



MASCOM REFERENCE INTERCONNECTION OFFER
2023

1. INTRODUCTION

- 1.1. The Reference Interconnection Offer ("**RIO**"), which is presented in the form of a standard contract, deals with interconnect services which Mascom Wireless Botswana (Proprietary) Limited ("**Mascom**") offers to operators authorised by the Botswana Communications Regulatory Authority ("**BOCRA**") operating in the Botswana market.
- 1.2. The RIO only applies to undertakings who are authorised by the BOCRA and who have an entitlement to interconnect pursuant to the provisions of a licence granted to them by the BOCRA. Interconnection entails reciprocal rights and obligations. Mascom believes it should be able to obtain, where relevant, from the interconnect operators, similar services on similar terms and conditions as those it offers to that operator, particularly to convey traffic from its customers to the operator's customers. The service provided by the other operator, subject to review of Mascom available infrastructure capacity and agreement, shall be included in the interconnect agreement between Mascom and that operator. Mascom will not be responsible for the content of traffic conveyed through its interconnect services.
- 1.3. This RIO takes effect from the date approved by the BOCRA and shall continue in effect until superseded by a revised RIO.
- 1.4. Mascom confirms that this RIO contains all interconnect services currently offered by Mascom to all relevant operators. If and when new interconnect services are identified whether as a new development by Mascom or an existing interface being re-classified as an interconnect service, Mascom will co-operate in relation to the expedient and effective inclusion of such services into the RIO.
- 1.5. The Licensed Operator must fully comply with the terms and conditions for the RIO as outlined some of which will be negotiated and finalized on a case by case, with consideration of different factors which include but not limited to the prevailing market conditions.

- 1.6. Mascom reserves the right to impose charges and/or fees ("Other Charges") as commensurate to the interconnect arrangement with a Licenced Operator, the terms of which shall be negotiated with between the parties.
- 1.7. Mascom reserves the right to periodically carry out a review of such Other Charges provided a notice of 60 days is given before effecting any new changes.
- 1.8. Mascom reserves the right to review and to revise this RIO offer on a regular basis. Any revision of the terms of this RIO shall be subject to the approval of the BOCRA.
- 1.9. Once approved by the BOCRA, the revised RIO offer shall replace or amend this RIO. References to legislative provisions herein are to be construed as references to such provisions as the same may be amended from time to time. The RIO shall be governed by and construed under the laws of Botswana. All terms or conditions included in the RIO shall be in conformity with the sector legislation, regulations, license conditions or other governing legislation in Botswana from time to time. In an instance where the terms and conditions contained in the RIO are confirmed to *not* be in conformity with Botswana law and/or sector legislation, then the Botswana law and sector legislation shall, of course, always take precedence over any terms and conditions included in the RIO.

2. DEFINITIONS

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| 2.1 Accounting Period" | a period of 1 (one) calendar month, terminating as close as is reasonably practicable to 23h59 on the last day of each calendar month, the first such Accounting Period commencing, unless otherwise agreed between the Parties in writing, on Commercial Date. |
| 2.2. "Agreement" | this Agreement together with all appendices, annexes and schedules attached to it; |
| 2.3. "Base Station" | a Base Transceiver Station as defined within the terms of the GSM recommendations; |

2.4. "Billing Information"

information in respect of Calls made by or to Customers of a Party during a particular Accounting Period, comprising details of the total duration in actual elapsed minutes and seconds of all Calls contemplated in the Agreement including the called telephone number, date and time of any calls regardless of whether or not Interconnect Fees are payable by the Parties to one another in respect thereof.

2.5 "BOCRA"

the Botswana Communications Regulatory Authority.

2.6 "Business Day"

means any day except a Saturday, Sunday or Government specified national public holiday in the Territory.

2.7 "Call"

means a connection through a Telecommunications System the object of which is the carriage and successful delivery of a Message from the telecommunications equipment from which such Message emanates, either to telecommunications equipment by which such Message is to be received, or to telecommunications equipment or to any other facility, which provides an automatic response if connection cannot be effected to such telecommunications equipment;

2.8 "Commercial Date"

means the date after the Effective Date from which Calls shall route between the Parties' Telecommunications Systems for commercial purposes, which date shall be agreed between the Parties in writing;

2.9 "Community Service Call"

a Call which originates from a Community Service Telephone deployed on Mascom's Telecommunications System;

- 2.10 "Community Service Telephone" Terminal Equipment that is a community service telephone as defined in Mascom's licence from time to time;
- 2.11 "Confidential Information" all information, know-how, ideas, concepts, technology, manufacturing processes, industrial, marketing and commercial knowledge of a confidential nature (whether tangible or intangible in form) relating to or developed in connection with or in support of the business of Mascom or Licensed Provider XXX, as the case may be, including the terms and conditions of this Agreement and any matter concerned with or arising out of this Agreement, excluding information which is or comes into the public domain other than pursuant to a breach of this Agreement by a Party to this Agreement
- 2.12 "Customer" in relation to either Party, means any person who – has entered into an agreement with either Licensed Provider XXX or Mascom, as the case may be, for access to its Service; or
- is a customer of a Service Provider appointed as such by Mascom pursuant to an agreement with such Service Provider in terms of which such customer is entitled to obtain access to the Service offered by Mascom; is a customer who has contracted for services from one of Licensed Provider XXX's resellers.
- 2.13 "Day" means a calendar day;
- 2.14 "Disguised Traffic" shall mean traffic that does not originate from the Licenced provider's network and any other traffic that is originated from a 3rd party whether national or international.

