A Consultative Document

Draft Framework for Implementation of Indirect Access in Trinidad and Tobago

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Maintenance History		
Date	**Change Details**	**Version**
July 21, 2008	First draft for public consultation	0.1
April 2 , 2009	Revised Draft based on comments and recommendations received in the 1st round of consultation (See Decisions on Recommendation (DOR) Matrix at Annex 1)	0.2

1 Introduction

1.1 Rationale

The Telecommunications Act 2001, ("the Act"), empowers the Telecommunications Authority of Trinidad and Tobago ("the Authority") to:

1. establish conditions for an open market for telecommunications services, including conditions for fair competition, at the national and international levels (Section 3(a)); and
2. promote access to telecommunications services (Section 3 (c)(i)).

The Authority has granted concessions to persons for the provision of public national and international telecommunications services and for the operation of such networks. Section 25 (1) (b) of the Act, in recognising the importance of interconnection to the attainment of the aforementioned objectives, imposes on the Authority the obligation to require a concessionaire to provide indirect interconnection to other concessionaires of public telecommunications networks and services.

Section 25 (2) (k) of the Act mandates that dialling parity be implemented as does Clause 8 of the Telecommunications (Interconnection) Regulations, 2006 ("the Interconnection Regulations").

Indirect Access is the term used to describe the mechanism by which an end user utilises the facilities of an international telecommunications concessionaire, to which he is not directly connected, to carry his international calls. In order to facilitate Indirect Access to the end user, there must be interconnection between the preferred international concessionaire of the end user, and the domestic concessionaire to which that end user is directly connected. Therefore, the Authority considers that the provisions of the Telecommunications (Interconnection) Regulations, 2006 are directly applicable to the implementation of Indirect Access in Trinidad and Tobago.

The Authority believes that Indirect Access, together with dialling parity, would facilitate equal access to public international telecommunications networks and services by all end-users and as such, would boost fair competition in this market.

Competition in the international voice call market will bring about greater choice and quality to users. The effects of Indirect Access for long distance and international calls in other countries, e.g. Europe and the USA include a boost in competition amongst service providers in the provision of long distance and international calls which resulted in real benefits to end users. This draft Framework proposes a mechanism which, when implemented, would facilitate the attainment of such benefits by the people of Trinidad and Tobago.

1.2 Objectives

The objectives of this consultative document are to propose:

1) an efficient and effective approach for the implementation of Indirect Access in Trinidad and Tobago and
2) a manner in which costs for implementing Indirect Access shall be determined and recovered.

Statement on Purpose:

The Authority proposes the implementation of Indirect Access to public international concessionaires, without prejudice to them, for the completion of international calls made by end users in Trinidad and Tobago in accordance with an implementation plan to be established by the Authority.

1.3 Regulatory Framework

As stated above, Section 3 of the Act outlines the objects of the Act as including *inter alia* the establishment of conditions for:

> *(a) an open market for telecommunications services, including conditions for fair competition, at the national and international levels;…*
> *(c) promoting and protecting the interests of the public by-*
> *(i) promoting access to telecommunications services;"*

The need for the promotion of access is bolstered by Section 25(1) which stipulates that the mandatory conditions for the grant of a concession for a public telecommunications network or a public telecommunications service shall include conditions for*:*

> *(a) direct interconnection with the public telecommunications network or public telecommunications service of another concessionaire;*
> *(b) indirect interconnection with such network or service referred to in paragraph (a), through the public telecommunications networks or public telecommunications services of other concessionaires;"*

Section 25(2) (k) recognises that indirect interconnection can only be effectively implemented if complemented by dialling parity which each concessionaire must be bound to provide *to other concessionaires of public telecommunications networks and public telecommunications services in accordance with requirements prescribed by the Authority*.

Regulation 3 (a) of the Interconnection Regulations obliges concessionaires *to provide direct and indirect interconnection of the networks and services of other concessionaires to its own networks and services.*

At present, all concessionaires of public domestic telecommunications services use various international carriers to carry the international calls dialled by end users. End users have no real choice of international carrier and therefore do not have the ability to select for themselves an international carrier of choice on the basis of quality, price or service.

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The Authority considers that the aforementioned legislative provisions clearly do not intend for the end user to be encumbered by multiple customer premise equipment to access the various networks of competing international carriers. In addition, interpretation of these provisions is not to be limited to domestic calls only. Rather, the Authority believes that the Act and the Interconnection Regulations impose on the Authority the obligation to implement Indirect Access in Trinidad and Tobago.

1.4 Scope

This draft Framework document will serve as the basis for engaging concessionaires and stakeholders in a consultation on the most suitable approach for the implementation of Indirect Access for the fixed and mobile sectors of the market in Trinidad and Tobago.

1.5 Modification to Document

As the country's telecommunications industry matures, the regulatory requirements in respect of Indirect Access will evolve. Subsequent to the consultation process, and after this document has been finalised, the regulatory framework for Indirect Access will be reviewed and modified as necessary and in consultation with stakeholders and the public, to ensure that regulatory practices and processes continue to be guided by appropriate policy guidelines and objectives.

1.6 Consultation Process

The Authority published the first draft of this document and invited views and opinions from all stakeholders and interested parties. The first phase of the consultation period ended on 25th September, 2008.

The Authority received comments from the following parties:

- Telecommunications Services of Trinidad and Tobago (TSTT)
- Digicel (Trinidad) Limited
- Windward Telecom
- Columbus Communications(Trinidad) Limited
- 360 Communications Ltd

The Authority has now revised the draft document taking into consideration the views and opinions received in the first consultation round. This document constitutes a revised version of the document, and is now put forward for a second round of consultation.

A "Decisions on Recommendations" (DOR) Matrix detailing the comments and recommendations received from the first round of consultation and the Authority's decisions on these comments and recommendations has been included in Annex 1.

The Authority now seeks the views and opinions of the general public and other stakeholders, in this second consultative round, regarding the proposals made in this *Draft Framework for the Implementation of Indirect Access* in Trinidad and Tobago in accordance with the Authority's *Procedure for Consultation in the Telecommunications Sector of Trinidad and Tobago.*

The Authority's consultation procedures and comment submission form are available on the Authority's website, http://www.tatt.org.tt.

Comments should be submitted on or before 15th May 2009 to policy@tatt.org.tt or mailed to:
Telecommunications Authority of Trinidad and Tobago
#5, Eighth Avenue Extension, off Twelfth Street
Barataria.

2 Definitions

The following are definitions for terms used in this document:

Calling party	means the end user who initiates a call.
Called party	means the end user who is called.
Carrier pre-selection	means a method that offers the end user the facility to choose in advance which public international telecommunications concessionaire will be used for international calling. The end user dials the called party's number only.
Carrier selection	means a method whereby the end user dials a carrier selection code prior to dialling the called party's number. The carrier selection code must be dialled for every international call or else the pre-selected public international telecommunications carrier will be used by default to complete the call.
Carrier selection code	means the numbers dialled by an end user before or after the international called party's number to select the carrier which will carry the call. The carrier selection code is made up of the carrier access code and the carrier identification code and can be four to seven digits in length.
Concessionaire	means a person who has been granted a concession under the Act to provide a public telecommunications service or to operate a public telecommunications network.
Default concessionaire	means a concessionaire whose network is used to carry an international call if no specific choice is exercised by the end user when dialling.
Dialling parity	is the ability to access an international called party using different public international telecommunications concessionaires by dialling the same number of digits to

	complete the call as if using the international facilities of the end user's public domestic telecommunications concessionaire.
E.164	means the recommendations of the International Telecommunications Union on the format of a telephone number.
End user	means the residential or commercial user of telecommunications services.
Equal Access	has the same meaning as defined in the Interconnection Regulations.
Indirect Access	is the term used to describe the mechanism by which an end user utilises the facilities of an international telecommunications concessionaire, to which he is not directly connected, to carry his international calls.
Interconnection provider	has the same meaning as defined in the Interconnection Regulations.
Interconnecting concessionaire	has the same meaning as defined in the Interconnection Regulations
New entrant	means a concessionaire of public telecommunications services who has recently established business arrangements in a country to begin to offer domestic or and or international telecommunications services.
OECD	Organisation for Economic Cooperation and Development.

3 Types of Indirect Access

There are two basic types of Indirect Access, namely Carrier Pre-selection and Carrier Selection.

1) Carrier Pre-selection offers the end user the facility to choose, in advance, which public international telecommunications concessionaire will be used for completing all his international calls.
2) Carrier Selection gives the end user the option to select a different public international telecommunications concessionaire on every occasion that he wishes to complete an international call. In this case, every time an international call is made, the user dials a carrier selection code before or after the international number. The carrier selection code usually consists of a carrier access code and a carrier identification code. The carrier selection code can be up to seven (7) digits in length (NANP practice). It is usual to use it as a prefix code rather than a suffix code.

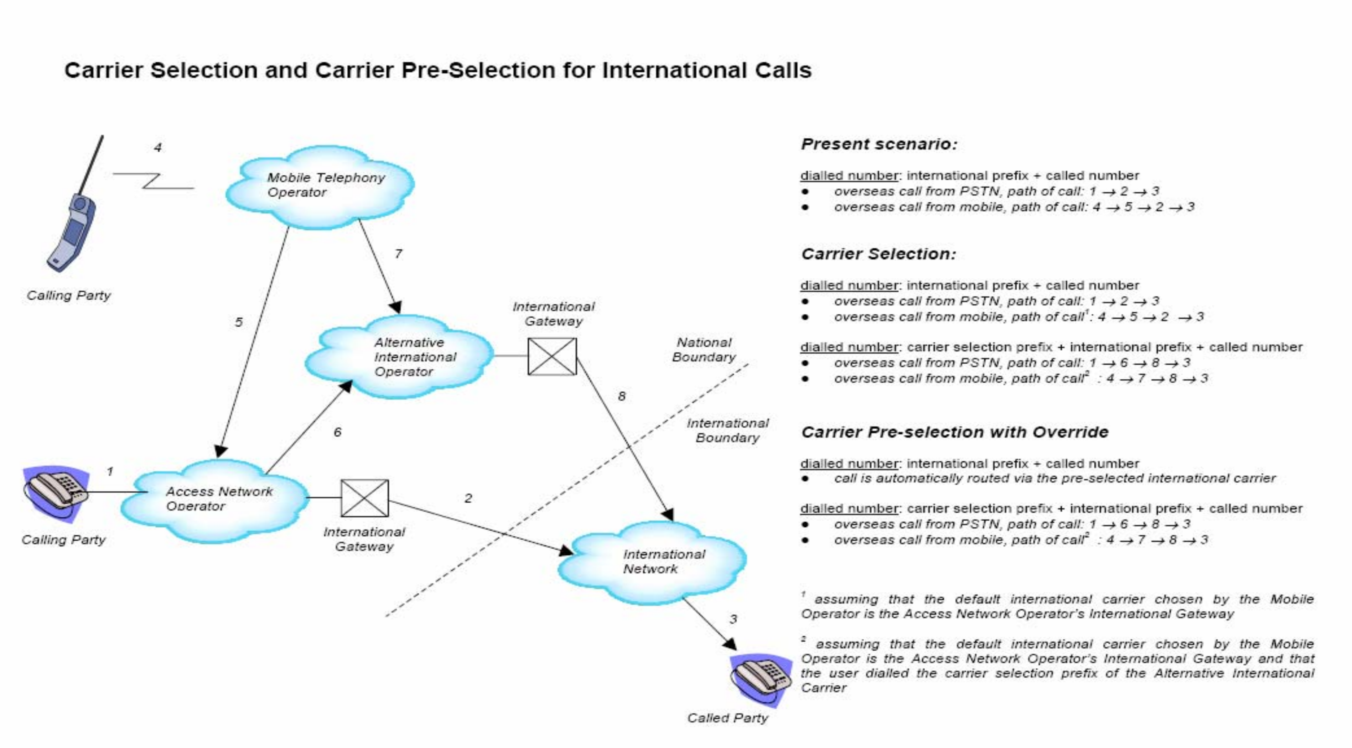
Figure 1 below is used to demonstrate a network with both fixed and mobile services and calls being made in the following manner:

1) Using Carrier Pre-selection
2) Using Carrier Selection
3) Using Carrier Pre-selection with override

3.1 Carrier Pre selection

International call routing for Carrier Pre-selection functions similar to the Present scenario illustrated in Figure 1, with the exception that more than one international gateway option is available and is pre-selected by the customer. With this method of Indirect Access, the end user dials the international prefix and the called party's international number. The local exchange is programmed so that anytime the international prefix is dialled, the routing of that call is predetermined and sent to an international concessionaire pre-selected by the caller.

