciled with the specific wording of the ACCC's *Direction* and *Explanatory Statement*. It is an open question whether, in that case, there needs to be amendment of the *Numbering Plan* sufficient to bring it clearly into line with the *Direction*.

The *Plan* is required under the *Direction* to ensure that the ACA does not permit

carriage service providers to offer full number portability in a way that interferes with the provision of 'equivalent quality and reliability' of service, or access to 'equivalent services and features'. Equivalence means, in this context, that any differences are not apparent to end-users to the extent that such differences 'may affect' the choice of provider. Branding is permissible – perceptible and substantial post-dial delay is not.

The current wording of clause 11.4 of the *Numbering Plan* refers to differences which either 'will' or 'will not' affect a customer's choice of carriage service provider. Although the distinction between this and the previous concept of a difference which 'may affect' consumer choice is a subtle one, it is significant. Matters which *may* affect consumer choice go to the issue of perceptibility – itself a performance issue. Matters which *will* affect consumer choice are questions determined as a matter of customer research and preference. A regulator assessing the first question is focused on the technical issues. The second requires judgments concerning subjective questions of quality and choice.

With all due respect to the Authority and its staff, the approach of the ACA in commissioning the *Ovum* report, and the matters addressed by the report, suggest that the ACA has found itself on the wrong side of this logical divide. By allowing themselves to be drawn into debates about the relative impacts on consumer choice of particular call holding times, the point seems to have been missed. More significantly, the 'two-tier' approach, designed to deliver both short-term and long-term benefits to end-users, is in danger of being stalled at the first hurdle.

A final consequence of this approach to full number portability would be the somewhat bizarre scenario of the ACA having specified 1 January 2000 as the 'earliest practicable date' for the

introduction of a service which Telstra (at least) has been offering since 1 May 1998.

WHAT SHOULD HAPPEN

The ACA should strongly affirm the conclusion that it reached in a preliminary form in its earlier *Report on Implementation of Number Portability*, that only an IN solution meets the requirements of the *Numbering Plan*, and thereby require all carriage service providers to provide to themselves, or acquire, IN functionality supporting LNP. The principle benefits to end-users would be long-term, but nonetheless real and substantial. This would deliver a 'second dividend' to end-users, complementing the benefits arising from having the fastest possible introduction of limited number portability.

This is good policy, as well as good law. To focus overly on the arguments as to the limits imposed by the ACCC's *Direction* to the ACA miss the point. Use of IN technology combines the advantages of number portability as a general proposition which increases access by consumers to the benefits of competition, with the technological advantages of a network routing system which is easily adapted to develop new and innovative services. The benefits of number portability were recognised by the Minister when he described the introduction of any form of number portability as a 'major boost to competition ... [which] will help to bring lower prices and improved services to millions of Australians'. The benefits of IN include a common platform for the management of call routing information, a key precursor to wider availability of the kind of call management services which are taken for granted in the commercial world.

It seems plausible that part of the reasoning of regulators in not being

explicit about specific technical solutions in the *Direction* and *Plan* was the perceived need for the ACCC and ACA to remain 'technology neutral'. While it is both natural (and appropriate) for regulators not to be bullish about their own ability to foresee and act upon technologically-specific information, in the case of LNP, the time has come to take the plunge – as OFTA in Hong Kong, the FCC in the United States and AUSTEL before July 1997 have already done.

This is particularly true given that the distinction between 'limited' and 'full' local number portability in the *Direction* has the distinct appearance of being a decision which is, on its face, *implicitly* specific about the technological issues involved. Far better to be clear about this issue, than to try and 'herd the flock' towards an end result that is not overtly stated.

Both the ACA and ACCC (and AUSTEL before them) have been well informed of the relevant issues, both domestically and by being able to observe regulatory processes overseas. Granted that the ACCC appeared to require a 'two-tier' approach to number portability in its *Direction*, and that only two clear alternatives present themselves, what possible use is there in having that approach thwarted, and delaying the onset of local number portability once again?

David Stewart is a solicitor with Minter Ellison. The views in this article are the author's alone, and are attributable neither to Minter nor the firm's clients.

1 Explanatory Statement to the *Direction* to the ACA on number Portability, ACCC, 22 September 1997 at explanation of *Direction* 3.

2 ACA letter to industry attaching the *Ovum* report, dated 1 September 1998.

3 Ministerial Media Release on the decision to require Telstra to provide LNP as a licence condition dated 23 September 1997.