2.14 "Effective Date"	Means the date of signature of this agreement by the Party signing last in time;
2.16 "GSM"	Global System for Mobile Communications as defined in the ETSI structure of technical specifications from time to time;
2.17 "GSM Recommendations"	the recommendations promulgated from time to time by ETSI in relation to GSM;
2.18 "Interconnection"	The interconnection of each respective Party's Telecommunications Systems as provided for in this Agreement;
2.19 "Interconnect Fees"	the fees payable by the Parties to one another in terms of clause 5 of this Agreement;
2.20 "Licence"	The Network Facilities Provider Licence granted to Mascom on 04 September 2018 to establish and operate a PTN in the Territory
2.21 "Mascom Network Service"	Any service whether retail or wholesale, provided directly or indirectly by Mascom;
2.22 "Message"	any sound, signal, sign or image sent, or to be sent, for conveyance by means of a Telecommunications Line;
2.23 "MSC"	a mobile switching centre within the meaning of the GSM recommendations;
2.24 "Number"	any alpha-numerical identifier of any customer, equipment or component of the Service;
2.25 "PTN"	the public telecommunications operator network established and operated by Mascom in terms of its Licence;
2.26 "Point of Interconnection/POI"	the point at which Messages from the PTN operated by Mascom, are handed over and

carried from the PTN to the Telecommunications System of Licensed Provider XXX, or vice versa;

2.28 "Service Provider" any person who is in the business of providing the Service to an end-user of such Service and who has a contract with Mascom or for such purposes;

2.29 "Terminal Equipment" in relation to Mascom, a GSM terminal, connected via a GSM radio link, which may be used by an end-user to send and/or receive Messages which are to be or have been conveyed by means of the PTN; in relation to Licensed Provider XXX, means any terminal device connected via a radio link or fixed link, which may be used by an end-user to send and/or receive Messages which are to be or have been conveyed by means of a Telecommunications System of Licensed Provider XXX;

2.30 "Telecommunication System" Means a system or a series of telecommunication facilities or radio, optical or other electromagnetic apparatus or any similar technical system used for the purpose of telecommunications whether or not such telecommunication is subject to rearrangement, composition or other process or emission or reception;

2.31 "Territory" the geographical area of the Republic of Botswana, as constituted from time to time;

2.32 "Transit Call" means a Call originating on one Telecommunications System and destined for another Telecommunications System which is not handed over directly to such Telecommunications System but is conveyed to it

via a network operated by a third party only via an agreed POI;

2.33 “Licensed Provider

means a public company incorporated in the Republic of Botswana with registration number xxxx/xxxx/xxx, having its principal place of business xxx xxx xxx (or at such other address of which Licensed Provider XXX may notify Mascom in writing);

2.34 “Voice Mail Service”

In relation to Licensed Provider XXX or Mascom, means the automatic message facility enabling a Customer to retrieve messages left by a caller in circumstances where connection of such caller cannot be effected directly to such Customer;

3. INTERCONNECTION

- 4.1. Mascom has been licensed to establish and operate a PTN in the Territory and Licensed Provider XXX has been licensed to provide value added network services in the Territory
- 4.2. The Parties wish to record the terms and conditions subject to which their Telecommunications Systems are to be interconnected to one another to enable Messages to be conveyed to and from such systems.
- 4.3. The Parties wish to record the terms and conditions of their agreement in relation to the matter contemplated in 3.2 above and matters ancillary thereto.
- 4.4. The coming into effect of this Agreement is conditional upon the signing of this Agreement by both Parties subsequent to the approval of their respective boards of directors, where applicable, failing which, neither Party shall have any liability to nor any claim against the other Party.

- 4.5. Licensed Provider XXX shall connect and keep connected its Telecommunications System to the Telecommunication System operated by Mascom and Mascom shall connect and keep connected its Telecommunications System to the Telecommunications System operated by Licensed Provider XXX in accordance with the provisions of this Agreement, so that Messages may be conveyed to and from each such Telecommunications System.
- 4.6. The Parties shall each take whatever steps as are necessary to establish Interconnection at the Points of Interconnection identified in Appendix 1 by no later than the Effective Date.
- 4.7. Each Party warrants to the other that the fulfilment of such Party's obligations in terms of this clause 4 shall be in accordance with the technical standards, specifications and procedures more fully set out in Appendix 2.
- 4.8. Each of the Parties undertakes that the Points of Interconnection provided for in this clause 4 shall be operated and maintained by the Parties in accordance with the operation and maintenance procedures set out in Appendix 4.
- 4.9. The Licensed Provider shall be required to pay to Mascom, once-off and non-refundable, Set-up Costs to enable Mascom to make the necessary modifications to the infrastructure in order to accommodate the Licensed Provider and fulfil the Interconnection obligations in terms of this clause 4. The amount shall be determined after assessing the necessary changes to be made to interconnect the Licensed Provider and shall be due by no later than the Effective Date.
- 4.10. Each Party shall, at its own cost and expense, maintain and be responsible in all respects for all apparatus and equipment comprising its Telecommunications System necessary to ensure the conveyance of Calls between its Telecommunications System and the Points of Interconnection indicated in Appendix 1 and any future Points of Interconnection established pursuant to the provisions of clause 4.9.

- 4.11. Each Party shall, by means of its own Telecommunications System, convey Calls originating on its Telecommunications System and destined for the other Party's Telecommunications System to the Points of Interconnection specified in Appendix 1 and any additional Points of Interconnection established pursuant to the provisions of clause 4.9 and shall convey Calls originating on the other Party's Telecommunications System and destined for its own Telecommunications System from such Points of Interconnection to the telecommunications apparatus by means of which such Calls are to be received or to any other telecommunications equipment or facility which provides an automatic response if connection cannot be effected to such telecommunications apparatus.
- 4.12. Should either Party wish to change the configuration at a Point of Interconnection indicated in Appendix 1 or any future Points of Interconnection established pursuant to clause 4.9 by changing the capacity available at such Point of Interconnection or terminating the use thereof, it shall give to the other Party notice in writing of such intention setting out in detail the proposals and reasons for the proposed change. Both Parties shall use their best endeavors to reach agreement in writing on the terms and conditions applicable to such change of capacity, or the augmentation of capacity at other existing Points of Interconnection, if required.
- 4.13. Should either Party wish to procure the establishment of Points of Interconnection in addition to the ones provided for in Appendix 1, such Party shall give to the other Party at least 90 days' notice in writing of its requirements in this regard, whereupon the Parties will promptly meet and use their best endeavors to reach agreement in writing on the terms and conditions upon which such additional Points of Interconnection will be established; provided that where the Parties fail, for whatever reason, to reach such agreement in writing within reasonable period of time, no such additional Points of Interconnection will be established; provided further that each Party will be obliged, at its own cost and expense, to make whatever modifications and adjustments to its Telecommunications System as may be necessary to procure the Interconnection, of the Telecommunications

Systems at any such additional Points of Interconnection, should they be established.

