Antelope Consulting

Implementing international call-by-call carrier selection codes in Sri Lanka

Contents

Claire Milne
Tel/fax: +44 20 8505 9826
Email: cbm@antelope.org.uk

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1 Introduction

The topic of this paper is the implementation of call-by-call carrier selection codes for international carriers in the new competitive regime which is now being introduced in Sri Lanka. A companion report, prepared as part of the same assignment, reviews and makes recommendations for the implementation of Sri Lanka's new 10-digit numbering plan during 2003. The companion report provides some supplementary information about the organisation of short code space which may be of interest to readers of this report. Both reports were prepared in discussion with industry participants and TRC during early 2003.

This assignment was carried out in parallel with the finalisation of the new licensing and interconnection rules for international competition. Relevant passages from the regulatory documents (available on TRC's website www.trc.gov.lk) are reproduced for convenience as Annex B. Key points for this paper are:

- All access networks must provide their customers with equal access to all EGOs desiring this facility.
- The definition of equal access may include preselection with over-ride as well as call-by-call selection using 4-digit codes.
- Subject to the existence of an acceptable plan for providing equal access, international dialling may continue as at present (that is, with a simple 00 prefix and default routing determined by the access network) until equal access has been implemented.
- For the time being, the requirement to provide equal EGO access to all customers will not apply to prepaid mobiles.

The main parts of this paper are as follows:

- Section 2 explains the difficulties in implementing 00XY codes in Sri Lanka, the plan suggested at the outset of this assignment.
- Section 3 puts forward the alternative approach of using the dialling sequence 18XY 00 for international carrier selection, on lines similar to those used in many other countries. Annex A provides an overview of practice elsewhere.
- Section 4 touches on a few other relevant implementation issues.
- Finally, section 5 summarises the paper's recommendations.

2 Implementation of 00XY codes

2.1 The difficulty of implementing 00XY codes

A common situation encountered in designing numbering changes is discussed in the companion report on the numbering plan. It is preferable where possible to use currently vacant number blocks for new numbers, rather than re-using existing

occupied number blocks, because this makes it easier to provide parallel running and changed number announcements.

Sometimes it is possible to provide parallel running and changed number announcements even where existing occupied number blocks must be re-used. This would mean adopting one or more of the following techniques:

- Deep number analysis which will reveal whether the number dialled is in a “new” or “old” number range.

- Digit counting (with a timeout at the end of the dialled digit stream) to tell whether the number dialled is a “new” or an “old” number. (This facility is available on some but not all types of switch).

- Use of an “end of dialled digit stream” marker (like the “send” key on mobiles) which permits immediate determination of the length and status (new or old) of the number dialled.

In Sri Lanka, the dialling sequence 00XY is currently in use for international calling (with XY as the first two digits of the international significant number, that is, usually the country code or part of it). So introducing 00XY carrier selection codes would mean re-using this numbering space. But the techniques for listed above for telling “old” from “new“ numbers could not in general be used, because:

- Deep number analysis would require detailed information about other countries’ numbering plans which is unlikely to be available in gateway switches. Even if the information were available, such analysis would probably entail unacceptable processor loading.

- Even if number length can be counted, it will not always enable systems to tell whether “old” or “new” numbers are being dialled. The number of digits needed to complete correct dialling after 00XY will vary depending on the part of the world being called, and is not always easily predictable.

Therefore, it is hard to see how parallel running or changed number announcements could be provided for a change of this kind. Absence of these facilities for international dialling would create more problems than for a domestic number change because:

- However successful a publicity campaign may be in educating residents to dial the new way, high levels of misdialling must be expected from visitors from abroad who are likely to make international calls and to be unaware of the special system in Sri Lanka.

- The consequences of international misdialling are particularly troublesome, including as they do:

    - Wrongly connected calls which are charged for at international rates (possibly leading to customer complaints).

    - International circuits occupied by callers listening to distant announcements (possibly in unknown languages) or strange tones or no tones, without producing any revenue.

