Telecommunications Regulatory Commission of Sri Lanka

Determination on Interconnection Between Public Switched Telecommunication Network (PSTN) Operators – May 2010

Back Ground

His Excellency the President, as the Minister in Charge of TRCSL, taking cognizance of the lack of an agreement between Public Switched Telephone Network (PSTN) Operators on the commercial terms of the Interconnection i.e. charges for interconnection services, summoned a Meeting with all the (PSTN) Operators namely Sri Lanka Telecom Plc, Lanka Bell Private Limited, Suntel Limited, Dialog Broadband Networks Private Limited, Dialog Telecom Plc, Hutchison Telecom Private Limited, Mobitel Private Limited, Tigo Private Limited and Bharti Airtel Lanka Private Limited, on October 31, 2008, with the aim of working out a settlement of this issue.

The following decisions were taken at the Meeting following the deliberations:

a) All domestic connectable operators are required to enter in to Interconnection Agreement with each other on the basis of Sender Keeps All (SKA) for commercial settlement with regards to interconnection charges for a maximum period of one year with immediate effect. The said basis of SKA will only be effective up to the date of TRCSL determination of interconnection charges based on cost.
b) TRCSL shall conduct a cost study to determine interconnection charges and to conclude said cost study within a period of one year.
c) TRCSL shall determine Interconnection charges not before the expiration of period of six months but on or before the expiration of said period of one year which will be effective from the date of this order.
d) All domestic connectable operators are required to submit their Interconnection Agreements for issuance of Certificate of Conformity(COC) in terms of Rule 5 (11) of the Interconnection Rules 2003
e) Any amendments to existing Interconnection agreements should be submitted for prior approval of TRCSL in terms of the Interconnection Rules 2003

The Commission (TRCSL) adopted these decisions on 3rd November 2008 as a Determination of the Commission and conveyed it to all the PSTN Operators. Thereafter TRCSL acting in accordance with this Determination embarked on a course of action in consultation with the Operators to work out a reasonable interconnection charge that would reflect the relevant cost of the service while at the same time minimize the adverse effect on the Operators due to the requirement to make a new payment.

As the first step, the TRCSL invited the Chief Executive Officers (CEOs) of all PSTN Operators to a Meeting on 20th March 2009 and briefed them about the method being employed to calculate the interconnection rates. TRCLS requested the fullest corporation

Director General of Telecommunications
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of the Operators in submitting their cost information for the financial year 2008 in line with their audited accounts. The TRCSL, taking into consideration current global trends including a manifest yearning for simplicity, expressed a willingness to impose a flat interconnection rate applicable to all the Operators, whatever the context.

Information Request Format

TRCSL developed a draft "Information Request Format (IRF)" after studying the following sources of information:

- The cost model which was used to calculate the termination rates in 2003/2004
- Operator's audited accounts of previous year (2007)
- Operator's traffic and other information available at TRCSL

The draft IRF was developed as a tool to gather total revenue (including traffic minutes) and cost information. The draft IRF comprised a questionnaire designed to elicit information on six cost components namely direct cost, sales and marketing cost, network cost, personnel cost, administration cost and non-operational cost. The content of the draft IRF was discussed with some Fixed and Mobile operators and further improved after considering their comments and concerns. TRCSL handed over the IRF to all PSTN operators on 13th May 2009 and requested them to respond with the required information on or before 1st of June 2009. This deadline was extended up to 19th June 2009 pursuant to written appeals made by the Operators.

All PSTN Operators other than Bharti Airtel Lanka (Pvt) Ltd (hereinafter referred to as Airtel), provided information as required under the IRF. Airtel submitted their audited accounts for the year 2008. TRCSL examined the data/information submitted with each of the relevant operators, and in turn analyzed and selected the following cost components, that are necessary to calculate the interconnection charge;

- Operational cost of network
- Transmission and frequency charges (in direct cost component)
- Network related depreciation (in non operational cost component)

Items such as personnel cost, administration cost, and sales and marketing cost were not considered. Only part of the direct and non-operational cost was considered for calculation. This comprised 26% of the total cost borne by the industry. Further it was decided not to take into account factors such as Weighted Average Cost of Capital (WACC) and markup for this calculation since inclusion of such cost elements would lead to an increase in the interconnection charge.