Figure 1



Source: www.mca.org.mt/filesystem/pushfile.asp?id=155&source=3

The advantages of the Carrier Pre-selection option are as follows:

- It is technology neutral and in principle, can be implemented in all networks;
- It is not costly to implement and can be implemented in a short period of time; and
- It affords dialling parity, equal access and fair competition.

The disadvantages of Carrier Pre-selection are as follows:

- The end user must make separate commercial arrangements with the pre-selected public international telecommunications concessionaire;
- The end user would be unable to access other public international telecommunications concessionaires if a concessionaire is pre-selected and, therefore, cannot benefit from special rates offered by other competing concessionaires; and

- The end user would be unable to access alternative international telecommunications networks should their pre-selected concessionaire's facilities be out of service for any reason.

The determining factor as to which public international telecommunications concessionaire's service is chosen will likely be the cost and quality of the call to the destination country at the time of day as indicated by the public international telecommunications concessionaires in their rate tables.

3.2 Carrier Selection

The following describes the process for an end user to make an international call using Carrier Selection (Figure 1 refers):

1. The fixed line or mobile end user decides to use an alternative public international telecommunications concessionaire to the pre-selected carrier, to make an international call.
2. In making this call, the end user dials a carrier selection code in front of the international called party's number to select the desired public international telecommunications concessionaire whose network would be used to complete that particular call.
3. The public domestic telecommunications concessionaire then uses the dialled carrier selection code to route the call to the desired public international telecommunications concessionaire for that particular call.

The advantages of this option are as follows:

- New entrants would not be at a disadvantage provided concessionaires of public fixed lines and mobile networks allow their customers to access an international gateway or otherwise make international calls only after dialling the same number of prefix digits as the customers of new entrants must dial.
- The experiences of other countries seem to suggest that the cost of implementation is not prohibitive.

- The end user has control at all times over which public international telecommunications concessionaire is used to complete his international calls.
- The end user is able to benefit from special rates offered by alternative public international telecommunications concessionaires.
- The end user has a greater chance of successfully completing international calls in the event of natural disasters as not all service providers of public and international telecommunications services may be out of service at the same time. This assumes that the public domestic networks are operational.

The disadvantages of this option are as follows:

- It can favour the pre-selected public international telecommunications concessionaires in that international calls dialled without the carrier selection code will be completed using the pre-selected international facilities ; and
- Customers have to dial additional digits for every international call which may total as much as seventeen (17) digits (the carrier selection code in addition to the international number). While it is recognized that dialling these additional digits can become tedious and cumbersome for end users, in particular for the elderly, automatic diallers /speed calling features can be used to assist end users in dialling the long string of digits.

3.3 Carrier Pre-selection with override

This form of Indirect Access allows the end user greater flexibility in choosing a public international telecommunications concessionaire to complete his international calls (Figure 1 refers). As stated earlier, carrier pre-selection pre-determines which public international telecommunications concessionaire is used by an end user in making international calls. A service feature which allows an end user who has carrier pre-selection to bypass the pre-subscription service feature, and make international calls using an alternative public international telecommunications concessionaire, on a call by call basis is called ‘carrier pre-selection with override’. This feature provides the end user with an even greater flexibility of choice of public international telecommunications concessionaire. Additionally, it fosters competition among the public international telecommunications concessionaires as the pre-selected carrier would wish to minimize the number of international calls the end user will send over a competitor's international facilities.

Carrier Pre-selection with override can be very useful to an end user in the following scenarios:

a) In the event that there is a failure of the facilities of the pre-selected public international telecommunications network or service provided that the public domestic telecommunications concessionaire's service or network is available ;
b) If the pre-selected public international telecommunications concessionaire or operator goes out of business;
c) If a lower rate is offered by a competing public international telecommunications concessionaire than the rate offered by the pre-selected public international telecommunications concessionaire;
c) The end user will not have to switch his pre-selected subscription to another public international telecommunications concessionaire to enjoy better rates periodically.

The overall advantages of this option are as follows:

- It is fair to new entrants since the dialling procedure is the same as with the incumbent.
- It offers the end user a greater choice of international concessionaires for carrying his international calls.

The disadvantages of this option are as follows:

- At the onset, it may take some time to effect the necessary modifications to switches, signalling and billing systems;
- There may be costs to be incurred by public domestic telecommunications concessionaires to implement capability;

- There may be additional administrative costs for concessionaires when end users choose to use alternative international concessionaires for international calls rather than their pre-selected international telecommunications concessionaire.

Carrier pre-selection with the override feature provides greater choice on demand to the end user but additional digits have to be dialled to by-pass the pre-selected international provider.

The Authority believes that Carrier pre-selection with the override facility option satisfies the requirement of the Act for equal access and dialling parity.

3.4 Country Experiences

Indirect Access has been implemented in a number of countries around the world. Appendices 1 and 2 show countries that have implemented Carrier Selection and Carrier Pre-selection. A selection of their respective experiences is summarised in Table 1 below. Generally, end users have benefited from the ability to choose an international provider to carry international calls and there has been a resulting increase in the level of competition between the public international telecommunications service providers in these countries.

Table 1 A selection of countries implementing Indirect Access and their experiences

Country	Country Experience	Type of Indirect Access Implemented
Australia[1]	Competition among the access service providers and the transport carrier providers brought a reduction in costs	Carrier pre-selection with override.
United Kingdom[2]	Carrier pre-selection grew	Carrier pre-selection with

[1] www.acif.org.au
[2] www.ofcom.org.uk/static/archive/oftel/pubilcatio/1995_98/competition/cps798.htm

	faster than carrier selection. Indirect Access was opened to all types of calls- fixed to mobile, fixed to fixed. New entrants served 54.6 % of the international calling market. Cost of calls was reduced.	override
Switzerland[3]	Limitations in technical standards at the time forced the Swiss to implement carrier pre-selection with override for fixed services and carrier selection for mobile. Fixed line exchanges had to accommodate 22 digits for call by call selection	Carrier pre-selection with override – fixed line Carrier selection - mobile

[3] Working Group on Carrier Selection- Doc CS- Q6 Rev 11- Swiss Network

4 Types of Indirect Access to be Considered in Trinidad and Tobago

The Authority notes that historically, Carrier Selection was implemented first in fixed line networks. However as technology changed and Carrier Pre-selection was introduced, this feature became more popular with end users than Carrier Selection. The Authority therefore considers it prudent that Carrier Pre-selection be introduced in Trinidad and Tobago in the first instance and then at a later stage, an override facility enabling carrier selection on a call by call basis. This additional feature will enable the end user to enjoy even more choice in making international calls and may minimise "churn[4]" among end users to competing international telecommunications concessionaires.

The Authority expects that the override feature may be introduced at a later stage of market development in which the Authority is satisfied that concessionaires have gained considerable experience with Carrier Pre-selection. The Authority would be mindful of *inter alia* the extent to which the end user experiences a reasonably high quality of service, administratively and otherwise, when he selects an international carrier other than that which provides the domestic service. If the market has matured to the extent in which a reasonably high quality of service is experienced by the end-user, the Authority may then direct the introduction of the override feature.

It should be noted that both forms of Indirect Access i.e. with or without the override feature, will satisfy the requirements of the Act by offering end users in Trinidad and Tobago dialling parity and equal access to competing public international telecommunications concessionaires.

[4] Churn is the movement of end users from one concessionaire to another

Statement on the option for Indirect Access

1 .The Authority proposes the implementation of Indirect Access using Carrier Pre-selection in the first phase to complete international calls using alternative public international telecommunications concessionaires; and

2. At a later stage of development of the market, the Authority may require the implementation of the facility whereby an override code (Carrier Selection code) may be dialled to use the network of an alternative public international telecommunications concessionaire to complete international calls on a call by call basis.

5 Billing

For the implementation of Indirect Access, the billing of the end user may be done by the concessionaire to whom the user is directly connected or by the competing international concessionaire. In light of international experiences, the Authority recognises that end users in Trinidad and Tobago may prefer to receive a single bill which details both local and international calls rather than two separate bills from each concessionaire.

The following outlines the Authority's proposals as it relates to billing arrangements.

5.1 Billing Arrangements for Carrier Pre-selection

For this method of Indirect Access, the Authority proposes that the end user establishes an account for service with the pre-selected public international telecommunications concessionaire for utilisation of its facilities. The billing for international calls carried by a pre-selected public international telecommunications concessionaire should be done by that concessionaire and sent directly to the end user. This method will accomplish the following:

1. Reduce end user confusion as all international calls made using the pre-selected concessionaire will be on one bill.
2. Single point of contact for queries.
3. Minimize or eradicate delays in handling end user complaints.
4. Allow new carriers the opportunity to gain experience in end user billing and related administrative procedures.
5. Allow speedier implementation of the service.

Statement on billing of end users using Carrier Pre-selection

The Authority proposes that, initially, the billing of the end user subscribed to Carrier Pre-selection, should be done directly by the public international telecommunications concessionaire pre-selected by the user to complete the call.

The Authority will not oppose the establishment of commercial arrangements between domestic and international public telecommunications concessionaires for the billing of the end user provided that the interests of the end user are not diminished or otherwise compromised by such an arrangement.

However, any arrangement that might be made between concessionaires will be subject to the Telecommunication (Interconnection) Regulations, 2006 and in particular to Regulation 18 which requires the submission of agreements to the Authority.

5.2 Billing Arrangements of "override" feature

The use of the override feature would allow the end user to access the facilities of and therefore, to be billed by multiple concessionaires.

In such circumstances, the Authority believes that it would be more practical for the end user to receive a single bill from the public domestic telecommunications concessionaire whenever international calls are made using alternative public international telecommunications concessionaires on a call by call basis.

In such case, it will be necessary for the public international telecommunications concessionaire and the public domestic telecommunications concessionaire to establish arrangements for the remitting of sums collected by the domestic concessionaire from the user to the appropriate public international telecommunications concessionaire. Again, such arrangements will be subject to the Telecommunications (Interconnection) Regulations, 2006.

The proposed billing arrangement would accomplish the following:

1. End users may address queries to the public domestic telecommunications concessionaire
2. Potential delays in the handling of end user complaints may be minimized or eradicated.

Statement on billing of end users using the "override" feature (Carrier Selection)

When the 'override' feature is implemented, the Authority proposes (initially) that:

1) The public domestic telecommunications concessionaire bill the end user directly for international calls made using the override feature.

2) Remittances are to be made by the public domestic telecommunications concessionaire to each public international telecommunications concessionaire selected for international calls using the override feature.

3) Any commercial agreement made between concessionaires would be subject to the Telecommunications (Interconnection) Regulations, 2006 and in particular to Regulation 18 which requires the submission of interconnection agreements to the Authority.

6 Implementation of Carrier Pre-selection with override

Carrier pre-selection with override requires dialling plans for implementing the override. The following summarises some of the dialling plan options available and proposes the approach that the Authority considers to be most suitable for Trinidad and Tobago.

6.1 Dialling Plan Options

If a carrier pre-selection with override is implemented, the numbering scheme used must have the following characteristics:

1. Numbering scheme must be equitable for all concessionaires -

- In determining the numbering scheme it must be recognized that shorter codes are more end user friendly, particularly for the elderly
- A prefix/suffix range needs to be identified.