A couple of illustrations may help in grasping the problem:

- The current London number 0044 20 XXXX XXXX (UK country code 44, city code 20), if dialled in error after the change, could be routed to Egypt (country code 20) by the carrier with code 44.

- The current Caribbean number 001 264 XXX XXXX (country code 1 264), if dialled in error after the change, could be routed to New Zealand (country code 64) by the carrier with code 12.

In reality, most misdialled calls would probably not get routed abroad but would fail earlier by another mechanism:

- If the subscriber to the line being used for the call does not have a service contract with the carrier inadvertently selected, then the call may fail on inspection by the carrier of the Calling Line Identity. It may then be routed to an announcement or tone (such as "number unobtainable"). An announcement could explain the need for pre-registration to use this carrier's service. A tone gives little useful information.

- If the call passes the former test, it may fail at the international gateway switch if this switch discovers (having been programmed to do so) that the dialled number is not valid in the apparent destination country, because of either the number length or the number range used. Again either an announcement or a tone would normally be returned to the caller. An announcement would be unable to explain the nature of the error, although it could remind the caller about the new system. Again a tone would be of little help.

But whatever the failure mechanism, such misdialled calls are bound to fail, and in ways that will probably puzzle the caller. This course is not best calculated to encourage international calling, or to raise Sri Lanka's reputation as a leader in telecoms reform.

A further drawback of any 00XY approach is that because it entails a change in the meaning of the digits following 00, the nation's international dialling habits would need to be reshaped overnight (or twice, over two nights, in the case of a two-stage change). Parallel use of 00XY from some phones to mean carrier selection while from other phones 00XY still meant country selection could only lead to confusion and misdialling. Extensive co-ordinated publicity would be needed about the new arrangements and all operators would need to work to the same timetable.

2.2 Possible solutions

Three approaches have been identified to implementing 00XY carrier selection codes which reduce the misdialling problem just described. Others may be devised. However nothing yet thought of appears especially attractive.

Approach 1: limit choice of 00XY codes to those that are currently vacant

At present, because of the proliferation of country codes over the past decade (mainly attributable to the formation of new countries eg through the breakup of the

Soviet Union), nearly all 00XY combinations are already in use for international dialling. There are only 15 currently free combinations:

000X (X=0 to 9), 0010, 0011, 0028, 0083, 0089

In principle it might be possible to launch the new regime using only this limited range of codes, routing all calls dialled using any other 00XY combination to an announcement. Other XY combinations could be introduced at a later date, once dialling patterns have stabilised. However, it appears unlikely that this limited range of initial XY combinations would be acceptable. Already (in early March 2003) more than 20 EGO licences have been issued, so this approach would not even allow for one code per EGO.

Approach 2: two-stage change with new, longer international prefix

An alternative providing a wider choice would be a two-stage change. This would mean first changing the international prefix from the current 00 to 3 or 4 digits, for example to 0000 or 0011. All international calls dialled with anything other than the new approved prefix would be routed to an announcement. Once misdialling had reached acceptable levels (probably after two or three months) then the new codes could be launched, drawing on the full range of XY combinations. However, this approach would introduce an additional delay, and is thought to be unacceptable for that reason.

It is worth noting that other countries that have introduced 00X or 00XY codes for international carrier selection started with an international prefix that was not 00. For example, in Hong Kong the international prefix was 001. This makes it easy to use other third digits besides 1 for carrier selection.

Approach 3: 00XYZ codes

A third possibility is to add another digit and use vacant 00XYZ carrier identifiers. Apart from the 00XYZ codes contained within the vacant 00XY codes listed above (ten to each, or 150 in all), there are currently 52 of these:

801, 802, 803, 804, 805, 806, 807, 809
210, 211, 214, 215, 217, 219
259
292, 293, 294, 295, 296
382, 383, 384
422, 424, 425, 426, 427, 428, 429
691, 693, 694, 695, 696, 697, 698, 699
851, 854, 857, 858, 859
978
990, 997, 999

This possibility has not been discussed in Sri Lanka. It is implementable, but the extra digit would cause further nuisance. This solution also has all the same longer-term disadvantages as the 00XY approaches have. These are discussed below.