TRCSL analyzed the traffic information supplied by each Operator and used the total sum of traffic minutes as a factor to be employed in the calculation. The number of SMS was also converted into traffic minutes by dividing 14 (this method was agreed to by the operators at the cost exercise conducted in 2003/2004).

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Basis of Calculation

Using the selected cost components and traffic minutes as the basis of calculation, TRCSL calculated per minute cost of network of individual operators including simple average as well as weighted average for mobile network, fixed access network and for the industry as follows (operator's traffic minutes were considered as weighting factors):

Table 1

	Fixed (Rs.)	Mobile (Rs.)	Industry (Rs.)
Network cost per minute(simple average)	1.66	0.84	1.35
Network cost per minute (weighted average)	0.85	0.80	0.82

TRCSL invited all PSTN operators for a discussion on 20th August 2009 and explained in detail the manner in which the calculation was done and figures arrived at, under the following headings:

- Objectives of cost exercise
- Process of calculating termination charges
- Selection of relevant cost components
- Methods of Calculation and calculated rates
- Comparison with countries in the region
- Revenue impact to the industry

The Operators were asked to submit their written comments on or before 1st of September 2009. However, this dead line was extended up to 9th of September 2009 pursuant to the request of the Operators.

The TRCSL categorized the written comments received from the Operators under the following headings;

Cost Model:-, All Operators except Airtel accepted the method of calculation employed by TRCSL. However Mobitel Pvt. Ltd (Mobitel) and Sri Lanka Telecom Plc.(SLTP) proposed several amendments/adjustments. Airtel highlighted through a white paper that Long Run Incremental Cost (LRIC) model should be used to calculate Interconnection charges. In this regard TRCSL clearly indicated to all Operators at the meeting held on 20th August 2009 that TRCSL will conduct an industry cost study based on the LRIC model in year 2010.

Per Second Billing for Interconnection:- Operators have generally requested that interconnection charging methodology should be based on per second calculation. However, Mobitel, takes a different view. Since most of the Operators have used per second billing method in respect to their customers and the current global trend in devising interconnection charges is on a per second basis, TRCSL did not see any justification in departing from this trend.

Operator's Comments on Calculated Network Cost Per Minute (this will be treated as interconnection charge): - Three Operators namely Lanka Bell Ltd (Lanka Bell), Hutchison Telecommunications Lanka (Pvt) Ltd (Hutch) and Dialog Broadband Networks (Pvt) Ltd (DBN) agreed with the calculated per minute rates whilst Suntel (Pvt) Ltd (Suntel) remained silent on rates. On the other hand Dialog Telecom Plc. (Dialog) and Tigo (Pvt) Ltd (Tigo) proposed that TRCSL should consider WACC, personnel cost and other network related costs when calculating the interconnection charge. They have used these factors in their calculations that were submitted to TRCSL. As per Dialog's calculation the termination cost for their network was Rs. 1.17 per minute and Tigo ended up with a figure of Rs. 1.00 per minute. Whilst accepting in principle the fact that the WACC, personnel cost and other network related cost require to be considered in calculating interconnection/ network termination charges, TRCSL rejects the figures arrived at by Dialog and Tigo since such figures are comparatively high.

SLTP observed that the TRCSL has taken total depreciation of SLTP in to the calculation and SLTP wanted a modification of this entry. Subsequently SLTP submitted details of depreciation of different items thereby enabling the TRCSL to extract information relating to depreciation of the networks. Furthermore SLTP proposed to adjust the cost considering the facts that the level of utilization of network, usage volume, non - voice related cost, trend of declining cost per minute etc.

Mobitel highlighted that non - voice related cost, specially 3G /3.5G network cost contributed to an increase in the termination rate. Further they indicated that the rate has to be adjusted since TRCSL has used the cost information related to 2008 to calculate a network termination rates which would be implemented in year 2010.

Airtel commented that the calculated termination fare was unfairly high.

Who Would Bear the Interconnection Charges:- almost all the Operators agreed that the interconnection charges should be passed on to the customers. They also agreed that the amount passed on to the customers should be the same and equal between every Operator. Otherwise it will cause a distortion in the market and generate unfair competition. Since interconnection charge is levied in dealings between Operators and such cost may be already included in the current tariff, the Commission does not believe that the total cost of interconnection has to passed to the customers as a flat rate. However, Operators may amend their tariffs considering the cost of interconnection and submit a request to the Commission with supporting evidence, for Commission approval.