- 4.14. Neither Party shall make nor permit to be made any alteration, adjustment or addition to:

4.14.1. the Points of Interconnection specified in Appendix 1:

4.14.2. or any additional Points of Interconnection established pursuant to clause or any element of its Telecommunications System, in such a way as to adversely affect or impair the operation of the Telecommunications System of the other Party or so as to otherwise adversely affect or impair the conveyance of Messages pursuant to the Interconnection of their respective systems. Without in any way limiting the generality of the foregoing provisions of this clause 4.10, each Party undertakes to take whatever steps as are reasonably necessary to minimise service failures and congestion and signalling disturbances which would affect the ability of the other Party to convey Calls across its Telecommunications System.

- 4.15. If the Interconnection between the Telecommunications System is interrupted for any reason whatsoever, the Party within whose Telecommunications System such interruption arose shall, at its own cost and expense, procure a restoration of the Service as soon as is reasonably practicable, in accordance with the service levels specified in Appendix 2 and in accordance with the operation and maintenance procedures set out in Appendix 4.

- 4.16. Where a Party intends to modify its Telecommunications System or any apparatus or equipment comprising such Telecommunications System or any stored commands or protocol pertaining to such Telecommunications System then, to the extent that such modification may reasonably be expected to have the effect of requiring the other Party:

- 4.17. to modify the Telecommunications System operated by such other Party; or to replace or cease to produce or supply any item of telecommunications equipment pertaining to Interconnection and produced or supplied by or to such other Party immediately prior to the intended modification,
- 4.18. the Party proposing such modification shall provide notice in writing to such other Party detailing the proposed modification. The Party proposing to modify its Telecommunications System shall, on request of the other Party, consult with such other Party and provide all reasonable co-operation and assistance to facilitate such modification.
- 4.19. Each Party shall, throughout the term of this Agreement, and in relation to each Point of Interconnection established by the Parties pursuant to this clause 4, adhere to the numbering allocation, route diversity and other provisions of Appendix 3 to this Agreement.
- 4.20. Subject to the remaining provisions of the Agreement, each Party undertakes to use its reasonable endeavors to ensure that Calls originating on its Telecommunications System and destined for the Telecommunications System operated by the other Party will be routed directly to such Telecommunications System, to the extent that this is reasonably practicable in the circumstances.
- 4.21. The Parties hereby agree on the end to end customer experience quality specifications ("Quality Specification") applicable to Messages and Calls to be sent between the Parties which is attached as Appendix 6 to this agreement.
- 4.22. In response to customer complaints or where one of the Parties ("the requesting Party") has reason to believe the other Party ("the offending Party") does not comply with the Quality Specifications, it may request the offending Party in writing to verify compliance.

- 4.23. Where the offending Party cannot demonstrate compliance within 7 days, the requesting Party may block Messages and Calls it considers may not meet the Quality Specifications.
- 4.24. Refusal or failure to demonstrate compliance with the Quality Specifications within 14 (fourteen) Days of the date of the request shall be deemed to be a material breach of this Agreement.
- 4.25. If either Party wishes to transit Messages that have not originated on its Telecommunication System on behalf of any third party (including foreign operators and international carriers) and convey such to or from the Telecommunication System of the other Party, it shall give to the other Party notice of its requirements in this regard, whether in general or on a case-by-case basis.

5. CHARGES AND PAYMENTS

- 5.1. In consideration for: the Interconnection of their respective Telecommunications Systems; and the conveyance on its Telecommunications System of Calls originating on the Telecommunications System operated by the other Party, the Parties shall pay to one another the Interconnect Fees provided for in this Clause 5.
- 5.2. Interconnect Fees payable by the Parties to one another in respect of all Calls will, save unless otherwise provided, be calculated, in accordance with the provisions of this clause 5, on a per second basis.
- 5.3. Each of the Parties agrees that no Interconnect Fees shall be levied by either Party against the other Party in respect of:
- 5.3.1. Calls made to an invalid, defective or non-existent Number; and
Calls made to a called station which is already engaged;
- 5.3.2. Calls which are conveyed from one Telecommunications System to the other Telecommunications System, via a third party's

Telecommunications System only if interconnect fees are provided for in an agreement between it and the third party Telecommunications System.

- 5.4. the measuring of a Call's duration shall commence when the telecommunications equipment by which such Call is to be received; or the telecommunications equipment or any other facility which provides an automatic response if connection cannot be effected to such telecommunications equipment; generates an answer signal across the relevant Point of Interconnection.

Calls conveyed by Mascom

- 5.5. In consideration for the conveyance on the Telecommunications System operated by Mascom of any Call originating on the Telecommunications System operated by Licensed Provider XXX, Licensed Provider XXX shall pay to Mascom, for each rate group specified in Appendix 5 to this agreement, an amount calculated in accordance with the following formula:

$$X = A \times B$$

X = the amount in Pula and to be paid to Mascom by Licensed Provider XXX for the rate group referred to in B in respect of a particular Accounting Period; and

A= the total duration in seconds of all Calls referred to in this clause 5.2.1 for such rate group in respect of such Accounting Period; and

B = the applicable per minute interconnect rate for a particular rate group as specified in Appendix 5 to this Agreement.

Calls conveyed by Licensed Provider

- 5.6. In consideration for the conveyance on the Telecommunications System operated by Licensed Provider XXX of any Call originating on the

Telecommunications System operated by Mascom, Mascom shall pay to Licensed Provider XXX, for each rate group specified in Appendix 5 to this Agreement, an amount calculated in accordance with the following formula:

$$W = F \times G$$

where

W = the amount in Pula and to be paid to Licensed Provider XXX by Mascom for the rate group referred to in G in respect of a particular Accounting Period; and

F = the total duration in seconds of all Calls referred to in this clause 5.2.2 for such rate group in respect of such Accounting Period; and

G = the applicable per minute interconnect rate for a particular rate group as specified in Appendix 5 to this Agreement.

Value Added service

5.7. If, after the Effective Date, either Party wishes to allow Calls originating on the other Party's Telecommunications System to have access to services provided or to be provided by it, from time to time during the term of this Agreement, and at rates other than the interconnect rates contemplated in this agreement, such Party will give notice in writing to the other Party of its intentions in this regard and the Parties will promptly thereafter meet and endeavour to reach agreement in writing on the terms and conditions upon which such services may be accessed; provided that:

5.7.1. where the Parties fail to reach agreement within a reasonable period after first meeting with one another in this regard, no such access will be permitted; and

5.7.2. nothing contained in this clause shall be construed as obliging either Party to make such services available to calls originating on the other Party's Telecommunications System or to notify the other Party of its intention to introduce on its Telecommunications System any service.