India's current plan is to implement a variant of this approach with an additional digit, using the 10XY range to identify alternative carriers (inserted after 00, so that the whole dialling sequence for dialling London will be 00 10XY 44 20 xxxx xxxx).

We conclude that it is possible to implement 00XY codes, but all implementation approaches so far devised possess serious drawbacks.

3 Using 18XY codes

The suggested alternative is to use the 18XY short code range for carrier selection codes, to be dialled before the full international number including the international prefix 00, for example to dial a London number:

18XY 0044 20 xxxx xxxx rather than
00XY 44 20 xxxx xxxx.

The main reason for choosing 18XY rather than another range starting with 1 is that 18XY has already been set aside for this purpose. As it is currently almost unused[1], this approach should be easy to implement. This is the approach used in the majority of countries worldwide where call-by-call carrier selection is available (regardless of whether preselection is also offered). Annex A provides a summary of practice in some other countries.

One industry participant proposes dropping the international prefix from the dialling sequence, eg using 18XY 44 20 xxxx xxxx to dial international calls, in order to reduce the number of dialled digits. The arguments against this are:

- Dropping the international prefix like this is a non-standard approach, which would lead to confusion for foreigners in Sri Lanka and Sri Lankan residents travelling abroad.

- One advantage of the 18XY approach is that the same code can be used in future for carrier selection for services other than international – for example, for national long-distance calls, for value-added services or even for local calls. Retaining the 00 allows a uniform logic to be applied: first select the carrier, then dial the entire number that would be dialled without carrier selection. Separate carrier selection codes for different types of service could also make excessive demands on scarce short code space.

This respondent has highlighted a specific problem caused by long digit streams (especially to certain countries, eg Iran) when sent from PBXs using R2 signalling. Since this problem already exists, the solution here must be to upgrade the signalling on these PBXs, rather than to allow their weakness to determine everybody's outcome.

The main disadvantage of the 18XY approach compared with the 00XY approach is the additional 2 digits that must be dialled. However, this disadvantage will be greatly reduced by the use of preselection, which will mean that the 18XY need only be dialled when the caller wishes to choose a carrier other than his preselected one – probably a minority occurrence – rather than on every call. The suggestion that 00 be omitted from the dialled digit stream in order to reduce the number of dialled digits thereby loses much of its force.

[1] Known uses are 188 for Lanka Bell's internet access and 181 for Mobitel's Tamil prepaid service. Both operators are aware of the need to renumber these applications.

For the time being, 18X0 codes will not be issued because of the greater risk of misdialling in a string of repeated zeroes.

Unlike 00XY codes, 18XY codes lend themselves to gradual implementation to suit the convenience of different access networks and EGOs. This is because the notions of international dialling and carrier selection remain separated, and because parallel running is possible. An access network can implement the new codes in its switch at any time and only make this dialling option publicly known later. Marketing campaigns to encourage dialling the new codes can start at any time after they have been implemented.

In some older switches, there could in principle be difficulties in handling an entire string of up to 21 dialled digits (the maximum of 15 international significant digits, plus 18XY 00). No operators have yet stated that they expect such difficulties, or are aware of any other implementation problem. If such problems do unfortunately arise, they should affect only customers on a few specific exchanges. These customers might need to use alternative access methods (eg two-stage dialling, with an intermediate dial tone) until their switch had been upgraded to modern standards.

3.1 18XY codes and 00XY codes compared - other aspects

A strong case has been made for carrier selection codes in the 18XY range rather than the 00XY range simply on grounds of implementability. However the 18XY approach also has other advantages which are worth pointing out. Its inherent virtue is the flexibility provided by keeping separate the two separate notions of international dialling and carrier selection. Running the two together into a single unit (as is done by 00XY codes) inevitably causes problems when these notions need to be separated. For example:

- in a company, IDD calls will be made by individual members of staff but the decision on which carrier to patronise will be made centrally. It will be much more convenient to leave staff members to dial simple 00 as they are accustomed and insert the carrier selection code at the PBX, than to train staff members in new 00XY codes, which may be different from those they use elsewhere (eg at home), and which the company may wish to change quite frequently. The 18XY approach also permits the company to do its own least cost routing (choosing different carriers for different destinations or times of day). It would be much more difficult to get individual members of staff to dial different 00XY values depending on time or destination.