2. The length of the carrier selection codes needs to be established

- The length of the code is determined by the number of competitive carriers expected

- The use of short codes may be considered

It should be noted that the recommended length of the carrier selection code in the NANP is seven (7) digits. There are three basic methods to identify carriers:[5]

- The identifying code may be outside of the called party's number
- The identifying code may be inside the called party's number
- The identifying code may be the entire E.164 number

Identifying code outside of called party's number

This option will lend itself to prefix /suffix method of identifying the concessionaire of choice, and will not alter the called party's number. Pre-subscription would be available and end users would be able to override their pre-subscription on a call by call basis by dialling an override code.

Identifying code inside the called party's number

Having the identifying code within the dialled number would have an impact on the quantity of available numbers as blocks of codes have to be reserved for carrier identification and may be assigned to concessionaires who may not use them. This could lead to wastage of numbering resources. Additionally, this approach could have a negative impact on the availability of numbers for assignment to end users.

Carrier identification done using the entire E.164 number

This method requires the analysis of the entire 15 digits of the E.164 number for carrier identification instead of the usual 7 digit analysis for international calls.

The most popular approach of the three identified above is the use of an identifying code outside of the called party's number as a prefix carrier identification code. The Authority therefore considers that it would be the most appropriate approach to be adopted in Trinidad and Tobago.

[5] http://www.itu.int/ITU-T/worksem/ip-telecoms/nnar/nnar-carrier-sel-supp.txt

Statement on Carrier Selection Code for Override

The Authority proposes that the carrier selection code used to override a pre-selected concessionaire should comprise a prefix carrier access code and carrier identification code.

6.2 Length of Carrier selection Code

Trinidad and Tobago is a participant of the North American Numbering Plan (NANP). The North American Numbering Plan Administrator (NANPA) recommends that the end user in the NANP dials 101XXXX as a carrier selection code. The Authority is proposing that the NANP recommendation be adopted for Trinidad and Tobago.

Statement on Length of Carrier Selection Code for Override

The Authority proposes that a seven(7) digit carrier selection code for override be used in Trinidad and Tobago in the format 101XXXX where 101 is the carrier access code and X=1-9 is the carrier identification code.

7 Services to which Indirect Access would apply

The Authority considers that Indirect Access should be implemented using carrier pre-selection with override as the option of choice for fixed line and mobile customers making international calls.

Statement on the services to which Indirect Access would apply:

The Authority proposes that domestic fixed and domestic mobile telecommunications concessionaires in Trinidad and Tobago implement Indirect Access to facilitate equal access to all competing international concessionaires.

8 Costing Regime

The provision of interconnection in order to facilitate Indirect Access shall be governed by the Telecommunications (Interconnection) Regulations, 2006. As a result, the costs associated with the provision of the interconnection service must be determined in accordance with the Authority's costing methodology and models. This section summarises the different types of costs associated with the implementation and functioning of Indirect Access. Appendix 3 shows how the costs were allocated in the European market.

8.1 Carrier Pre-selection Costs

The following indicates the costs which the Authority believes must be incurred for the domestic telecommunications concessionaire to effectively provide Indirect Access[6]:

- Software upgrade to exchange equipment
- Installation of additional exchange equipment, where necessary
- Modification of subscriber data field
- Modification of billing systems
- Upgrading of customer care systems
- Upgrading of fault reporting and repair systems

8.2 "Override Feature" (Carrier Selection) Costs

The following indicates the costs which, in the Authority's view, should be associated with the public domestic telecommunications concessionaire providing the 'override feature'[7]:

- Initial programming of routing tables
- Upgrade of software on exchanges
- Upgrade of hardware on exchanges
- Updating end user data field
- Customer care

[6] www.telecomportal.com/Assets_papers/Number_portability/EC-Number_Portability_99.pdf.

[7] www.telecomportal.com/Assets_papers/Number_portability/EC-Number_Portability_99.pdf . See also Appendix 3

8.3 Establishment costs

These costs include:

- Upgrading of software for the functioning of Carrier pre-selection in the first instance and then the "over ride" facility
- Any hardware upgrades necessary to have the feature functional
- Per concessionaire establishment costs which are costs incurred in modification of accounting and billing systems, implementation of customer care facilities, software upgrades, any additional equipment required and or implementation of an IN database

Statement on Cost

The Authority proposes that the cost of implementing carrier pre-selection in the first phase and at a later stage, the over ride feature (Carrier Selection on a call by call basis) for public telecommunications concessionaires shall be derived in accordance with the Authority's Costing Methodology and models..

8.4 Cost Recovery

Regulation 27 of the Telecommunications (Interconnection) Regulations, 2006 provides that the necessary cost of modification of the network or equipment of an interconnection provider to effect interconnection is recoverable from the interconnecting concessionaire, such costs to be determined in the manner prescribed by the Authority.

The Authority's *Costing Methodology for the Telecommunications Sector* and costing models will guide the recovery of the costs from the interconnecting concessionaire. The cost recovery determination will be applied to Carrier Pre-selection, in the first instance, and at a later stage, to the implementation of the "override" facility which will enable Carrier Selection on a call by call basis.

The cost recovery mechanism must be fair both to the interconnection provider and to the interconnecting concessionaire. The requirement for advance payments by the interconnecting concessionaire to the interconnection provider may be considered inimical to the introduction of competition in the market, whilst phased payments may well bring about greater benefits of cost efficiencies.

The Authority will consult with all stakeholders on cost recovery and, guided by the applicable regulations and costing models, develop a cost recovery mechanism for the implementation of Indirect Access that facilitates effective competition in the market and greater benefits to the consumer.

Statement on cost recovery

The Authority proposes that:

1) In accordance with Regulation 27 of the Interconnection Regulations, the costs incurred by the interconnection provider to establish Carrier Pre-selection and later the override feature to enable Carrier Selection will be recoverable from the interconnecting concessionaire and will be subject to the Authority's Costing Methodology and models for the Telecommunications Sector.

2) All interconnecting public international concessionaires will bear their own establishment costs

8.5 User costs

User costs are necessary to enable the interconnection provider to recover the administrative costs associated with the implementation of Indirect Access. The following is proposed:

(1) Carrier Pre-selection

The Authority considers that the end user should pay the following costs:

i. A one time administrative fee for the installation of Carrier Pre-selection.
ii. A one time administrative fee for de-installation of Carrier Pre-selection.

This fee shall be based on the cost of providing the relevant services, such costs to be determined in accordance with the Authority's Cost Methodology and/or models. However, it is to be noted that should end user costs be too high, this factor will act as a disincentive to potential end users, whereas if they are too low, the concessionaire would not be able to recoup its costs.

(2) Carrier Selection

End users should be required to pay for the following costs:

- An initial, one time administration cost to install the carrier selection service; and
- Per use costs (consumption costs)

The quantum of the administrative costs and the per use costs for Carrier Selection shall be determined in accordance with the Authority's Costing Methodology and/or models. It is recognised that should these costs be too low, the concessionaire will not be able to recover his costs whereas if they are too high, this would constitute a disincentive to end users to use the service and the benefits of competition would not be realised.

Statement on User costs

The Authority proposes that

1) A "one time" administrative charge should be levied on the end user for the activation and de-activation of Carrier Pre-selection. Such charge should be based on the costs incurred in providing the services, which must be derived in accordance with the Authority's Costing methodology and/or cost models.

2) A "one time" administrative charge should be levied on the end user for the activation and de-activation of the override feature of carrier selection. Such charge should be based on the costs incurred in providing the services, which must be derived in accordance with the Authority's Costing methodology and/or cost models.

3) The end user should pay a "per use" charge for Carrier Selection. Such charge should be based on the costs incurred in providing the services, which must be derived in accordance with the Authority's Costing methodology and/or cost models.

9 Methodology for Implementation of Indirect Access

In order to properly inform the implementation of Indirect Access, the Authority shall perform the following activities:

1). Request specific information from the concessionaires to determine the readiness of the concessionaires' networks to implement the Authority's preferred method of Indirect Access and costs to implement same.

2) Determine a schedule for the implementation of Indirect Access.

The responses obtained from these consultations will inform the Authority in guiding the implementation process for Indirect Access. An implementation plan will be developed by the Authority in consultation with concessionaires and other stakeholders with provisions to ensure that Indirect Access is implemented in the shortest practical timeframe and in an efficient and cost effective manner.

The following functions and capabilities may be utilised for the proper functioning of Indirect Access[8]:

- Carrier interfaces
- Pre-subscription database management
- Third party verification
- Message driven processing
- Switch request process flow
- Capacity and performance
- Bad debt management
- Report generation
- Switching requirements

In consultation with the industry, the Authority shall determine the necessary specifications and provisions that would ensure that the above issues are adequately addressed prior to implementation of Indirect Access.

[8] InterConnect Communications Numbering Master Class, 2005

The implementation plan shall include:

- the development, by all stakeholders and concessionaires, of the necessary administrative procedures for successful provisioning of Indirect Access. Such procedures must be submitted to the Authority for its approval prior to implementation
- clear milestones and deliverables for the implementation process

9.1 Slamming

Slamming is an illegal practice in which a subscriber's choice of international concessionaire is changed without his authorization. This practice is addressed in the Authority's *"Draft Consumer Rights and Obligations Policy"*.

Appendix 1- Countries implementing Carrier Selection

DSTI/ICCP/TISP(2001)4/FINAL

Table 1. Call by call carrier selection (as of 1 May 2001)

	Long Distance	International	Local	Fixed to Mobile
Australia	Implemented	Implemented	Implemented	Implemented
Austria	Implemented	Implemented	Implemented	Implemented
Belgium	Implemented	Implemented	Implemented	Implemented
Canada	Implemented	Implemented	Implemented	Implemented
Czech Republic	Scheduled for implementation in 2002	Scheduled for implementation in 2002	Scheduled for implementation in 2002	Scheduled for implementation in 2002
Denmark	Implemented	Implemented	Implemented	Implemented
Finland	Implemented	Implemented	Implemented	Implemented
France	Implemented	Implemented	Not implemented (to be implemented on 1 January 2002)	Implemented
Germany	Implemented	Implemented	Not implemented	Implemented
Greece	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003
Hungary	Not implemented	Not implemented	Not implemented	Not implemented
Iceland	Implemented	Implemented	Implemented	Implemented
Ireland	Implemented	Implemented	Implemented	Implemented
Italy	Implemented	Implemented	Implemented	Implemented
Japan	Implemented	Implemented	Implemented	Not Implemented
Korea	Implemented	Implemented	Implemented	Implemented
Luxembourg	Implemented	Implemented	Not implemented	Implemented
Mexico	Not implemented	Not implemented	Not implemented	Not implemented
Netherlands	Implemented	Implemented	Implemented	Implemented
New Zealand	Implemented	Implemented	Implemented	Implemented
Norway	Implemented	Implemented	Implemented	Implemented
Poland	Implemented	Not implemented	Not implemented	Not implemented
Portugal	Implemented	Implemented	Implemented	Implemented
Slovakia	Not implemented	Not implemented	Not implemented	Not implemented
Spain	Implemented	Implemented	Implemented	Implemented
Sweden	Implemented	Implemented	Implemented	Implemented
Switzerland	Implemented	Implemented	Implemented	Implemented
Turkey	Not implemented	Not implemented	Not implemented	Not implemented
United Kingdom	Implemented	Implemented	Implemented	Implemented
United States	Implemented	Implemented	Implemented	Implemented

Source: OECD.