- 5.8. If a party wishes its Customers to have access to services provided by the other Party to its customers at any time during the term of this Agreement other than that contemplated in 5.3.1 above, such Party will give notice in writing to the other Party of its intentions in this regard, whereupon the provision of 5.3.1 will apply mutatis mutandis.

Other Calls

- 5.9. Each Party shall ensure, at its own cost and expense that its customers are not able to access such emergency service offered by the other Party through any Point of Interconnect (POI).
- 5.10. If, at any time during the term of this Agreement either Party (“the aggrieved Party”) wishes to:

5.10.1. bar access to any new service offered by it to which Customers of the other Party enjoy access to or

5.10.2. prevent Calls originating on its Telecommunications System from accessing any of the services contemplated in 5.3 above provided by the other Party; it will notify the other Party in writing of its proposals in this regard, whereupon the Parties will promptly meet and endeavor to reach agreement in writing on the relevant Telecommunications Systems and service.

- 5.11. Should Licensed Provider XXX, once mobile number portability is introduced, not ensure the correct routing of Calls handed over from the Telecommunication System operated by Licensed Provider XXX and destined for the Telecommunication System operated by Mascom, Licensed Provider XXX shall, in consideration for the conveyance on the Telecommunication System operated by Mascom and transit to the Telecommunications System of the operator to whom a Customer has ported, pay to Mascom transit fees at the rate specified in Appendix

Provision of POIL's

- 5.12. Each Party shall have the right to provide POILs. For each POIL, the Party that presents the lowest price for the installation and maintenance and general up keep of the POIL shall provide the POILs. The Parties agree that the installation of the POILS' will be on a one to one basis, whereby Mascom and Licensed Provider XXX shall be obliged to at all times to have installed an equal number of POIL's so that should Mascom have installed a POIL, the next POIL would need to be installed by Licensed Provider XXX.

6. EXCLUSION

- 6.1 Licensed provider xxx undertakes that it and any of its subsidiaries, or any company wherein licensed provider xxx has an interest shall not disguise (or cause to be disguised or accept such disguised interconnect traffic) via the use of any service provided by Mascom. Interconnection traffic shall only be delivered via the points of interconnection as envisaged in this agreement. For purposes of this clause 6 "interconnection traffic" shall refer to calls originating on the licensed provider xxx telecommunications system (and any of its subsidiaries, holding company or any company with an interest in licensed provider xxx or any company wherein licensed provider xxx has an interest) and destined for the Mascom telecommunications system.
- 6.2 Licensed provider xxx, its subsidiaries, and holding company are prohibited from knowingly using any least cost routing device on its own or in conjunction with any Mascom tariff plan for the purpose of delivery of calls to Mascom and in so doing bypassing agreed interconnection in terms of this agreement. For clarity, the use of a least cost router device, whereby the customer equipment including pabx and Mascom service are not collocated at the customer premises but are linked via a third party network connection to a LCR device is not considered interconnection to the Mascom network.
- 6.3 Should Mascom determine that there has been a breach of clauses 6.1 and 6.2 above and notwithstanding the provisions of clauses 18 and 22, Mascom shall notify in writing the Licensed Provider and BOCRA of the said breach.
- 6.4 The Licenced Provider shall within 3 days of being notified in writing by Mascom either provide information to the contrary or take such corrective action to the satisfaction of Mascom to rectify the breach should License Provider where it is

ascertained that there was a breach of clauses 6.1 and/or 6.2 fail to take such corrective action, Mascom shall:

6.4.1 Immediately suspend or block interconnection of such traffic with written notice to the Licensed Provider and BOCRA; and

6.4.2 Charge the licensed provider xxx and invoice accordingly the appropriate interconnection fee for all the disguised interconnection traffic as if it were terminated by Mascom on its network in terms of this agreement plus a management fee of 10% (ten percent) of the value of the disguised calls carried by the service.

7. BILLING PROCEDURES

7.1 Each party undertakes to measure and record, at its own cost and expense, the duration of calls originating on its telecommunication system and destined for the telecommunication system operated by the other party as well as the duration of calls originating on the telecommunication system operated by the other party and destined for its telecommunications system. To facilitate the reconciliation of the parties measurements and records in both directions at the end of each accounting period, the parties shall agree procedures whereby relevant information is exchanged and differences addressed at regular intervals during each accounting period.

7.2 Notwithstanding anything to the contrary contained in this agreement interconnect fees shall be payable by the parties to one another with effect from the commercial date.

7.3 Each party shall provide to the other, on an exchange basis, an accounting summary containing the billing information relating to its measurements in both directions (as contemplated in clause 6.1) applicable to the immediately preceding accounting period no later than 10 business days after the expiry of each accounting period.

7.4 Each party shall submit a tax invoice to the other party in respect of the interconnect fees owed to it by such other party, in respect of the immediately preceding accounting period, by no later than 10 business days after it has received the accounting summary referred to in 6.3, provided that prior to submission of such tax invoices the parties shall use their best endeavours to resolve any discrepancies

which may exist in the billing information contained in their respective accounting summaries as exchanged. Unless otherwise agreed by the parties in respect of a particular accounting period, each party shall base its tax invoices on its own measurements and records pertaining to the duration of calls originating on the telecommunications system of the other party and destined for its own telecommunications system.

7.5 All charges payable by a party under this agreement shall be paid within 30 days after receipt by it of a tax invoice in the relevant amount in accordance with the written payment instructions of the other party from time to time; provided that payment shall always be effected on a business day or a Saturday and provided further that, should the due date fall on a Sunday or a public holiday, payment shall be effected on the preceding business day or Saturday.

7.6 If either party fails to pay any amount due by it under this agreement within the period referred to within the period prescribed, the other party shall be entitled to charge and receive interest from such party at the prime overdraft rate plus 5% per annum charged by Barclays bank of Botswana limited, from time to time, calculated from the date payment was due until the date of actual payment in full.