- Similar remarks apply to hotels, where the privilege of selecting the carrier should naturally rest with the hotel management rather than with the guest, who would only be confused by complex dialling instructions which may vary from one visit to the next.

- Resale bureaux, likewise, would not normally be expected to offer their customers a choice of EGO (though some might choose to do so as an added benefit). Again, a “no selection” type dialling sequence by the caller may be appropriate, with the bureau inserting carrier selection digits.

- The 18XY approach is also more easily compatible with customer premises equipment such as autodiallers, which can insert the prefix on behalf of the caller, who dials as accustomed. These devices can be marketed as easily by stand-

alone EGOs as by access networks, and once installed act similarly to a preselection (although they are more directly under the customer's control). They are particularly suited to the smaller business. More sophisticated customer premises equipment may include a least-cost routing function.

- The same 18XY carrier selection codes can be used at a later date to select carriers for other services such as national calling, special services (eg fault reporting) or value added services. A carrier can be identified by a specific 18XY code for all purposes, not just for international calling.

Not least, the 18XY approach is more widely used in other countries than is 00XY. This will make life easier both for more people from elsewhere when they visit Sri Lanka and for Sri Lankan residents travelling abroad.

Finally, the new numbering plan document states early on TRCSL's desire to "preserve and where possible increase international conformity". It should be clearly understood that the current international prefix 00 is ITU-conformant, as would be a 18XY carrier selection system, but the 00XY approach would be non-conformant.

3.2 Use of other 1XYZ ranges for carrier selection codes

This section records alternatives to the chosen range 18XY that were considered and decided against in the course of this assignment.

The choice of 18XY (rather than, say, 19XY) is arbitrary, and is based mainly on the fact that this range has already been earmarked for carrier selection codes. However 19XY or any free range, ranges or part range could be used just as well. (See the discussion of short code space in the companion report on the numbering plan for clarification of what is or could become free). In fact it is proposed that 19XY should be reserved for future carrier selection codes.

It was considered whether it would be preferable to use 3-digit codes extending over more than one range. For example 19X, 18X and 17X taken together (all these are little used at present) would provide thirty 3-digit codes, which could meet the need and save callers dialling labour. This was decided against when it became clear that preselection was probable, making the length of the code less important.

An idea which was discussed was having carrier selection codes of different lengths available (eg three 2-digit codes, twenty 3-digit codes and a reserve supply of 100 4-digit codes). The main potential advantage of this alternative would be the opportunity to realise higher prices for the shorter codes. This alternative has now been put aside on the grounds of lack of competitive equity.

Another option discussed was reserving the range 180Y to permit easy expansion of the 18XY range to 5 digits should this ever be needed. This was decided against on the grounds that such expansion could only be desirable long-term, and the 19XY range could be developed at 5 digits from the outset if a big demand arises for carrier selection codes.

4 Carrier selection - other issues

During discussions of carrier selection codes, various related issues were raised. Considerable progress has already been made in resolving these issues, and they

are noted here for the sake of completeness. They are independent of the specific choice of carrier selection codes (the primary topic of this assignment).

4.1 International dialling without a carrier selection

An issue frequently raised in discussion was in what circumstances a "no selection" international dialling sequence could be permitted, with the access network determining the choice of carrier. In the case of the 18XY approach, the natural "no selection" dialling sequence would be the simple 00 44 20 XXXX XXXX as at present (ie no carrier selection prefix).

The decision to include approved preselection with over-ride as a permitted form of equal access has greatly simplified these issues. It may still be worth recording the operational need for a "no selection" option in certain special cases, including:

- Payphones, where payment is made on the spot and caller choice would most easily be exercised through prepaid cards.

- Internationally roaming mobiles, where numbers are often used direct from phone memories, frequently with the standard international prefix symbol + (but naturally, excluding carrier selection digits). The user will not normally have an account with a Sri Lankan international carrier, and requiring such an account would most likely suppress international calling.