Appendix 2- Countries implementing Carrier Pre-selection

DSTI/ICCP/TISP(2001)4/FINAL

Table 3. Carrier pre-selection (as of 1 May 2001)

	Long Distance	International	Local	Fixed to Mobile
Australia	Implemented	Implemented	Not implemented	Implemented
Austria	Implemented	Implemented	Implemented	Implemented
Belgium	Implemented	Implemented	Implemented	Implemented
Canada	Implemented	Implemented	Partially implemented (major centres)	Implemented
Czech Republic	Scheduled for implementation in 2002	Scheduled for implementation in 2002.	Scheduled for implementation in 2002	Scheduled for implementation in 2002
Denmark	Implemented	Implemented	Implemented	Implemented
Finland	Implemented	Implemented	Implemented	Implemented
France	Implemented	Implemented	Not implemented (to be implemented on 1 January 2002)	Implemented
Germany	Implemented	Implemented	Not implemented	Implemented
Greece	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003	To be introduced not later than 1/1/2003
Hungary	Not implemented	Not implemented	Not implemented	Not implemented
Iceland	Implemented	Implemented	Implemented	Implemented
Ireland	Implemented	Implemented	Implemented	Implemented
Italy	Implemented	Implemented	Implemented	Implemented
Japan	Implemented	Implemented	Implemented	Not implemented
Korea	Implemented	Not implemented	Not implemented	Not implemented
Luxembourg	Implemented	Implemented	Implemented	Implemented
Mexico	Implemented	Implemented	Not implemented	Not implemented
Netherlands	Implemented	Implemented	Implemented (but the area code needs to be dialled)	Implemented
New Zealand	Implemented	Implemented	Implemented	Implemented
Norway	Implemented	Implemented	Implemented	Implemented
Poland	Not implemented	Not implemented	Not implemented	Not implemented
Portugal	Implemented	Implemented	Implemented	Implemented
Slovakia	Not implemented	Not implemented	Not implemented	Not implemented
Spain	Implemented	Implemented	Implemented	Not implemented
Sweden	Implemented	Implemented	Implemented (but the area code needs to be dialled)	Implemented
Switzerland	Implemented	Implemented	Implemented	Implemented
Turkey	Not implemented	Not implemented	Not implemented	Not implemented
United Kingdom	Implemented	Implemented	Implemented (with auto-diallers until the end of 2001)	Implemented (with auto-diallers until the end of 2001)
United States	Implemented	Implemented	Implemented	Implemented

Source: OECD.

Appendix 3- Allocation of Costs in European Market

Europe Economics/Arcome Executive Summary

Table 3 – Costs Incurred in Provision of Carrier selection and pre-selection

	System set-up cost	Per-operator set-up	Per-line administration	Additional conveyance	Cost incurred by NRA
Carrier selection					
Costs involved	• Expansion of digit capacity of switches • Programming of switches to statistically distribute non CS traffic • Adaptation of customer care and billing systems • Adaptation of inter-operator billing systems • Adaptation of maintenance and customer support procedures	• Initial programming of routeing tables	None	None	• Allocation of routeing prefixes
Significance of costs	High proportion of total costs	Very small proportion of total costs	None	None	Negligible
Main party incurring cost	Medium impact on the dominant local loop operator, low impact on indirect access providers	Low impact on the dominant local loop operator			Very low level of costs incurred by NRA
Carrier pre-selection					
Costs involved	• Modification of subscriber context • Adaptation of customer care and billing systems • Adaptation of maintenance and customer support procedures		• Modification of subscriber information	• Additional call processing	• Allocation of pre-selection codes
Significance of costs	High proportion of total costs	None	Very small	Negligible	Negligible
Main party incurring cost	High impact on the dominant local loop operator, medium impact on indirect access providers		Medium impact on the dominant local loop operator, very low impact on indirect access providers	Very low impact on the dominant local loop operator	Very low level of costs incurred by NRA

Source: http://www.telecomsportal.com/Assets_papers/Number_portability/EC_Number_Portability_99.pdf

Annex 1 Decisions on Recommendations

Document Sub-Section	Submission Made By: Stakeholder Category[9]	Comments Received	Recommendations Made	TATT's Responses and Decisions
General				
	Windward Telecom Ltd	**<u>Rapid Implementation of Dialling Parity is Attainable</u>** While disappointed by the further one-month delay from August to September for receipt of interrogatories, Windward Telecom remains confident that the Authority will proceed with the implementation of Indirect Access on an expedited basis. Otherwise, the prospect for longer term sustainable competition in telecommunications in Trinidad and Tobago may be lost	Permit dialing parity by January 1, 2009 without billing option	The Authority is committed to expediting Indirect Access for the benefit of all end users in Trinidad & Tobago in the shortest possible time. However, the Authority must consult with all concerned parties before implementation of the service.

[9] Regional regulatory or Governmental agencies, Existing service and/ or network provider and affiliates, Potential service and/ or network providers and affiliates, Service/ Network Provider Associations/ Clubs/ Groups, General Public

General	**Windward Telecom Ltd**	forever. Windward Telecom believes there is no material technical obstacle which should delay the implementation of dialling parity by January 1, 2009. The Draft Framework indicates that the Authority understands the distinct competitive disadvantage encountered by Windward and other new concessionaires. The consultation paper also illustrates that the Authority understands the key technical aspects of the pertinent issues. Windward beseeches the Authority not to get bogged down in the myriad of billing and administrative roadblocks which undoubtedly will be raised by existing carriers solely to delay the implementation of competition. **<u>Indirect Access Already Deployed by TSTT</u>** For the past five months, TSTT has deployed the Nortel Succession Gateway software platform to provide dialling parity or Indirect Access to its own subscribers who opt for specific calling plans such as Smart choice and Talk for Less. What is particularly galling is the fact that Windward Telecom and other new concessionaires have paid in large measure for this platform but are denied		The Authority will investigate this comment.

General	**Windward Telecom Ltd**	access to it. TSTT utilizes this facility to entrench is long distance dominance at the new concessionaires' expense. In short, there is no substantive technical reason why TSTT could not **immediately** implement dialling parity. Windward Telecom does not require **any** billing support from TSTT to implement either Carrier Pre-selection or Carrier Selection on a call by call basis thus obviating TATT's need to amend their databases or administrative procedures. Windward Telecom would merely provide TSTT and Digicel with Authority-approved forms indicating a customer's decision to utilize Carrier Pre-Selection. At this juncture TSTT merely enters a rate (price) code beside each local access number to indicate the price plan and generate bills. There is no reason why Windward Telecom and other carriers could not be ascribed zero-rate price codes or that the TSTT could recognize transiting calls to designated trunk groups as local calls. On per occasion calling, TSTT's switch can be immediately programmed to recognize 101X as a particular competing carrier and allocate such traffic to a specific outgoing trunk group.		The Authority will investigate the comment to determine whether the facilities are available.

		From a technical switching perspective, it would take TSTT less than a day to reconfigure the software in the Nortel Succession platform to allocate zero-rated originated traffic (both Carrier Pre-selection and Per Call Carrier Selection to specific trunk groups which interconnect with Windward Telecom. Windward would handle all billing and collection. The traffic could be carried on the same physical cross connects as presently exist to move Windward originated international traffic into TSTT's switch. The Authority should note that TSTT's switching and billing platforms are comparable to those installed more than **eleven** years ago across North America to facilitate dialing parity. During the drafting of the Telecommunications Act, in 2001, it was contemplated in the legislation that dialling parity would be mandated in the near term. Yet seven years later it has not been implemented and the Authority must remove such bogus technical barriers immediately. The onus should rest with the TSTT as to why they cannot immediately implement dialling parity when they currently provide such differentiation to their own customers.		

General	**CCTL**	CCTL believes that Indirect Access is not required because: (i) There is rampant competition in the market for international calls, with little dominance demonstrated by any one party in the international call market (ii) There are new entrants into the telecommunications market that are providing further options to customers to complete international calls (iii) With the increasing adoption of broadband and Voice over IP technologies, more customers are available themselves of their own form of Indirect Access using technologies such as Skype, Vonage, Magic-Jack and NetTalk, without the need for regulatory intervention (iv) The administrative and technical costs of Indirect Access under a regulated framework will far exceed the benefits of indirect and/or equal access, especially in	In light of the factors outlined, CCTL strongly believes that the introduction of Indirect Access in Trinidad and Tobago will serve to the detriment of the development of the telecommunications sector in Trinidad and Tobago. CCTL strongly recommends to the Authority that it defers its intent to introduce Indirect Access to the market until such time as universality of services have been improved, and penetration of broadband services in Trinidad and Tobago has increased. CCTL also recommends that the Authority allows technology and market developments to play its role, as based on	Despite there being many facilities for outgoing international calls, each one is currently tied to a domestic network. For a customer to enjoy lower costs for international calls on a particular facility, they must become a domestic end user of that concessionaire. This does not provide the domestic end user with more choice for international calls without being a domestic end user of that concessionaire and certainly does not provide the end user with a choice of international concessionaires who do not have a domestic network. The Dec 2007 report on Universality shows that 13 % of the population has broadband access and 27.3% has internet access. While prices have fallen and new

		light of the growing trend of (iii) (v) Introduction of Indirect Access discourages parties from investing in domestic infrastructure, and penalizes those who have. In markets where Indirect Access was introduced, there was recognition that competition for international calls without Indirect Access was unlikely, and there was also already a high penetration of domestic services. Neither of these conditions apply here in Trinidad and Tobago, where there is and increasing competition in domestic infrastructure alternatives (via Digicel, CCTL, Green Dot, Carib-Link and others) which can accommodate users making international calls via VoIP, while increased penetration of fixed line and broadband services in Trinidad and Tobago is required.	growing trends of VoIP, Indirect Access will already be available to consumers of fixed line services.	broadband services have been launched in 2008, the current coverage of broadband services will not provide the population with choices that they should have even at this stage of liberalization
Section 1 - Introduction				
	Digicel	Digicel believes it would be premature to impose any form of Indirect Access (IA) over any network in Trinidad and Tobago (T&T) at this time. Traditionally, IA is introduced after there is full liberalisation and competition has been in the market for quite some time,	The threat of IA at this early stage may have already had a negative effect. We recommend that TATT defer these plans but continue to assess the status of	The Authority does not hold the view that it is too early in the liberalization process for Indirect Access to be introduced.

Introduction	Digicel	so that the market has had time to evolve. Both the mobile and the fixed networks have only recently been liberalised. This has already led to a significant reduction on the retail prices of international calls. Further, the development of other wireless telecommunications technologies has been set back not by delay or unwillingness on the part of investors, but by slow movement in the regulatory regime such as the much delayed and lengthy process for the acquisition of spectrum. Such developments, if allowed to occur, will increase competition in T&T, and sufficient time must be allowed for the effects of increased competition to manifest itself before IA is imposed. The imposition of IA at this time will no doubt act as a significant disincentive to these investors in new access network business, which would ultimately impact on the range of telecommunications services available to consumers and the retail prices of these services. It would also be contrary to TATT's long term objectives as set out in the Act of establishing conditions for an open market for telecommunications services and promoting access to telecommunications services for the public. In short, the imposition of IA at this time will clearly be	the markets and formulate an IA policy as a medium to long term contingency plan. TATT should now be focused on enabling network investment for example, by licensing WiMax spectrum and not on measures such as IA which are likely to reduce the opportunities and attractiveness of network investment in T&T.	In Guernsey, Carrier Selection was introduced for fixed line just three years after the market was liberalized. www.regutil.gg. our04/05.pdf. There was no cost/benefit analysis done at the time. It was mandated in the Reference Offer as it is a fairly standard offering in RIOs in European countries. Given that there is little work involved in implementing alternate carrier access, the RO charges were designed to cover that.

		contrary to the public interest. It is far too soon to conclude at this time that "*effective competition in international services can only be effectively achieved by the introduction of Indirect Access and dialling parity for end users*".		The Authority disagrees with this statement for reasons given above.
"This facility will guarantee equal access to all concessionaires of public international telecommunications network and public international telecommunications services by end users, thereby providing greater	Three Sixty Communications Ltd	Three Sixty strongly concurs with the expressed view and assertion of the merits of equal access provided by Indirect Access.		Noted.