7.7 If either party disputes the amount reflected as being payable or receivable by it, such party shall within 30 business days deliver a notice in writing to the other party containing details of such dispute and

7.7.1 within 5 business days of receipt or deemed receipt of such notice, the party receiving this notice undertakes to furnish such other party with whatever documents and material may reasonably be required by such other party to verify the amount reflected as being payable or receivable by it; and

7.7.2 The parties will then promptly meet and consult with one another to try to resolve the dispute. Failing resolution of the dispute within seven (7) business days following receipt or deemed receipt of the notice referred to in this agreement.

7.7.3 the dispute may be referred by the party disputing such amount for investigation and determination by a firm of auditors agreed to between the parties or, failing agreement, by a firm of auditors nominated by the

president, for the time being, of the Botswana institute of chartered accountants.

7.7.4 Such auditors will, in their determination of the dispute act as experts and not as arbitrators and their decision shall be final and binding on the parties. The parties shall co-operate in any such investigation and any sum found to be due or overpaid shall promptly be paid or refunded (together with any interest payable or paid as the case may be, pursuant to this agreement), within 30 days of the date of such determination. The independent auditor's costs shall be paid by the party that was found to have been incorrect in the measurement of billing information or accounting summaries as per this agreement.

7.8 Notwithstanding the provisions of 7.7

7.8.1 If an amount in dispute represents less than 5% or twenty thousand pula (P20 000), whichever is the larger of the total amount (excluding vat) of the tax invoice in question, the invoiced amount shall nonetheless be deemed to be payable in full by the invoiced party;

7.8.2 If an amount in dispute represents exceeds the limit defined in clause 7.8.1, all amounts not in dispute shall nonetheless be deemed payable and the disputed portion shall be deemed not to be payable pending determination by the auditors pursuant to 7.7.

7.9 Each party shall maintain, keep and retain, in an easily accessible form, for a period of 3 years from the submission by it to the other party of any tax invoice, accurate books of account and information contained in or on magnetic discs, tapes, documents or such other records, as may reasonably be required to enable such other party to calculate or verify any amount payable by it in respect of such tax invoice.

7.10. Each party shall from time to time permit the other party during normal business hours at reasonable times, and accompanied by an authorised representative of the first mentioned party, upon at least 30 days written notice, to inspect the billing and accounting apparatus and equipment owned or controlled by such party to the extent reasonably necessary to satisfy itself that such party is not in breach of any of its obligations in terms of this clause 6; provided that;

- 7.11. Any such inspection shall be conducted in such a way as to cause a minimum of inconvenience to the activities of the party being inspected and not to interfere with the provision of services to customers of such party;
- 7.12. The party whose apparatus or equipment is being inspected shall take whatever steps are reasonably necessary to facilitate the conduct by the other party of a thorough and speedy investigation.
- 7.13. Notwithstanding any dispute between the parties as to any payment, the parties shall, throughout the term of this agreement, remain obliged to observe and perform their respective obligations in terms of this agreement. It is recorded that the failure of a party to collect any amount owing to it by its customers or any of its customers for any reason whatsoever, will in no way affect or undermine such party's payment obligations to the other party in terms of this agreement.
- 7.14. The licensed provider shall be required to provide an irrevocable bank guarantee valid for a period to be determined by Mascom after the 'termination date' as security against the obligations contained in this agreement including the non payment of any fees and charges that may be outstanding. Such bank guarantee shall be delivered to Mascom within 30 days of the commercial date and failure to deliver such bank guarantee shall be a material breach of the agreement.

8. PROTECTION OF MASCOM'S TELECOMMUNICATIONS SYSTEM

Licensed Provider XXX undertakes not to do or permit to be done or omit or permit the omission of anything in relation to its Telecommunications System which may reasonably be expected to: cause any damage to the Telecommunications System operated by Mascom; or materially interfere, in any way whatsoever, with the proper and normal operation of such Telecommunications System.

9. PROTECTION OF LICENSED PROVIDER XXX'S TELECOMMUNICATION SYSTEM

Mascom undertakes not to do or permit to be done or omit or permit the omission of anything in relation to its Telecommunications System which may reasonably be expected to:

- 9.1. cause any damage to the Telecommunications System operated by Licensed Provider XXX; or
- 9.2. materially interfere, in any way whatsoever, with the proper and normal operation of such Telecommunications System.

10. SAFETY

- 10.1. Mascom and Licensed Provider XXX shall each, at their own cost and expense, take whatever steps are necessary to procure that the fulfilment of their respective obligations and exercise of their respective rights in terms of this Agreement will not endanger the health and safety of any party including, without limitation, one another's employees, agents, directors, sub-contractors and customers, and in this respect each Party shall be responsible for the safe operation of the equipment comprising such Party's Telecommunications System on its side of any Point of Interconnection.
- 10.2. Mascom indemnifies Licensed Provider XXX, all of Licensed Provider XXX subsidiaries and any directors or employees of Licensed Provider XXX or any of Licensed Provider XXX' subsidiaries or holding company against any loss or harm whatsoever caused by Mascom, its directors, employees and/or subcontractors, to Licensed Provider XXX, its directors, employees or agents, and any third party, pursuant to the fulfilment of Mascom's obligations to Licensed Provider XXX in terms of this agreement.
- 10.3. Licensed Provider XXX indemnifies Mascom, all Mascom's subsidiaries and any directors or employees of Mascom or any of Mascom's subsidiaries or holding company against any loss or harm whatsoever caused by Licensed Provider XXX, its directors, employees and/or subcontractors, to Mascom, its directors, employees or agents, and any third party, pursuant to the fulfilment of Licensed Provider XXX's obligations to Mascom in terms of this agreement.

11. FAULT REPORTING AND RESOLUTION

Mascom shall provide to Licensed Provider XXX and Licensed Provider XXX shall provide to Mascom the operations and maintenance services set out more fully in Appendix 4 for the purpose of enabling Mascom or XXX, as the case may be, to report any fault in, breakdown

of or problem in respect of the Telecommunications System operated by Licensed Provider XXX or Mascom, as the case may be; provided that such fault, break down or problem pertains to the Interconnection, as soon as such fault, breakdown or problem occurs and Mascom and Licensed Provider XXX shall, on receipt of any such report, each follow the fault report procedures set out in Appendix 4.

12. TESTING

The Parties undertake to co-operate fully with one another in the development of mutually acceptable procedures for the testing and clearance of faults occurring between their respective Telecommunications Systems or otherwise affecting the Interconnection of their respective Telecommunication System, the present procedures being set out in Appendix 4.