4.2 Existing alternative access codes

The existing codes 0791 and 0792 are allocated to alternative service providers who may become EGO operators. Currently there is no interconnection with these codes, so they cannot be called from ordinary lines within Sri Lanka. The case has been strongly put that these codes should be activated by the provision of interconnection. They could then function as an alternative to other carrier selection codes, of whatever form.

4.3 Secret blocking codes

Currently some operators offer their IDD customers a personal IDD blocking service whereby IDD access is opened and closed using a secret code. TRC has confirmed that such blocking services are the responsibility of each individual EGO, and would be activated only after a call had been routed to the EGO. It is not only unnecessary, but would be seen as anticompetitive, for an access network to block calls dialled with 18XY prefixes just because the customer in question had an IDD blocking service with the access network.

5 Summary of recommendations

1. The short code range 18XY should be implemented for call-by-call carrier selection codes, with 19XY as a reserve supply.

2. Existing uses of the 18X range should be renumbered by 30 April 2003 to permit the full range of new 18XY codes to be introduced no later than 30 June 2003.

3. The dialling sequence for international calls using call-by-call carrier selection should be 18XY 00 plus the international significant number.

4. The 18X0 codes should not be issued for the time being because they entail a greater risk of misdialling.

5. In case of difficulty in any older switches in handling the long digit strings of 4-digit carrier selection codes followed by a full international number, two-stage carrier selection should be offered as an interim measure until the switch can be upgraded.

6. “No selection” international dialling should be permitted from payphones and internationally roaming mobiles (with the network operator determining the call routing).

7. IDD blocking is the responsibility of each EGO offering IDD. Access networks should not block 18XY for any customer.

Annex A Approaches to call-by-call carrier selection in different countries

This Annex assembles readily available information from various sources on carrier selection codes and procedures from other countries at different times (2002 if not otherwise stated).

1	2	3	4	5	6
Country/date	**International Prefix (IP)**	**Int. carrier selection (CS) codes**	**Combined IPCS codes**	**Pre-selection?**	**Number of international competitors**
USA/Canada	011	1010xxx	-	yes	Many
Most of Europe inc UK	00	1xxx(x)	-	Yes	Many
Sweden 1995	009	00x(x)	00x(x)	No	9
Sweden 2002	00	95xx, 119xx	-	Yes	Many
Finland 1994	990	10x(x)	99x	Yes	3
Finland 2002	00	10x(x)	99x	Yes	Few on 99x, overflow to 10xx
France	00	16xx	X0	Yes	Few on x0, overflow to 16xx
Chile 1998	00	1xx	1xx0	Yes	4
Colombia 2000	001		00x	no	3
Hong Kong	001	15xx, 16xx	00x(x)	No	Few on 00x(x), overflow to 15xx, 16xx
Singapore	000	15xx	00x, 0xx	Yes	Few on 00x(x), overflow to 15xx
Japan	010	122xx	00xx,002xx, 0091xx till 30/04/03	Yes	Change with growth in no. of carriers
Australia 1992	006	1 (Optus)	-	No	2
Australia 2002	0011(voice), 0015 (fax)	14xx	-	Yes	Many
New Zealand	00	05x(x)	-	Yes	2
Malaysia 1996	00	18x	-	no	5
India (plan)	00		0010xx	yes	
Philippines 2000	00	1xxx	-		11
Indonesia	001		001, 008		2
Thailand	001		001, 007		2
South Korea	001		00x		3
Taiwan 1996	002		00x		
Israel 1998	00		01x		3

Table 1 International call-by-call carrier selection codes in various countries

In the table above:

Column 2 shows the “plain” international prefix (IP), as used in monopoly conditions, with preselection or where there is a default selection.

Column 3 shows the ranges used for “plain” international carrier selection (CS) codes, used at the start of the dialling sequence to select a carrier for international

dialling (and often also for national dialling or other services). For international dialling, normally the international prefix plus international significant number follow.