choice for them. New entrants to the international access market will be at a distinct"				
1 Introduction The Act gives the Authority in Section 25(1)(b) the mandate to require concessionaires of public domestic telecommunications networks and services to provide indirect interconnection to other concessionaires of public telecommunications networks and services	CCTL CCTL	The interpretation of and reference to this provision of the Act seems to be incorrect. This provision speaks to facilitating transit arrangements between concessionaires, that is, where two concessionaires are not directly interconnected, but their respective users need to communicate with each other, and therefore they are indirectly interconnected, rather than speaking to facilitating Indirect Access. By definition under the Act, access does not include interconnection, so it is flawed to try to relate indirect interconnection with Indirect Access.	The reference to this provision of the Act to support the implementation of Indirect Access should be removed.	The Act does not specify "public domestic telecommunications networks and services". It reads "public telecommunications networks and services" which in our view includes the interconnection between domestic and international concessionaires. Domestic concessionaires will interconnect to allow end users of each network to access end users on the other networks as well to transit calls where there may be no direct interconnection. Similarly

				international concessionaires will interconnect with domestic concessionaires for terminating international calls. It is the Authority's view that outgoing international traffic via the competing international concessionaires should also be permitted.
1 Introduction Competition in the international voice call market will bring about greater choice and quality to users. The effects of Indirect Access for long distance and international calls in other countries e.g. Europe and	CCTL	CCTL's first comment on this section relates to the reality that there is already vast choice for international services in the market today. Presently, consumers can choose either of TSTT's fixed line, mobile or companion card products to make international calls, while also having the choice of using services from Digicel, CCTL, Worldtalk (supported by Carib-Link/Open Telecom) and international call centres distributed in neighbourhoods and cities in order to make international calls.	CCTL believes that there are already a vast number of options available to consumers to make international calls, and there is really presently no demand from the market for cheaper or more options for international calling services	The Authority disagrees with this statement as the end user is unable to exercise choice independent of their domestic provider as the international service is currently tied to the domestic provider. The Authority's research shows that international telephony traffic is responsive to changes in international telephony

the USA have shown that there was a boost to competition among the service providers in the provision of long distance and international calls which resulted in benefits to the end users.				prices. The Authority will therefore encourage competition which will ensure that prices are driven towards cost.
1 Introduction Competition in the international voice call market will bring about greater choice and quality to users. The effects of Indirect Access for long distance and international calls in other countries	CCTL	CCTL's second comment on this section relates to the fact that in those countries where Indirect Access has been opened up, the regulation of rental for fixed line telephony has been relaxed, to allow fixed line operators the ability to recover their costs from fixed line rental. CCTL's understanding is that the current line rental of the dominant fixed operator is sternly regulated at a very low price, which effectively regulates the line rental of competing fixed line operators. CCTL is of the view that the introduction of Indirect Access must be preceded by the removal or relaxing of regulation on fixed line rental services for the public to truly benefit, otherwise, the	CCTL believes that the existing cap on fixed line rental must be relaxed prior to the introduction of Indirect Access.	Noted. There is no cap on line rental. The Authority is of the view that line rentals should reflect cost. However these costs have to be calculated in accordance with the Authority's costing methodologies and models.

e.g. Europe and the USA have shown that there was a boost to competition among the service providers in the provision of long distance and international calls which resulted in benefits to the end users.		domestic fixed line service will ultimately collapse.		
Section 1				
Objectives	TSTT	TSTT notes that one of the objectives of the Authority's proposal is to propose the most efficient and cost effective method of providing Indirect Access in Trinidad and Tobago. However, the Authority has not carried out any cost benefit analysis supporting its recommendation that *Carrier Pre-selection with Override* (CPS/CS) is the most efficient and cost effective solution of Indirect Access for the country. It has not explained why a pure Carrier Pre-selection (CPS) or Carrier Selection (CS) is an inferior solution to	The Authority should carry out a detailed cost benefit analysis that should take into consideration the following: -What is the market failure that Indirect Access is purported to remedy? -If a market failure exists in the market(s), what are the possible Indirect Access solutions (CPS,	Please refer to the Rationale in the Introduction of the revised document.

		CPS/CS. We discuss this in more detail below.	CS, CPS/CS, etc.)? -Quantifications of the benefits of introducing Indirect Access in Trinidad and Tobago. -What are the costs of each of the possible solutions of Indirect Access? -How the costs are going to be attributable and how they are going to be recovered? -If benefits outweigh costs then it is advisable to introduce Indirect Access, otherwise the Authority should refrain.	The Authority will consult with public telecommunications concessionaires to determine costs. The Authority's costing methodology and cost models will be used in determining cost recovery.
1.1 Objectives		The second objective speaks to the manner in which costs for Indirect Access shall be determined and recovered. With respect to this objective, the consultative document was very vague in terms of how it will deal with cost recovery. Mention was made of how it is treated in other jurisdictions, however no mention of how it will be treated in Trinidad and Tobago. The Authority should be well aware of the large investment in infrastructure that is needed to	TSTT respectfully requests that the Authority outline to concessionaires how cost recovery is expected to be achieved. TSTT suggests to the Authority that there is a need for the Authority to lay out a set of principles on costs causation and cost recovery of Indirect	The Authority's costing methodology and cost models will be used in determining cost recovery.

		accomplish Indirect Access, as well as the significant on-going costs to operate an Indirect Access program.	Access as explained below by TSTT under 6.3 Cost Establishment.	
1.1 Objectives	TSTT	As a general comment, TSTT is concerned that the Authority appears to have already made the decision to introduce Carrier Pre-Selection with Override without the benefit of a consultation to discuss the merits of so doing and the analysis of alternatives solutions to Indirect Access. CPS/CS has been introduced in some countries like the few ones cited by the Authority (i.e. Australia, United Kingdom and Switzerland). However, the international trend in Europe, America and other regions is to introduce Carrier Pre-selection (CPS) as the preferred solution to Indirect Access. For instance in the United Kingdom, CS was introduced in 1994, and CPS in 2000. However, CPS has become the most popular Indirect Access solution preferred by consumers. Similarly, in the US and Chile, where both CPS and CS co-exist there is also a preference for CPS and in practical terms CS is not used to any great extent by consumers	The Authority needs to perform a more comprehensive international benchmark on Indirect Access solutions adopted in relevant countries. The international trend is to adopt CPS as the preferred solution, not CS or CPS/CS.	The Authority recommends Carrier Pre-selection with override as its preferred solution at this time. The implementation will be done in two phases- 1) Carrier Pre-selection and 2) over ride (Carrier Selection) Comments are invited from stakeholders and the public on the recommendation made.
1 Objectives	TSTT	It should be remembered that convergence and inter-modal competition everywhere including Trinidad and Tobago is beneficial to consumers through the bundling	The Authority needs to recognize that bundling practices are common in	The Authority does recognize bundling practices are becoming

	TSTT	of services including long distance services. Consumers would benefit from the bundles of service if they can use a CPS system, since the price discounts are embedded in the bundle of services. On the contrary, under a CS or a simultaneous CPS/CS solution providers would not be able to provide the benefits of discounts coming out of bundling. This is another reason why CPS is becoming the most used form of Indirect Access and CS is becoming less relevant as time passes.	modern, competitive telecommunications industries, and their presence may guide the technical solution (CPS or CS) that could be convenient for T&T	more prevalent in the international market The Authority requests data to support the assertion that under the CPS/CS solution providers would not be able to provide discounts coming out of bundling. Bundling of services are encouraged however two points need to be made 1) Section C5 of TSTT's concession states that if bundled packages are offered services must also stand alone and 2) size of discount must be justified by the cost of providing the services in demand. Consumers must be able to make decisions on whether int'l calls are part of the bundle or not. CPS alone may not bring about the

				desired level of competition and introducing CS will increase competition.
1.1 Objectives	TSTT	TSTT understands that the Act requires that Indirect Access be made available to the consumer. However, if a fair and impartial assessment determines that such a service is not required, based upon the manner in which the telecommunications landscape has developed, then what is more likely required is a legislative amendment to remove that requirement rather than forcing something on a sector that is of little additional benefit to the consumer. TSTT asks, on what basis has a determination for the introduction of Indirect Access been made, other than the need to fulfill a legislative requirement?	TSTT requires clarification from the Authority on whether there is a need to first determine if there are competitive conditions already working on T&T's long distance markets. Indirect Access should be viewed as a remedy to a market failure, so the Authority may clearly explain and demonstrate what the market failure is and if its proposed solution (CPS/CS) is the best for consumers in T&T.	Concessions have already been awarded for public international telecommunications services and networks. The Authority has clearly stated in the document the deficiencies that exist in Trinidad and Tobago i.e. low broadband penetration and that end users are locked in to the domestic service provider they are connected to for making international calls. The Authority is simply facilitating the implementation of a service to end users that is available in other

				liberalized markets.
1.2 Regulatory Framework	TSTT	**Indirect Access is not necessarily equivalent to indirect interconnection.** The Authority seems to confuse what is contemplated in Section 25 (1) (b) of the Act which mandates to concessionaries of public domestic telecommunications network and services to provide *indirect* interconnection to other concessionaries of public domestic telecommunications network and services with Indirect Access to international services by retail customers. CPS or CS are simply alternative ways that final consumer could access alternative international carriers. TSTT notes that the Telecommunications Act's reference in Section 25 (1) (b) to indirect interconnection contemplates those cases for example in which network B provides transit interconnection services to network A in order for network A to transit its traffic (origination and termination) to network C. These are indirect interconnection services. In contrast, Indirect Access in the context of CPS or CS or other solution is not necessarily interconnection. For instance, a reseller of international voice services could rent a retail business line to a facility based operator,	TSTT considers that regulation of interconnection is already contemplated in the existing regulatory framework. Indirect Access, in contrast, is a service that is offered to final customers. The conditions for the provision of Indirect Access among operators are a matter of commercial negotiation among parties. For instance, terms and conditions for billing services or provisions for bad debts regarding CPS or CS among operators should be a matter of private negotiations. TSTT considers that the specific conditions for implementing Indirect Access to provide final consumers with alternatives ways to access	The Authority agrees that Indirect Access is not the same as indirect interconnection and that Indirect Access to alternative international carriers by end users requires interconnection Please explain the term "final customers". The Authority disagrees. There are other factors that influence the implementation of Indirect Access eg technical

		and use it to deliver international voice services to final consumers through access to an 800 number. Jamaica called this "two-stage dialing" (the use of a standard retail product by an Indirect Access operator to allow subscribers of another operator to access the Indirect Access operator's calling services.) This is not interconnection.	alternative providers is a commercial issue and therefore subject to commercial negotiations among operators.	
	TSTT	The European Union, when analyzing the **retail** access markets (residential or business) established clearly that CPS or CS services may face a bottleneck coming from the network who owns the retail access for fixed services. Thus, in the 2002/3 Recommendation, the European Commission states (Commission Recommendation. On Relevant Product and Service Markets, 2003, page 17), "Whilst undertakings that provide access compete on the market for outgoing calls, it does not appear to be the case that undertakings supplying outgoing calls via carrier selection or pre-selection would systematically enter the access market in response to a small but significant non – transitory increase in the price of access. Therefore, it is possible to identify separate **retail** markets for access and outgoing	Similar to what has been done in other countries as in Europe, the Authority needs to first determine that retail access to fixed telephone services (residential and business) constitute a relevant market for purposes of applying remedies or imposing obligations such as Indirect Access to dominant operators.	The Authority must be guided by the Act and subsequent regulations and not solely on what pertains in other jurisdictions.