13. INTELLECTUAL PROPERTY RIGHTS

- 13.1. Nothing contained in this Agreement shall be construed to confer or be deemed to confer on either Party any rights or licenses in the intellectual property of the other Party.
- 13.2. For the purposes of this clause 13 "Intellectual Property" means whatever trademarks, (whether registered or not) inventions, patents (both registered and unregistered), copyrights, registered and unregistered designs, know-how and other intellectual property vesting in a Party by the operation of law.

14. OPERATIONAL LIAISON

- 14.1. The Parties shall consult together regarding the operation and implementation of this Agreement and shall use their best endeavors to resolve any problems arising from such consultation or otherwise encountered in relation to this Agreement.

14.2.1 Without prejudice to the provisions of this agreement the Parties shall each, within 30 days of the Effective Date appoint a representative and notify the other Party in writing of the identity of such appointee. Such representative shall, together with the representative of the other Party, be responsible for overseeing the day-to-day practical implementation of this Agreement including, without limitation, the following matters:

14.2.2 numbering;

- 14.2.3 physical and electrical interface(s);
 - 14.2.4 provisioning (including commissioning);
 - 14.2.5 transmission;
 - 14.2.6 signalling;
 - 14.2.7 maintenance;
 - 14.2.8 call accounting;
 - 14.2.9 augmentation of capacity;
 - 14.2.10 prevention of fraud;
 - 14.2.11 malicious call tracing;
 - 14.2.12 new or modified features and services including timescales for implementation; and/or
 - 14.2.13 any other technical and operational matters which may arise from time to time.
- 14.3. Each of the representatives contemplated in 14.2 shall liaise with the other and report to the Party appointing him, regarding any problems, which have not proved capable of being resolved. On receipt of such report, the Parties shall consult forthwith with one another with a view to achieving a mutually acceptable solution to such problem.
- 14.4. The Parties shall at all times implore system security measures for the prevention of cyber security and to ensure cyber security resilience on the network. The parties shall further take all appropriate physical, technical and organisational security measures and observe Good Industry Practice to protect customers' Confidential Information in particular against accidental or unlawful destruction, loss, alteration and/or unauthorised disclosure and access.
- 14.5. Unless otherwise provided for in this Agreement, each Party shall give the other at least 7 days notice in writing of any change which it intends to make in respect of the identity of the person charged with operational liaison on its behalf.

15. FORCE MAJEURE

- 15.1. No Party to this Agreement shall be liable for any failure to fulfil its obligations hereunder where such failure is caused by circumstances outside the reasonable control of such Party, including, without limitation, any Act of God, insurrection or civil disorder, war or military operations, national or local emergency, acts or omissions of Government, labour disputes of any kind (whether or not involving the Party's employees), fire, lightning, explosion or any other such cause (each an "event of force majeure").
- 15.2. The Party affected by the event of force majeure shall promptly notify the other Party in writing of the estimated extent and duration of such inability to perform its obligations.
- 15.3. Upon cessation of circumstances leading to the event of force majeure, the Party affected by such event of force majeure shall promptly notify the other of such cessation.
- 15.4. If as a result of the event of force majeure, the performance by either Party of such Party's obligations under this Agreement is only partially affected such Party shall nevertheless remain liable for the performance of those obligations not affected by the event of force majeure.
- 15.5. If the event of force majeure continues for a period of 6 months or less from the date of any notification thereof in terms of 15.2, any and all obligations outstanding shall be fulfilled by the Party affected by the event of force majeure as soon as possible after cessation of the event of force majeure, save to the extent that such fulfilment is no longer practically possible or is not required by the other Party.
- 15.6. If the event of force majeure continues for more than 6 months from the date of any notification thereof in terms of 15.2 and notice of cessation in terms of 15.3 has not been given and such event of force majeure prevents the affected Party from performing its obligations in whole or in part during that period, the unaffected Party shall be entitled (but not

obliged) to terminate this Agreement by giving not less than 30 days written notice to the other Party after expiry of such 6 month period to that effect; provided that such notice shall be deemed not to have been given if a notice of cessation given in terms of 15.3 of the event of force majeure is received or deemed to be received by the unaffected Party prior to the expiry of such 30 days.

- 15.7. If this Agreement is not terminated in terms of the provisions of 15.6, any obligations outstanding shall be fulfilled by the Party affected by the event of force majeure as soon as reasonably practicable after the event of force majeure has ended, save to the extent that such fulfilment is no longer possible or is not required by the unaffected Party.

16. LIMITATIONS ON BREACH

- 16.1. Each Party ("the Indemnifying Party") indemnifies the other ("the Innocent Party") against all liability or loss arising directly from (and any reasonable cost, charge or expense incurred in connection with) -

16.1.1 damage to or loss of any equipment, facility or other property of the Innocent Party caused by the intentional or negligent act or omission of the Indemnifying Party or its employees, sub-contractors, directors or agents arising out of or in connection with this Agreement; and

16.1.2 any action, claim, suit or demand by any person against the Innocent Party in respect of or arising out of any act or omission of the Indemnifying Party in the course of providing services to the Innocent Party.

- 16.2. If any action, claim, suit or demand ("claim") is made by any person against the Innocent Party which, if satisfied or paid by the Innocent Party, would result in any liability of the Indemnifying Party pursuant to the provisions of clause 16.1 –

16.2.1. the Innocent Party shall give written notice of the claim to the Indemnifying Party as soon as practical after becoming aware thereof, and within a reasonable period after receipt of that notice, but, in any event within 30 days thereof, the Indemnifying Party shall –

16.2.2. cause the Innocent Party to be put in sufficient funds to satisfy or pay the claim; or

16.2.2.1. give notice to the Innocent Party directing it to take such action (including legal proceedings) in respect of the claim, at the Indemnifying Party's own cost and expense, as the indemnifying Party may indicate, failing which the innocent Party shall be entitled to deal with the claim as it in its sole discretion deems fit.