Flat Rate or Different Rates :- Hutch, Dialog, Tigo and DBN have said that they wanted to have a flat rate as interconnection charge. The rest of the Operators has not submitted any comment on that and nor any objection been raised in respect to levying a flat interconnection rate on the industry, when this matter was discussed at the CEOs Meeting held on 23rd September 2009.

Other Matters:- Mobitel foresees billing disputes as a real issue to be addressed before imposing interconnection charges since the rating engines are not synchronized amongst

Operators. SLTP proposed the establishment of an industry working group to develop guidelines/policies on matters such as call information format, dispute resolution and settlement process.

In response to the requests made by the Operators, TRCSL formed an industry working group comprising representatives from all the Operators to develop a Billing related dispute resolution mechanism, information sharing format and testing process. The group met thrice and finalized a document on billing and settlement and format for CDR information. Further they confirmed that the Operators completed billing testing including time synchronization among networks

Adjustment to Calculated Interconnection Rate:- after considering the views of all the Operators and the fact that TRCSL has already adjusted the cost at the outset of the process, the per minute cost of networks was recalculated by deducting their network cost by the % of their non - voice revenue and adjusted SLTP's network depreciation. Simultaneously the traffic minutes which represented the number of SMS was taken out from the calculation. With these adjustments, the per minute cost of the network (industry) was reduced from Rs.0.82 to Rs. 0.63.

Referring to the recalculated rate of Rs. 0.63, Dialog and Tigo expressed their opposition to the recalculation of the rates by their letters dated 25th September 2009. Dialog pointed out that they would object to implementation of an interconnection rate if it does not reflect full cost whilst Tigo requested the application of at least Rs. 0.82 as the rate of the interconnection charge. SLTP and Mobitel reiterated their previous comments and demanded further reduction of the interconnection charge.

By letter dated 7th October 2009 Airtel stressed the importance of obtaining interconnection capacity pursuant to a commitment given by the Government of Sri Lanka in the GATS Reference Paper, to establish a new interconnection regime.

TRCSL also subscribes to the view that each Operator must provide interconnection capacity to other Operators upon request. The lack of interconnection capacity leads to deterioration of quality of service as well as loss of revenue to both the originating and terminating Operators.

TRCSL tabled the comments made by Operators at the CEOs meeting held on 15th October 2009 and explained the TRCSL's stand vis –a – vis these comments. At the same meeting TRCSL also discussed the following topics:

- Commercial arrangement amongst PSTN operators and Payphone operators
- Interconnection charge for calls terminated by international telecom service providers
- Interconnection rate for SMS/MMS

Traffic of Payphone Operator:- At the CEOs meeting held on 15th October 2010, CEO of Tigo indicated that they do not have direct interconnection with Tritel (Pvt) Ltd. who was licensed to provide only Payphone service. However, considering the facts that Pay phone operators are having only one way traffic, providing a public service and operating under loses, TRCSL believe that it is not appropriate to bill Payphone operators for their traffic that terminate on other networks

Traffic from International Service Providers:- The Interconnection Rules of 2003, stated the interconnection charge for international calls terminating on mobile and fixed access networks. However these rates were valid only for six months. In the light of the elapse of this period, the Commission utilized its residuary powers to determine interconnection charge for such termination. If a call terminates on a network, the termination cost is not charged depending on the network it originates from. There is no rationale to have two different termination rates under the nomenclature 'local termination' and 'international termination'. Further if TRCSL were to impose a higher interconnection charge on calls flowing from international service providers and terminating in local networks, such higher charge may cause an increase in bypass traffic which has already become a burden to the industry.

Termination Rate for SMS:- Similar to most other countries, there was no interconnection charge that had been determined by the Regulator in respect of SMS and MMS traffic. Originally these services were not considered as Operator's core business but as value added services. Accordingly these services were not included in the Interconnection Rules of 2003 or any interconnection agreement in respect of which TRCSL had issued Certificates of Conformity. Since these services are more popular among customers it generates considerable volume of SMS / MMS traffic and has become a source of good revenue to the Operator. Consequently, Operators want TRCSL to determine interconnection charge for SMS/MMS. However it is very difficult to split the cost related to SMS/MMS as these services are also provided through the same network. Tigo pointed out in their submission that in most of other countries, the SMS interconnection charge is about 30% of the voice interconnection charge. Tigo proposed that this charge be brought down to 25%. Until TRCSL does a proper cost study on SMS, and Operators are interested to have an interconnection charge on SMS/MMS, TRCSL would accept the 30% of voice interconnection rate as appropriate as the interconnection charge for SMS/MMS.