	TSTT	calls." In this regard TSTT disagrees with the Authority when it says in page 23 under (6) Cost Regime , that "The Authority considers Indirect Access to be an Interconnection service and therefore should be governed by the Interconnection Regulations. The costs for Indirect Access should therefore be derived in accordance with the Authority's Costing Methodology." TSTT considers that the interconnection among public concessionaries networks is already mandatory under the current regulatory framework and its conditions are also established in that framework.		Interconnection between the domestic and international concessionaires is required for terminating and originating traffic. Terminating traffic is currently being done but now originating traffic is being encouraged. The principles contained in the Interconnection Regulations will therefore apply.
1.2 Regulatory Framework	360 Communications Ltd	The fact that obligations for the provision of Indirect Access / dial parity were enshrined in both the Telecommunications Act (ACT) as early as 2001 and then further consented to in concessions signed in 2005 by the incumbent give credence to the urgent need for TATT to mandate Indirect Access within the shortest possible timeframe. Further delays only retard and		The Authority agrees and is now focusing on Indirect Access /dialing parity for Trinidad and Tobago

		frustrate the TnT telecom sector's capacity to fulfill the innate objective of the ACT; most notably an open market for telecommunications services and fair competition.		
1.2 Regulatory Framework Section 3 Section 25(1) Section 25(2)	CCTL	CCTL has looked at the proposed sections of the Act that the Authority is drawing upon, and must ask: (i) Isn't there already an open market for international telecommunications services, especially in light that there are at least three national providers supplying international call services, as well as options for users to go to call centres or use calling cards? (ii) Doesn't the complete wording of 25(1) refer to transit arrangements, which is allowing interconnection of one network or service through the public network or service of other concessionaires? (iii) Dialing parity has been provided to some extent, as the subscribers of domestic concessionaires can presently call each other by dialing seven digits regardless of whether calling on their own network or to other domestic networks. Although CCTL recognizes	CCTL suggests to the Authority that the relevant objects and requirements of the Act have already been satisfied, even without the implementation of Indirect Access.	The Authority recognizes that there are various services provided by concessionaires for end users to originate international calls but there is no "true" competition among the concessionaires for international services. However, as stated previously, end users currently cannot choose their international service provider given the current situation. Section 25(1) specifies *direct* interconnection while Section 25(2) specifies *indirect* interconnection. Surely it is a competitive

		that the Authority can require other forms of dialing parity, CCTL also asks the Authority whether other forms of dialing parity is really needed at this time.		issue to have dialing parity on the domestic networks and similarly for competition in international calling.
1.4 Modifications to document	Windward Telecom Ltd	Modifications to the policy should also be determined by technology advances, notably IP switching technologies and third-party provided billing processes which reduce the dependence upon the incumbent carrier to provide billing and collection functions .		Modifications to the document will be driven by technological advances and changes in the administration of the feature which will bring added benefits to end users
		Section 2-Definitions		
2 Definitions Dialling parity	CCTL	CCTL notes the definition of dialing parity specified in the document. While CCTL acknowledges that the Authority can define and require what form of dialing parity is provided, CCTL suggests that dialing parity is not only restricted to international services, but also to domestic services, and hence the definition should reflect such.	CCTL recommends the following definition: Dialing parity is the ability to contact a user of another network by dialing the minimum number of digits required to complete the call to that user.	The Authority disagrees with this definition. The definition will be amended to include domestic and int'l calls. The Authority has defined dialing parity in this document for originating international calls using Indirect Access. Dialing parity also applies to domestic networks.

Section 3 – Types of Indirect Access				
3.1 Carrier Pre-selection	Windward Telecom Ltd	The disadvantages of Carrier Pre-selection cited in pages 11-12 of the document appear overstated: • Windward believes that end users will welcome the opportunity to switch carriers. To accelerate the liberalization process, the Authority might follow the lead of other countries where ballots were held at the outset of dialling parity. • End users have the opportunity to utilize other carriers by either switching the pre-selected carrier at any time or opting for choice on a per call basis. • With route diversity and improved international connectivity, the chances of a well-engineered carrier's route as being out of service are less than 0.01% and even then a caller has the option to user a per call option. Of greater concern is the dependence upon a centralized TSTT international switching platform	Windward Telecom strongly believes that the 7-digit NANPA practice should be adopted in Trinidad to: • Facilitate implementation using existing number code practices adopted by TSTT for their existing "dial around" and differentiated pricing plans. • Facilitate use of existing North America software platforms, embodied both on competing carrier switches and within the installed customer PBX base. • Enable more than nine long distance concessionaires to compete in the marketplace. • Align with advertising and usage patterns commonly	The Authority intends to follow the NANP practice of seven digits. .

			known to most Trinidadians.	
3.1-3.3	TSTT	As a general comment, TSTT notes that competition in the long distance market started in 2006 when the Authority issued concessions to new providers. According to the Authority's 2006 Annual Market Report on Telecommunications and Broadcasting Sectors, the liberalization process has deepened even further since 2006. Local and long distance voice markets, as well as the mobile market are open to full competition. As of December 2006, in the long distance markets there were seven concessions granted, and the majority of them are already offering services. Mobile operators are already providing long distance services to their customers. The six operators authorized to provide fixed domestic telecommunications services to the public over wired facilities will soon start to also provide long distance services as part of their triple play / bundled services (cable television, high-speed data and Internet, and landline telephone services).	According to the Authority competition in long distance services has deepened in T&T since 2006 and will continue to improve more with the incursion of local concessionaries in fixed (e.g. cable providers) and mobile networks into the provision of long distance services.	The Authority notes that for the end user to access each of these concessionaires' international facilities, the end user must connect DIRECTLY to their domestic networks, which means more CPE units will have to be installed at the end user's premises. Indirect Access will do away with these limitations.
3.1 CARRIER PRESELECTION "1) Using Carrier	360 Communications Ltd	Reference to a similarity between Carrier Pre-Selection and the Present Scenario may be construed as misleading since there is no "selection" or implied	Either delete "which is similar to the 'Present Scenario' or amend as follows:	The statement has been re-worded.

Pre-selection which is similar to the "Present scenario" shown"		customer choice in the present scenario. The present scenario is instead one of Carrier Pre-Determination	"1) Using Carrier Pre-selection in which the call routing is similar to the "Present scenario, with the exception that more than one international gateway option is available to be selected…	
3.1 CARRIER PRESELECTION Carrier Pre-selection functions the same as the Present scenario shown in Figure 1.	360 Communications Ltd	This statement can be viewed as misleading for the reasons outlined above	International call routing for Carrier Pre-selection functions the same as the Present scenario shown in Figure 1, with the exception that more than one international gateway option is available and is pre-selected by the customer	The Statement has been amended as suggested.
Figure 1	360 Communications Ltd	New Entrant Mobile operator(s) can and do bypass access network and route international calls directly to an international gateway	Insert 4-8-3 as an option under the Present Scenario	The diagram is purely illustrative and while your suggestion is valid, it is not necessary to alter the diagram to get the point across.

Figure 1	TSTT	TSTT notes the drawing and recognises that it has been utilised by other regulatory bodies, e.g. MCA. However while this drawing may be relevant and representative to the Maltese telecommunications sector at the time of its consultation on CPE, TSTT wishes to point out what we believe may be significant differences between the T&T scenario and Malta at the time of its consultation on Indirect Access. The fundamental difference is that in Trinidad and Tobago, both the competing mobile and fixed line providers have their own international gateways. Therefore it is not necessary to access an international gateway through the incumbent provider. Therefore, TSTT wishes to make as strong a point as possible regarding the imposition of conditions on TSTT without due regard to the network capabilities of other providers in the sector in Trinidad and Tobago.		The Authority used this diagram for purposes of illustration of how Carrier Selection and Carrier Pre-selection may operate. It was not intended to describe their operation in Trinidad and Tobago.
Advantages of Carrier Pre-selection	360 Communications Ltd		Amend the third bullet point as follows: It affords dial parity, *equal and fair competition*	The statement has been amended as suggested.
ADVANTAGE OF CARRIER SELECTION	360 Communications Ltd	This is only true if Carrier Selection becomes the default and there is no Carrier Pre-Determination, meaning no international calls can be made from any fixed or mobile network without a carrier selection code	Either delete entirely or Insert after dialling parity, "provided operators of fixed lines and mobile networks allow their	The statement has been deleted as suggested

			customers to access an international gateway or otherwise make international calls only after dialling the same number of prefix digits as the customers of new entrants must dial”	
New entrants will not be at a disadvantage	360 Communications Ltd	Same as above	Either delete entirely or Insert after disadvantage, “provided operators of fixed lines and mobile networks allow their customers to access an international gateway or otherwise make international calls only after dialling the same number of prefix digits as the customers of new entrants must dial”	The statement has been amended as suggested
3.1.1 Billing	Windward Telecom Ltd	As noted previously, Windward Telecom wants the option to directly bill and collect from its customer base. Competing concessionaires may be able to provide these services at a lower cost than the dominant concessionaires. Billing customers directly also serves as a method of communicating with the customer and	Permit carriers to direct bill clients	The Authority agrees with this recommendation for the first phase of implementation.

		eliminates an intermediary in the event of any billing disputes. In the event the dominant carriers were mandated with the billing function, they would become the first contact point for any customer enquiry. This provides the ability for the dominant carrier to directly market their own services to the customer. Given the different long distance programs which will be created to meet customer needs, it is unrealistic to expect the front line customer service representatives to accurately respond to questions posed to them about rates and billing policies of competing concessionaires. Moreover, the systems required by TSTT to implement the billing function may not be standards based and could be costly to implement and delay the implementation process		
3.1.1 Billing	TSTT	We note with some alarm that very little is said with regard to the rather complex issues that surrounds billing. Even the proposed implementation plan does not address the issue of billing. TSTT has noted that other jurisdictions address billing as a separate issue for consultation. While much is made of the consumer's ability via Indirect Access to choose his or her preferred long-	TSTT recommends a full consultation on the issue of billing for this service	Noted. The Authority prefers the option of competing international concessionaires to bill their own clients. The acceptance of a subscriber is a commercial

	TSTT	distance carrier through pre-selection or on a call by call basis, there does not seem to have been any consideration given thus far as to whether that selected long-distance carrier agrees to accept the business. For example, a particular customer may have a history of not paying bills and extending to that customer the ability to make long-distance calls is tantamount to giving a credit card to someone who is a credit risk. Are carriers required to accept all customers? This is of particular concern especially in the case of selecting the carrier on a call by call basis, where the customer may not have a pre-established and commercial relationship with a particular carrier that is chosen for a call. How would such a carrier be able to know who the customer is and where he or she is located so as to be able to send a bill?		decision and each concessionaire needs to have its credit checks etc in place. Prior to international calls being allowed on a call by call basis, it is expected that the domestic concessionaire will do its usual administrative checks.
3.2 Carrier Selection	Windward Telecom Ltd	The Authority's concerns about uncompleted calls are overstated. Most noncompleted calls result in a fast busy tone or verbal intercept. Customers experiencing continued problems with call completion would merely switch to a carrier with better technical standards and capacity.	.	The Authority will be issuing QOS standards for networks in the near future.

3.2 Carrier Selection	TSTT	TSTT notes that the Authority has outlined one of the advantages of carrier selection is end users will have a greater chance of successfully completing international calls in the event of natural disasters as not all service providers will be out of service. Is it that the Authority is suggesting that each provider will have its separate network. Where a network goes down, how is it possible to get service to that individual unless it has access to another network which will of course include CPE. Additionally, special handsets and infrastructure may be required to access alternative service providers. Is it that these costs will be borne by the service providers?	As such TSTT is of the view that the advantage the Authority speaks of is unlikely to arise and unrealistic. It therefore should not be included in the Authority's considerations .	The statement made was in the context that not all the public international network and services concessionaires may be out of service at the same time in the event of a natural disaster. The same applies to the public domestic network and services concessionaires. It is a commercial decision by a concessionaire to require special CPE's etc for access to its network.
3.2.1 Billing	Windward Telecom Ltd	Again Windward Telecom would want the opportunity to bill customers directly.	Permit carriers to direct bill clients	The Authority agrees with the suggestion that the billing of clients be done directly by the international concessionaires.