16.2.3. the Indemnifying Party shall cause the Innocent Party to be put and therefore maintained, in sufficient funds and in sufficient time to pay all reasonable costs and expenses of any action or settlement directed by the Indemnifying Party in terms of 16.2.2. and 16.2.4; and

16.2.4. the Innocent Party shall take such action as the Indemnifying Party directs, to avoid, dispute, defend, appeal, settle or compromise (“deal with”) the claim and any adjudications thereof; provided that, failing such directions, the Innocent Party shall be entitled to deal with the claim as it sees fit in its sole discretion. No Party shall be obliged to indemnify the other Party according to the provisions of this clause 16 to the extent that the loss, liability, cost, charge or expense suffered or sustained by such other Party is the direct result of any breach, act or omission by such other Party of any of its obligations in terms of this Agreement.

16.3. Notwithstanding the provisions of this clause 16, the Indemnifying Part shall not, under any circumstances, be liable for any indirect special and / or consequential damages, including but not limited to loss of profits suffered by the Innocent Party.

17. EQUALITY

- 17.1. A Call originating on the Telecommunications System operated by Licensed Provider XXX, when passed across a Point of Interconnection, shall be treated by Mascom no less favourably than a similar Call originating and conveyed on the Telecommunications System operated by Mascom.
- 17.2. A Call originating on the Telecommunications System operated by Mascom, when passed across a Point of Interconnection, shall be treated by Licensed Provider XXX no less favourably than a similar Call originating and conveyed on the Telecommunications System operated by Licensed Provider XXX.
- 17.3. A Call originating on the Telecommunications System operated by Licensed Provider XXX and destined for the Telecommunications System operated by Mascom shall be treated by Licensed Provider XXX no less favourably than a similar Call originating, terminating and conveyed on the Telecommunications System operated by Licensed Provider XXX.
- 17.4. A Call originating on the Telecommunications System operated by Mascom and destined for the Telecommunications System operated by Licensed Provider XXX shall be treated by Mascom no less favourably than a similar Call originating, terminating and conveyed on the Telecommunications System operated by Mascom.
- 17.5. A Call which originates on the Telecommunications System operated by one Party and which is destined for the Telecommunications System operated by the other Party and is routed via a third party's network, will be treated by such other Party no less favourably than a similar Call originating, terminating and conveyed on the Telecommunication System operated by such other Party.

18. TERMINATION, DURATION AND BREACH

- 18.1. This Agreement shall commence on the Effective Date and shall, subject to the remaining provisions of this clause 18, endure for a period of 12 months and shall be terminated by either party on 90 days prior written notice, such notice to be given at any time after the initial 12 month period.

18.2. Subject to the provisions of 7.7 and 7.8, if a Party:

18.2.1. fails to pay any amount due by it in terms of this Agreement by the due date, and fails to remedy such breach within 21 days of written notice to do so; or commits a material breach of any other provision of this Agreement and fails to remedy such breach within 30 days of written notice to do so;

18.2.2. provided that if the breach can reasonably be remedied within a shorter period, the Party giving the notice must specify that shorter period in the notice and the Party in default shall remedy the breach within such shorter period;

18.2.3. takes steps to place itself, or is placed in liquidation, whether voluntary or compulsory, or under judicial management, in either case whether provisionally or finally;

18.2.4. take steps to deregister itself or is deregistered.

18.2.5. fails to satisfy a judgment against that Party within 21 days after that Party becomes aware of the judgment, except if that Party provides evidence on an ongoing basis to the reasonable satisfaction of the other Party that steps have been initiated within the 21 days to appeal, review or rescind the judgment and to procure suspension of execution of that judgment and that such steps are being expeditiously pursued, the period of 21 days shall run from the date on which the judgment becomes final, or the date on which the attempts to procure the suspension of the execution fail, such Party shall be in default.

18.3. If a Party is in default, the aggrieved Party shall be entitled, without prejudice to any other remedies to which it may be entitled at law, or in terms of this Agreement to cancel this Agreement.

18.4. Upon the termination for any reason whatsoever of this Agreement all amounts then owing by one Party to the other Party will become immediately due and payable.

19. AMENDMENTS

19.1. Either Party may, at any time, and from time to time, seek to vary any of the terms of this Agreement in accordance with the provisions of this clause 19.

19.2. The Party seeking to vary any of the terms of this Agreement shall serve a notice to the other Party, and such notice shall set out in reasonable detail the variations sought by it. Upon receipt of such notice, the Parties shall meet and negotiate, in good faith with each other with a view to agreeing on a variation of such of the terms of this Agreement as are referred to in the notice.

19.3. The Parties agree that, notwithstanding the provisions of this clause 19, all of the terms and conditions of this Agreement shall remain in full force and effect during any review of its terms unless and until such time as:

19.3.1. the Parties complete a written agreement replacing or amending the Agreement; and

19.3.2. the Parties have obtained whatever consents and authorities may be required by them to effect such replacement or amendment.

20. SEVERABILITY

If any term, condition, agreement, requirement or provision contained in this Agreement is held by any court of law having jurisdiction to be unenforceable, illegal, void or contrary to public policy, such term, condition, agreement, requirement or provision shall be of no effect whatsoever upon the binding force or effectiveness of any of the remainder of this Agreement, it being the intention and declaration of the Parties that had they or either of them known of such unenforceability, illegality, invalidity or that the provision was contrary to public policy, they would have entered into a contract, containing all the other terms and conditions set out in this Agreement.

21. CESSION

No Party shall cede, assign, transfer, encumber or delegate any of its rights or obligations in terms of this Agreement without the prior written consent of the other Party and such other consents as may be necessary.

22 DISPUTE RESOLUTION

- 22.1. Should any dispute arise between the Parties in connection with –
- 22.1.1. the formation or existence of; or
 - 22.1.2. the implementation of; or
 - 22.1.3. the interpretation or application of the provisions of; or
 - 22.1.4. the Parties' respective rights and obligations in terms of or arising out of; or
 - 22.1.5. the breach or termination of; or
 - 22.1.6. the validity, enforceability, rectification, termination or cancellation, whether in whole or in part of; or
 - 22.1.7. any documents furnished by the Parties pursuant to the provisions of, this Agreement, or which relate in any way to any matter affecting the interests of the Parties in terms of this Agreement, that dispute shall, unless resolved amicably between the Parties, be referred promptly for determination to the Senior Executive (or their nominees) of each of the Parties at the instance of either of the Parties.
- 22.2. Should the Parties fail to resolve any dispute between themselves or should the Senior Executive (or their nominees) of the Parties fail to reach unanimous agreement in the determination of any dispute referred to them as provided for in 22.1, within 14 days of such referral, the Parties undertake to meet promptly and consider whether or not the dispute should be referred to arbitration.
- 22.3. If the Parties agree in writing that the dispute should be referred to arbitration, such dispute will be determined by arbitration in accordance with the remaining provisions of this clause relating to arbitration; provided that if the Parties fail to reach agreement in writing to refer the dispute to arbitration within a period of 2 days of meeting in terms of this clause 22.3, then either Party will be entitled to commence litigation proceedings against the other Party, in which event both Parties agree that the matter will be referred to the High Court of Botswana (or its successor) and the Parties consent to the jurisdiction of the said High Court. Notwithstanding anything to the contrary contained in this clause 22, neither Party shall be precluded from obtaining interim relief from a court of competent Jurisdiction pending the decision of an arbitrator appointed in terms of this clause.