Column 4 shows the ranges used when international dialling and carrier selection are combined in a single code ("combined IPCS codes") such as the 00XY codes under consideration in Sri Lanka.

Carrier selection methods and their evolution are closely linked with how competition is introduced and developed. It is beyond the scope of this paper to describe the development of international competition in all these countries. However it is important to note that in most of them, there has been a gradual transition from monopoly, through a period of limited competition, to open competition. Sri Lanka is unusual in planning a direct transition from monopoly to a fully open market.

In those countries where two types of access code and dialling procedure are in use, generally some criterion (such as running infrastructure, or a turnover threshold) is defined to entitle operators to apply for the shorter codes.

The following points are worth noting:

- Considering the number of users and of calls made, the 1xx approach is much more prevalent worldwide. People from countries where this approach is used represent more than 75% of visitors to Sri Lanka.

- Countries using combined IPCS codes have made them available only to relatively few market participants during periods of limited competition, with an overflow to a parallel 1xx approach once markets are fully opened. The IPCS approach has been withdrawn in Sweden and will soon be withdrawn in Japan.

- All known countries using combined IPCS codes starting with 00 have introduced them at a time when their standard international prefix was not 00. In most cases, the original prefix (typically 001) has remained in use either for selecting the incumbent or as an access network default. India will be the exception if it implements its plan for 0010xx IPCS codes (ie using an approach similar to Approach 3 described in section 5.1.2 of this paper).

- Over the past decade, most countries with non-ITU compliant international prefixes have changed them to 00. Apart from those shown above, North America (011) and the former Soviet Union (810), most countries using non-ITU compliant international prefixes are in Africa (eg Somalia 16) or are very small islands (eg Cape Verde 0).

Annex B Relevant regulatory provisions

The standard **External Gateway Operator Licence** published on 25 February 2003 includes the following provisions which are relevant to carrier selection codes.

Definitions

"**Access Code**" means a number code allocated by the Commission in accordance with the Sri Lankan numbering plan by which an External Gateway Operator offers international Voice Calls over Local PSTNs.

"Equal Access" means the capability within the telephone exchanges of a Local PSTN to enable directly connected end-users to select an External Gateway Operator as their provider of international Voice Calls by means of:
(a) dialling the Access Code of an External Gateway Operator; or
(b) such other means of customer selection as may be required or approved by the Commission, which shall, to the extent reasonably practicable, provide a neutral choice from the end-user's perspective among the international Voice Call services offered by the Local PSTN operator and international Voice Call services offered by all External Gateway Operators.

Clause 1.1 The EGO Operator may provide in Sri Lanka, by means of the Licensed System and any Connectable System, International Services utilising any technology, including to originate Voice Calls on any Local PSTN by means of Equal Access.

Clause 9: Numbering arrangements

9.1 The EGO Operator must comply with the Numbering Plan determined from time to time by the Commission, to the extent that the Numbering Plan applies to any activities of the EGO Operator.

9.2 The Commission shall allocate to the EGO Operator one or more Access Codes.

9.3 The Commission may from time to time allocate Access Codes in accordance with a price-based allocation process determined by the Commission.

9.4 If the EGO Operator or an Affiliate of the EGO Operator has a Local PSTN, and Equal Access has not yet been implemented on that Local PSTN, the EGO Operator may commence to provide outbound international Voice Calls to end-users directly connected to that Local PSTN using the "00" international code pending the implementation of Equal Access on that Local PSTN, provided that:
(a) the EGO Operator or its Affiliate, as the case may be, has provided the Commission with a plan satisfactory to the Commission for the implementation of Equal Access by a date specified by the Commission;
(b) while Equal Access is being implemented and for a period of three (3) months after its implementation, the EGO Operator supplies the international Voice Calls on a call-by-call basis to end-users and does not bundle the international Voice Calls with any other services, or require end-users to commit to a term contract for the international Voice Calls or provide any discount for the international Voice Calls which is dependent upon or calculated by reference to the end-user's use of other services;

(c) the EGO Operator must permit another EGO Operator which does not have or which does not have an Affiliate which has a Local PSTN to access to its International Services over the Local PSTN by means of freephone or Local PSTN numbers at charges:
(i) agreed between the operators;
(ii) determined by the Commission, in the event that the operators are unable to agree on charges; or
(iii) determined in accordance with any applicable rules regarding interconnection which may be made by the Commission and approved by the Minister and in force at the relevant time; and
(d) the EGO Operator or its Affiliate, as the case may be, has a customer information program approved by the Commission to inform end-users of their right to select other External Gateway Operators' services once Equal Access is introduced.