3.2.1 Billing	TSTT	TSTT would like to draw to the attention of the Authority the issue of pricing this service. Will this be the debate of another consultative process or will the Authority step in and unilaterally impose a charge for the use of another provider's network?	TSTT strongly recommends that the issue of Billing be consulted upon either separately or addressed comprehensively in these proceedings.	The Authority will use the interconnection costing methodology and relevant cost models developed by the Authority as its basis for allocating costs. Wholesale pricing has already been arbitrated upon and currently applies.
3.3 Carrier Pre-selection with override	Windward Telecom Ltd	Windward Telecom concurs with the Authority's basic premise that this option facilitates additional customer choice and facilitates competition. However, we believe that the switching and billing platforms employed by TSTT and Digicel would require minimal modification to enable competitive carriers. As stated earlier, Windward would not utilize these carriers billing functions, but only seeks dialling parity or transiting of messages through the respective carrier's switches for a transit fee.		The Authority will investigate the comment.
3.3 Carrier Pre-selection with override	360 Communications Ltd	Three Sixty prefers this option	TATT expeditiously obligate fixed and mobile operates to provide for this facility at pre-	Set up cost recovery will be guided by the costing methodology and models

			established / approved one time set-up costs and at prevailing interconnection rates.	developed by the Authority.
3.4 Country Experiences	Digicel	TATT has provided a very brief tabulated summary of experience with CS and CPS for three countries: the UK, Australia and Switzerland For the UK mobile sector, CS and CPS regulation was imposed for a short period and only on the 2 largest mobile networks, although these regulations were withdrawn in 2003 as dominance or collective dominance could not be established. As it turned out, no Indirect Access wholesale service was ever provided as no service provider requested Indirect Access from them. CS for mobiles does apply in Switzerland even though there is no market dominance (on this point the Swiss are out of step with accepted practice). The Ordinance SR784.101.112; http://www.admin.ch/ch/d/sr/c784_101_112.html		The issue of dominance does not arise in Trinidad & Tobago for the implementation of Indirect Access. It is our view that the higher the penetration of mobile services, the greater likelihood that mobile end users will desire Indirect Access. South Africa with 90% mobile penetration is going that way.. The Authority cannot find an English version of this document

		states in Article 9(2) that providers of public telecommunication services over a mobile network have to offer the possibility for their subscribers to call internationally using CS i.e. on call-by-call basis. There is no requirement for CPS. This has not given rise to CS service provision in Switzerland. The likely reasons are: (i) it is extremely difficult to market since only international calls were involved and, (ii) the expectation that the regulation was not sustainable (i.e. would be removed) given that it is contrary to accepted good regulatory practice. Australia does not impose CS/CPS on mobile operators.[i] Unless dominance is shown, the imposition of CS/CPS is not considered good regulatory practice. This is especially so for mobile network operators, due to the implications it will have for infrastructure investment and the implications for low income users.		. The issue of dominance does not arise in Trinidad & Tobago for the implementation of Indirect Access.
3.4 Country Experiences	TSTT	TSTT wishes the Authority to note the experiences of Switzerland where limitations in technical standards dictated the type of Indirect Access that was implemented. The exchanges had to accommodate 22 digits for call by call selection.	The Authority may need to examine the respective networks of both incumbents and potential entrants. This may be to the disadvantage of	The Authority will take this into consideration. The Authority agrees to survey the existing

<table>
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<td></td>
<td>The following is an expanded benchmark on Indirect Access solutions adopted in some relevant countries, and it can be concluded that CPS is the preferred option.
<table>
<tr><th>Country (year of introduction)</th><th>CPS (Carrier Pre Selection) CS (Carrier Selection)</th><th>Traffic to which Indirect Access is applied on</th></tr>
<tr><td>Argentina (1998)</td><td>CPS</td><td>National and international long distance</td></tr>
<tr><td>Chile (1994)</td><td>CPS/CS</td><td>National and international long distance</td></tr>
<tr><td>Colombia (2008)</td><td>CPS</td><td>National and international long distance</td></tr>
<tr><td>France</td><td>CPS</td><td>Local, national and International long distance</td></tr>
<tr><td>Mexico (1996)</td><td>CPS</td><td>National and international long distance</td></tr>
<tr><td>Panama (2003)</td><td>CPS</td><td>Local, national and</td></tr>
</table>
</td>
<td>incumbents who may have already invested in network components that will no longer be compatible with Indirect Access.

The international evidence shows that more and more when countries are introducing Indirect Access the preferred solution is CPS. If the Authority decided to mandate Indirect Access in T&T, it would follow best international practices that prefer CPS over CS or CPS/CS.</td>
<td>concessionaires as to the capabilities of their networks

The Authority will decide what is best for Trinidad and Tobago whilst being guided by the Telecom Act.

In Mauritius, one year after liberalisation CPS/CS was mandated for mobile services. The investment climate did not allow for implementation as small and financially weak (domestic) companies, and</td>
</tr>
</table>

		International long distance
Peru (1999)	CPS	National and international long distance
Venezuela	CPS	International long distance
United Kingdom (1994, 2000)	CS (1994), CPS (2000) CPS become the most popular	Local, Long distance
United States (1985)	CPS, CS	Long distance

It should also be noted that other Caribbean jurisdictions such as Jamaica and Barbados have attempted to introduce this policy for a number of years but to no avail.

the small size of the market did not attract any big international players." www.iniset.net/jasr/2008/207-215.pdf .

South Africa has also begun to implement Indirect Access for mobile

Section 4 – Types of Indirect Access to be considered in Trinidad & Tobago				
	Windward Telecom Ltd	Windward Telecom supports the Authority's conclusion that Carrier Pre-Selection with Carrier Override is the most preferred method of implementation of Indirect Access, provided that this method is implemented in a phased process whereby Carrier Pre-selection, which is much easier to implement than Carrier Selection, is implemented first when ready and Carrier Selection is introduced at a later date when appropriate systems are ready.		The Authority favours a phased approach to implementation
The Authority considers that the implementation of carrier selection as the first method of Indirect Access for international calls will not be fair to the new entrants providing international access because the existing domestic	360 communications Ltd	Three sixty strongly agrees		Noted

telecommunications concessionaires already offer international calling without having to dial extra digits				
Types of Indirect Access to be considered in Trinidad and Tobago Statement on the option for Indirect Access	CCTL	CCTL is surprised that the Authority is able to evaluate and make a statement on the option for Indirect Access to be implemented in Trinidad and Tobago without any consideration for what it would actually cost for the technical and administrative frameworks necessary for implementation	CCTL believes that before any statement is made, the Authority needs to take into consideration the costs for implementation, and assess whether the implementation of Indirect Access is indeed justified.	The Rationale in the Introduction of the revised draft consultative document explains the legal basis for the introduction of Indirect Access in Trinidad and Tobago However the Authority will conduct an assessment of concessionaires to determine time frame and the potential cost of implementation.

Section 5 – Implementation of Carrier Pre-selection with override				
5.1 Dialing Options	Windward Telecom Ltd	Windward Telecom supports the Authority's conclusion that the carrier identifying code should be outside of the called party's number as it allows for a much easier end-user experience and one method of calling with simply an additional prefix.		Noted
5.2 Length of Carrier Selection code	Windward Telecom Ltd	Windward Telecom is generally ambivalent about whether four digit or NANPA seven digit Carrier Selection Codes are used provided that the selection of one method does not cause a delay in the implementation of Indirect Access by the dominant carriers.		The Authority has decided that it will follow the NANP recommendation of seven digits.
5.3 Services to which Indirect Access would apply "The Authority proposes to require the implementation of Indirect Access by domestic fixed and	360 communications Ltd	Three sixty strongly agrees. Indirect Access should in no way be limited to domestic fixed lines, as the benefits of customer choice, equal access, dial parity and fair competition must extended to the entire telecommunications sector.		Noted

domestic mobile telecommunications in Trinidad and Tobago to facilitate access to all international concessionaires by subscribers."				
5.3 Services to which Indirect Access would apply	TSTT	The Authority has proposed that Indirect Access services apply to both fixed line and mobile customers. TSTT considers that Indirect Access if implemented should be only for fixed international voice services. The overwhelming evidence of introduction of Indirect Access specifically in developing countries such as Trinidad and Tobago is that it has been applied in the majority of cases only to fixed long distance services. As is discussed in this consultation document there will be major costs to providing Indirect Access. It is crucial therefore that any assessment of whether it is appropriate to introduce Indirect Access for international telecommunications in Trinidad considers	If the Authority decided to mandate Indirect Access in T&T, TSTT considers that it should only be circumscribed to fixed voice international services. TSTT therefore strongly recommends that a thorough cost benefit analysis be completed prior to the	The Authority disagrees with implementing Indirect Access on fixed lines only and wishes to have Indirect Access implemented in both the fixed and mobile markets. The Rationale in the Introduction of the revised draft consultative document explains the legal basis for

		the net benefits of Indirect Access. This will require a full assessment of the relevant market, namely the international telecommunications market, to establish whether there are any market failures that need to be addressed. If there are market failures, the Authority should consider whether there are already policies or regulations in place that are addressing these failures. Only once these first two stages have been completed should the question of whether the introduction of Indirect Access could offer any incremental net benefits be considered.	implementation of any such policy. In such a cost benefit analysis consideration should also be given to which costs should be borne by the regulator or consumer and which by the concessionaire.	the introduction of Indirect Access in Trinidad and Tobago. Cost issues are addressed in Section 8 of the revised draft consultative document. .
5.3 Services to which Indirect Access would apply	TSTT	In addition to these specific costs, the Authority should also take account of the impact of mandating Indirect Access on the incentives for investment in domestic infrastructure. This means that, in the event that the Authority's analysis shows there is a net benefit to be gained from the introduction of Indirect Access, the charges for Indirect Access would have to be set at a level that would allow access providers to make a normal economic return on their network investment. If the charges are set too low, this could discourage new	The Authority should internalise that imposing costs on telecommunication providers, such as Indirect Access, will distract scare resources that otherwise would be devoted to invest in increasing innovation and penetration of services within the country.	The Authority notes that no evidence has yet been provided on the costs to establish CPS/CS. The Authority's costing methodology/models will address all costs associated with Indirect Access.

		investment, and could also result in degradation of access infrastructure.		
5.3 Services to which Indirect Access would apply	TSTT	Given that other mobile operators are also now licensed to provide international services over their own facilities, TSTT is of the view that the Authority needs to include the supply of international telecommunications services over mobile networks as well as fixed networks in its market analysis before reaching any conclusions on the competitiveness of international telecommunications service in Trinidad and Tobago, and whether any supplier holds a position of dominance. The Authority should also factor into this analysis the impact of VoIP services in assessing the level of competition.	The issue of dominance is again raised in this consultation and how the Authority will go about assessing whether a concessionaire is dominant or not.	The issue of dominance is not relevant in the Trinidad & Tobago market as regards implementation of Indirect Access.
5.3 Services to which Indirect Access would apply	TSTT	The Authority should also consider that different technologies employed by various providers may result in quality problems and call delays which can increase the number of customer complaints.		The concessionaires will have to adhere to QOS regulations which will be published soon.

5.4 Slamming	Windward Telecom Ltd	While keeping in mind that accidental incidents of carrier pre-selection changes due to typos and data mis-communication occur, Windward Telecom supports the Authority in its condemnation of slamming. Given the small number of licenses, Windward Telecom would hope that the number of incidents of slamming is low to non-existent.	Windward Telecom and would recommend that disincentives be implemented to prevent slamming from occurring and would recommend a standardized method of a customer changing ones carrier pre-selection. Disincentives would help prevent any incidents of slamming which could give all competitive carriers a poor reputation.	Noted. The Authority agrees with a standardized method of changing carriers which the concessionaires will be requested to draft and submit to the Authority for approval prior to implementation.
5.4 Slamming	TSTT TSTT	The subscription process involved with CPS with override on a call by call basis only affects the presubscription choice of a consumer, at least as far as the practice of slamming is concerned, and not the call by call choices a consumer may make. The Authority proposes that the procedures for subscribing shall be efficient and simple. Experience in other countries, however, has shown that simple procedures are often not sufficient to prevent slamming from taking place. It has often been necessary to implement costly verification	The Authority should carefully consider how it intends to prevent slamming prior to requiring Indirect Access, as the required procedures to do so are likely to be costly, both to the Authority itself and to the operators	Noted. The Authority will address slamming in its “Consumer Rights and Obligation” policy document.

		steps in the process to assure that: (1) the person making the choice to change his or her pre-subscribed carrier is indeed the subscriber of record for that telephone number or is an authorized representative; and, (2) it is the desire of that authorized person to make a change in his or her pre-subscribed carrier. A number of questions arise when one considers how to prevent slamming from taking place. Will telemarketers operating on behalf of a long distance carrier be allowed to accept voice authorization to change pre-subscribed carriers over the telephone? Will a neutral third party be required verify that choice, as is the practice in some countries? Will written authorization be required, and if so, who must witness the signature of the consumer? Can the process be completed through the mail or must it be done in person? When slamming is found to have happened, how will billing disputes be resolved, when a consumer discovers that the calls he or she has been making thinking that they would be priced at the agreed price with one long-distance operator, have in fact been carried by a different long-distance operator at different prices? Would the Authority need to devote resources to resolving these disputes? What will the penalties be for those found to have been engaging in the practice of		

		slamming?		
Slamming	CCTL	While CCTL notes that the Authority addressed the issue of Slamming in its Consumer Right and Obligations Policy, CCTL believes this matter has particular relevance here. In considering the costs of implementing Indirect Access, the Authority also needs to take into account the administrative costs of dealing with reports of slamming, which invariably occur in markets where Indirect Access is introduced.	CCTL believes greater attention and focus on the effects and impact of slamming need to be taken into consideration by the Authority.	Please see the comment above from the Authority.
	CCTL	In addition to Slamming, Indirect Access also brings a number of challenges as it relates to billing disputes, particularly where customers query their bills – who will absorb the costs where customers query they did not make the call? Who bears the costs for non-payment of bills by customers?	CCTL believes there are a number of additional issues that the Authority needs to take into account, before considering whether Indirect Access is really necessary and will be beneficial to the telecommunications industry in Trinidad and Tobago.	At this time international calls will be billed directly by the concessionaire who will deal with queries from end users. Costs for customer queries and non payment of bills are commercial issues to be dealt with by concessionaires.