Short Codes:- TRCSL has allocated network independent three digits codes for public services i.e. 119 to call police on emergency and those numbers are toll free. Accordingly, it is not equitable to levy an interconnection charge on such traffic since the originating Operator does not charge its customers for dialing such numbers.

Final Amendment:- Though the Operators have agreed to establish an interconnection regime and have a common agreement on related matters, no agreement was reached on the calculated rate of Rs. 0.63. Establishing an interconnection regime was discussed at the Telecommunication Sector meeting chaired by Secretary to the Treasury on 1st of March 2010 and the Meeting unanimously requested TRCSL to recalculate the network

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cost per minute using the same cost model but with the latest cost data i.e. cost data of year 2009.

TRCSL sent the same IRF to all PSTN operators on 3rd March 2010 and requested them to submit data within two weeks. TRCSL received the requested data from all Operators including Airtel and recalculated the network cost per minute. The re - calculated network cost per minute is Rs. 0.55. In this calculation TRCSL did not consider Dialog's cost of impaired network equipment amounting to Rs. 8,399,265,062, since it was not relevant to this study.

TRCSL had a meeting with all CEOs of the Operators on May 3, 2010 and presented a calculation comprising calculated network cost per minute. At the meeting Operators agreed to take out the cost impact of Airtel from the network cost of industry since it is a new network. With that adjustment, the network cost per minute came down to Rs. 0.50 and Operators were pleased with this rate.

TRCSL presented a calculated network cost per minute i.e. Rs. 0.50 to the Telecom Sector Meeting chaired by Secretary to the Treasury on May 6, 2010. All PSTN Operators were present. After a lengthy discussion it was agreed to apply Rs.0.50 as the interconnection / network termination charge.

In the light of the aforesaid reasons and the powers vested in the Commission under Section 5 (l) of the Sri Lanka Telecommunications Act No. 25 of 1991 as amended, the Interconnection Rules of 2003 and the provisions in the Licenses of the Operators, the Commission issues following determination:

Determination

1. **Domestic Call Termination**
   a. Current Sender-Keeps- All (SKA) compensation arrangements shall be replaced by the mutual compensation arrangements as described below
   b. The Domestic call termination charge (interconnection charge) is 50 cents per minute throughout the day, irrespective of the nature of the network.

2. **International Call Termination**
   a. Same domestic call termination charge i.e. 50 cents, shall be levied as for the international calls terminating on PSTN networks

3. **Payphone Call Termination**
   a. Zero (0) rate shall be charged for the calls terminating in the PSTN Networks originating from Operators who were licensed to provide payphone services.
   b. Zero (0) rate does not apply to calls originating from payphones which are owned by the aforesaid PSTN Operators.

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4. **Calls terminating on Short Codes / Toll Free Numbers**
   a. Zero (0) rate shall be charged for the calls terminating on Commission approved toll free Short Codes or Numbers.

5. **Interconnection Charging Methodology**
   a. Interconnection charge for calls shall be calculated on per second basis.

6. **Domestic SMS/MMS**
   a. Domestic SMS/MMS termination charge is 15 cents per message.

7. **Provision of Interconnection Capacity to other Operators**
   a. Each Operator must provide interconnection capacity to other Operators who request such capacity under the terms of their Interconnection Agreements.

8. **Interconnect settlement between holding and subsidiary companies**
   a. Interconnect billing and settlement shall be made between Operators irrespective of whether they are related to each other in the capacities of holding company and subsidiary.

9. **Documents of "Guidelines for Interconnect Billing and Settlement" and "The Call Detail Report (CDR) Format"**
   a. The Commission shall provide the documents of "Guidelines for Interconnect Billing and Settlement" and "The Call Detail Report (CDR) Format"

10. **Effective Date**
   a. This Determination shall take effect from 01 June 2010.

11. **Review**
   a. The new interconnection arrangements will be reviewed at the end of three years, or at such earlier time as may be determined by the TRCSL.

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