9.5 If neither a Local Operator nor any affiliate of a Local Operator holds an External Gateway Operator licence, and Equal Access has not yet been implemented on the Local Operator's Local PSTN, the EGO Operator shall, on request by that Local Operator, commence to provide outbound international Voice Calls to end-users directly connected to that Local PSTN using the "00" international code pending the implementation of Equal Access on that Local PSTN, provided that:
(a) the Local Operator or its affiliate, as the case may be, has provided the Commission with a plan satisfactory to the Commission for the implementation of Equal Access by a date specified by the Commission;
(b) while Equal Access is being implemented and for a period of three (3) months after its implementation, the EGO Operator supplies the international Voice Calls on a call-by-call basis to end-users and does not provide the international Voice Calls by way of Linked Sale with any other services of the Local Operator, or require end-users to commit to a term contract for the international Voice Calls or provide any discount for the international Voice Calls which is dependent upon or calculated by reference to the enduser's use of other services;
(c) the Local Operator must permit other External Gateway Operators which do not have or which do not have an Affiliate which has a Local PSTN to access to its International Services over the Local PSTN by means of free phone or Local PSTN numbers at charges:
(i) agreed between the operators;
(ii) determined by the Commission, in the event that the operators are unable to agree on charges; or
(iii) determined in accordance with any applicable rules regarding interconnection which may be made by the Commission and approved by the Minister and in force at the relevant time; and
(d) the EGO Operator or its Affiliate and the Local Operator or its affiliate has a customer information program approved by the Commission to inform end-users of their right to select other External Gateway Operators' services once Equal Access is introduced.

9.6 The EGO Operator shall not be entitled to have allocated to it any Local PSTN numbers for any direct customer connections to the Licensed System.

9.7 Any telephone numbers or Access Codes allocated to the EGO Operator remain the property of the Commission and the EGO Operator shall have no right, title or interest in them.

The **Interconnection Rules** of 2003 (coming into effect 7 March 2003) includes the following provisions which are relevant to carrier selection codes.

Definitions

“equal access” means the capability within the telephone exchanges of a local PSTN directing connecting customers to select an equal access operator as their provider of international calls by means of:
(a) dialing the Access Code of an equal access operator; or
(b) such other means of customer selection as may be required by the Commission;

“equal access call” means a call of the following type -
(a) a call to an international location; or
(b) other call types designated by the commission from time to time’;
which is made by an customer directly connected to the access provider’s network by dialing the access seeker’s access code;

“equal access operator” means an access seeker which is -
(a) an external gateway operator; or
(b) a connectable operator designated from time to time by the commission as a equal access operator;

Rules

6. (a) Equal access operator, being an access provider shall open the Equal Access Codes in the secondary switching areas determined by such operator…

16. (6) (1) Notwithstanding anything to the contrary contained in these rules-

(a) Every domestic connectable operator, shall provide the end users or subscribers of such domestic connectable operator, international outbound calls from Sri Lanka by dialing, a four digit code, whether such customer or subscriber has entered in to a contractual arrangement with the particular domestic connectable operator or not.

(b) Every domestic connectable operator having its licence only for mobile call termination and origination shall not be required to provide Pre-selection and equal access facilities to any subscribers or users using prepaid services. The provisions of this paragraph may be reviewed by the commission depending on Technological Changes.

(2) Every external gateway operator shall take all reasonable measures to ensure access through it's gateway only to customers with whom such external gateway operators has entered into contractual arrangement.

(3) The domestic connectable operator shall charge the customers for denied access up to the POI link of the External Gateway Operator.