Section 6 – Costing Regime				
Costing Regime The Authority considers Indirect Access to be an interconnection service and therefore should be governed by the Interconnection Regulations. The costs for Indirect Access should therefore be derived in accordance with the Authority's Costing Methodology.	Three Sixty Communications Ltd	Three Sixty agrees.	The Authority should however be cautioned that reliance on the bi-lateral negotiation process is likely to result in interconnection disputes over rates and fees akin to what has been experienced by the incumbent mobile operator and the new entrant mobile operator to date. The Authority should set forth rates and fees at the onset of the process in order to eschew unnecessary delays in implementation of carrier pre-selection with override.	The Authority cannot legally set rates for services. The Authority can be involved when concessionaires refer a dispute on rates. Cost models for both wholesale and retail services will be developed by the Authority.
Statement on system establishment costs and per	Three Sixty Communications Ltd		The methodology for the sector's contribution to establishment costs should be defined ASAP so that	The Authority's costing methodologies /models will be used to determine establishment costs.

concessionaire establishment costs *The Authority proposes to require that all public telecommunications concessionaires contribute to system establishment costs in accordance with a methodology to be prescribed by the Authority and to bear their own establishment costs.*			comments can be solicited.	
	Windward Telecom Ltd	Windward Telecom supports the Authority's recommendation that implementation of carrier pre-selection with override incorporates cost recovery mechanisms.	However, the network elements should be separately costed (notably billing and collection) to ensure the most cost efficient	The Authority is puzzled by this comment. Billing and Collection are not normally referred to as network

			environment for all carriers.	elements. Please clarify.
6.1 Carrier Pre-selection	Windward Telecom Ltd	Given the current equipment installed, no additional exchange equipment would be necessary to implement carrier pre-subscription as it is a standardized base feature on almost all exchange systems and all Nortel systems. A simple, one time programming of the carrier selection code into each domestic exchange switch would be all that is required to activate carrier pre-selection from a network perspective. Assuming that billing is facilitated by the competitive carriers for carrier pre-selection, modification to subscription data fields and the process for provisioning and fault-reporting would be all that is necessary to implement carrier pre-selection. The cost to activate carrier pre-selection in Canada is C$0.7119 (Bell Canada Access Services Tariff Item 41.5.H) each time a change is made to the carrier pre-selection carrier. By having the a competitive carrier look after billing for Carrier Pre-Selection it would lower the cost to the domestic carrier in terms of both implementation and operation and would be desired by Windward Telecom and likely the domestic carriers if the cost regime was truly based		The Authority will investigate whether the situation is as described.

		on cost-recovery. The facilities and SS7 transiting that are required to exchange traffic, are already in place between TSTT and Windward Telecom at already established costs. It is also worth noting for the purpose of establishing the relative nature of the cost to implement Indirect Access, some of the additional costs incurred by a competitive carrier in Canada for Indirect Access: Account Setup C$339.79 Unauthorized PIC Change (Slamming) C$29.97 Changes to CARE (Customer) Profile C$84.95 PIC Processing Charge C$0.7119 As found in Bell Canada Access Services Tariff Item 41.		
6.2 Carrier Selection costs	Windward Telecom Ltd	The cost to establish this would be largely the same as the carrier pre-selection plus any additional costs to implement the billing aspect if required. From the way in which the Draft Framework is written, it sounds as if the Authority believes that Carrier Selection is easier to implement which is not the case from a technical or administrative perspective. A noted difference between the Draft Framework and		Noted. The document is being revised to the following: Phase1 implementation-Carrier Pre-selection Phase2 implementation-Carrier Selection as "override" to CPS.

		experiences in other countries is that the consumption costs are suggested to be billed on a per use basis to the end-user versus billed to, and incorporated in, a competitor's pricing structure. This could allow for the carrier to make them prohibitively high. Additionally, if the end-user is being billed directly versus the competitor, there is no strong constituent to argue for lower rates.		The Authority does not believe that Carrier Selection is easier to implement than Carrier Pre-selection. The Sections on User Costs and Cost Recovery have been revised.
6.3 Establishment costs	Windward Telecom Ltd	It is in the best interests of the domestic carriers, as has been seen through their previous actions in dealing with interconnection and pricing with Windward Telecom, to delay and make the establishment costs seem as high as possible. Given the difficultly in accurately determining the incremental costs of establishment versus fixed operating costs, it is safe to assume that based upon the monopolies previous behaviour, they will allocate a large amount of fixed operational costs that they currently incur to establishment costs. Given the existing, relatively new equipment infrastructure currently in operation by the incumbent carriers, existing facilities in place for the exchange of traffic with competitors, and very limited administrative,		Noted. The Authority will consult with concessionaires as regards establishment costs and perform an audit for verification.

		technical, and operational procedural changes that would need to be made, especially in the case of carrier pre-selection, the incremental establishment costs at this point in time are very low. The Authority should also realize that competitors have significant incremental establishment costs to enter the market given they do not necessarily have the existing equipment infrastructure already in place.		
6.3. Establishment Costs 6.3 Establishment Costs	TSTT	TSTT respectfully disagrees with the Authority's second part of its recommendation in page 25: "The Authority proposes to require that all public telecommunication concessionaries contribute to system establishment costs in accordance with a methodology to be prescribed by the Authority and **to bear their own establishment cost**." As recommended by the Authority, almost all the burden of Indirect Access costs would be suffered by TSTT. The role of the Authority must be to intervene in	The recommendation of who should pay the costs of Indirect Access and how it should be apportioned among parties should come as a result of a thorough discussion on the principles that should govern these decisions. The Authority should establish a minimum set of principles for cost efficient and neutral cost recovery mechanisms such as	Recommendation has been changed to reflect the Telecommunications Act and the Interconnection Regulations 2006. The Authority may recommend the terms of payment.

	TSTT	the market when a market failure occurs and the remedy should serve to promote competition in a neutral way, i.e., promote the competition process not specific competitors. There is a need for a more extended discussion on how the costs are going to be recovered, and the Authority in this proposed Draft Framework has failed to establish at least a minimum set of criteria to achieve a neutral competitive outcome. TSTT consider that once the costs have been determined and estimated, the following question would be who should pay for Indirect Access. The establishment of a minimum set of cost principles could help the cost attribution process and guide to whom must ultimately pay for the cost recovery.	- *Causation*, should the entity that generates a cost pay for it? - *Cost minimization*, there should be incentives for all parties to minimizes costs - *Distribution of benefits*, should the entities that benefit from CPS/CS pay their costs? This may include all concessionaries that benefits from introducing Indirect Access, as well as customers that decide to use this service. - *Reciprocity*, should cost apportionment be symmetrical among operators? - *Practicality*, how can a particular cost apportionment methodology be certain of being workable? - *Pro competition*, how can any transactions or cost	

			recovery approaches be certain of producing no adverse effects on competition (in particular, discouraging Indirect Access)? *Efficiency*, how can an outcome be achieved that creates the greatest level of efficiency in the allocation of resources?	
6.3 Establishment Costs Statement on system establishment costs and per concessionaire establishment costs	CCTL	This statement seems to be at variance with the principle under the interconnection regulations, which the Authority has chosen to introduce Indirect Access, or even the Access to Facilities regulations under which CCTL believes this really falls (see Access to Facilities Regulations Section 4(b) – (e)), which says that costs for establishing interconnection, or access to facilities, shall be borne by the party requesting such interconnection or access to facility. In this regard, CCTL questions whether the Authority's statement is in line with the regulatory framework.	CCTL recommends that the Authority re-look whether its statement on system establishment costs are consistent with the Act and relevant regulations.	Recommendation has been changed to reflect the Telecommunications Act and the Interconnection Regulations 2006. The Authority may recommend the terms of payment.

Section 7 – Methodology for implementation of Indirect Access				
Methodology for Implementation of Indirect Access	Windward Telecom Ltd	Windward Telecom is concerned that the six stage implementation schedule may prolong the implementation time frame	To expedite matters, the Authority should within a month convene a meeting with technical representatives from all concessionaires. Each concessionaire should be required to provide in advance of this first Technical Steering Committee meeting with a technical schematic and software outline for processes with the incumbent carriers.	The Authority has already begun the process to determine the technical requirements of the domestic concessionaires and the associated costs and timeframes
Methodology for Implementation of Indirect Access	Three Sixty	Determination of the proposed establishment costs of concessionaries and an audit of such proposed costs should form an integral part of implementation methodology process.		Agreed. The Authority will audit the responses to verify the technical requirements, associated costs and timeframes obtained from the incumbent concessionaires.

Appendices 2 & 3				
Appendices 2 and 3	Three Sixty	A survey of the quantum / $ value of all costs associated with Indirect Access in various global jurisdictions which have already implemented carrier access should be an integral component of the Authority's planning process and this should be shared with stakeholders for benchmarking purposes.		Noted.
Summary				
	CCTL	In closing, CCTL would like to categorically state that it strongly opposes the proposal by the Authority to introduce Indirect Access. From CCTL's reading of the draft framework, not only does it seem to be based on the incorrect regulatory instrument, but it also does not take into context the actual telecommunications environment that exists in Trinidad and Tobago, where line rental of the dominant fixed line operator is capped (effectively capping the line rental of competing fixed line operators), where there are a number of options to users for making international calls, where there is absolutely no demand from the public for additional options to make international calls, where technology is providing means of Indirect Access without any regulatory intervention and the associated challenges to	CCTL recommends that the Authority re-visit whether Indirect Access is really being demanded, or necessary, in Trinidad and Tobago, especially where the greater emphasis of Government is on universality of services and increasing broadband penetration, as the introduction of Indirect Access for international calls will actually obstruct the achievement of these objectives, for questionable benefit to the	The Rationale in the Introduction of the revised draft consultative document explains the legal basis for the introduction of Indirect Access in Trinidad and Tobago Line rentals have not been capped.

	CCTL	same (slamming, billing disputes etc), and where there is a drive to increase penetration of broadband services, and universality of services in Trinidad and Tobago. In light of these factors, CCTL believes it is entirely inappropriate for the Authority to invest its and the operators' time on spending huge sums of money on Indirect Access, to achieve very little development of the national telecommunications sector.	national telecommunications sector.	

[i] In Australia, carrier pre-selection (CPS) has been available since 1993, but only for fixed long-distance and international calls. In order to introduce competition in fixed-to-mobile calls, the ACA determined in December 1998 that calls from fixed-to-mobile services should be carried by the pre-selected long distance carrier, rather than the carrier providing the local access service. Telecommunications (Provision of Pre-selection for Specified Carriage Services) Determination 1998; and Telecommunications (Provision of Pre-selection for a Standard Telephone Service) Determination 1998.