22.4. The arbitration shall be held-

22.4.1. *mutatis mutandis* in accordance with the rules promulgated from time to time by the Botswana Institute of Arbitrators; in Gaborone;

22.4.2. with only the legal and other professional representatives of the Parties present;

22.4.3. it being the intention of the Parties that the arbitration shall be held and completed as soon as possible.

22.5. The arbitrator shall be,

22.5.1. a practicing senior advocate or attorney of at least 15 years standing;

22.5.2. agreed between the parties, and assisted by an independent person who is an expert in the field in which the dispute has arisen (appointed by the parties by agreement) provided that the arbitrator shall not be bound by experts opinion.

22.6. Should the Parties fail to agree on an arbitrator within 7 days after the matter was referred in terms of clause 22 to arbitration, the arbitrator shall be appointed at the request of either Party to the dispute by the Chairperson for the time being of the Botswana Institute of Arbitrators (or any successor body)

22.7. The decision of the arbitrator shall be final and binding on the Parties and may be made an order of the court at the instance of either of the Parties.

22.8. The Parties hereto consent to the jurisdiction of the High Court of Botswana in respect of the proceedings related to in clause 22.7.

22.9. The Parties agree to keep the arbitration including the subject matter of the arbitration and the evidence heard during the arbitration confidential and not to disclose it to anyone except for the purposes of an order to be made in terms of clause 22.8.

22.10. The provisions of this clause – constitute an irrevocable consent by the Parties to any proceedings in terms of this clause 22 and neither Party shall be entitled to withdraw therefrom or claim at any such proceedings that it is not bound by such provisions;

22.11. are severable from the rest of this Agreement and shall remain in effect despite the termination of or invalidity for any reason of this Agreement, or any part of this Agreement.

22. CONFIDENTIALITY

- 23.1. Subject to the provisions of clause 23.2, the Parties undertake to each other that they will use all reasonable endeavors to keep and procure that their directors, employees, agents and sub-contractors shall keep secret all Confidential Information and will not disclose such Confidential Information to any third party.
- 23.2. The provisions of clause 23.1 shall not apply to information which:
- 23.2.1 is in or comes into the public domain other than by default of one of the Parties;
or
 - 23.2.2 is or has already been independently generated by the Party disclosing such information; or
 - 23.2.3 is disclosed to satisfy a legal demand by a competent court of law or government body; or
 - 23.2.4 is in the possession of or is known by the receiving Party prior to its receipt from the disclosing Party; or
 - 23.2.5 is authorised to be disclosed by the disclosing Party in writing but then only to the extent of the authority given; or
 - 23.2.6 is properly disclosed pursuant to and in accordance with the Licence or any licence granted to Licensed Provider XXX or Mascom, or in accordance with any relevant statutory obligation or (with the prior written consent of the other Party), in order for either Party to comply with the requirements of any recognised Stock Exchange.
- 23.3. Confidential Information which is the subject of the provisions of clause 23 shall be used only for the purpose for which it was disclosed and/or for the purposes of performing the obligations of the Parties in terms of this Agreement.
- 23.4. Confidential Information which is the subject of the provisions of clause 23 may be disclosed to sub-contractors of the Parties; provided that all such sub-contractors shall, prior to receiving any such information, enter into a confidentiality undertaking to the satisfaction of the disclosing party, to give effect to the intention of this clause with the disclosing Party.
- 23.5. The provisions of this clause will apply with effect from the Effective Date until 60 months after the date of termination or expiry of this Agreement.

24. NOTICES AND DOMICILIA

24.1. The Parties choose as their *domicilia citandi et executandi* their respective addresses set out in this clause for all purposes arising out of or in connection with this Agreement, at which addresses all processes and notices arising out of or in connection with this Agreement, its breach or termination may validly be served upon or delivered to either of the Parties.

24.2. For the purposes of this Agreement the Parties' respective addresses shall be-

24.2.1 as regards Mascom : XXX
XXX
XXX
(for the attention of the XXX)

Facsimile number : (XXXXXXXXX)

24.2.2 as regards Licensed : XXX
Provider XXX
XXX
XXX
(for the attention of XXX)

Facsimile number : XXXXXXXX
or at such other address, not being a post office box or poste restante, of which the Party concerned may notify the other Party in writing.

Any notice given or other document sent in terms of this Agreement shall be in writing and shall –

24.3.1. if delivered by hand be deemed to have been duly received by the addressee on the date of delivery;

24.3.2. if posted by prepaid registered post be deemed to have been received by the addressee on the 7th day following the date of such posting;

24.3.3. if transmitted by facsimile be deemed to have been received by the addressee the day after dispatch;

24.3.4. in the case of all documents, excluding notices, if posted by ordinary prepaid post be deemed to have been received by the addressee on the 10th day following the date of such posting.

24.4. Notwithstanding anything to the contrary contained in this Agreement, a written notice or communication actually received by one of the Parties from another including by way of facsimile transmission shall be adequate written notice or communication to such Party.

25. WHOLE AGREEMENT

This Agreement constitutes the whole Agreement between the Parties as to the subject matter of this Agreement and no agreements, representations or warranties between the Parties other than those set out herein will be binding on the Parties.

26. VARIATION

No addition to or variation, consensual cancellation or novation of this Agreement and no waiver of any right arising from this Agreement or its breach or termination shall be of any force or effect unless reduced to writing and signed by both the Parties or their duly authorised representatives.

27. RELAXATION

No latitude, extension of time or other indulgence which may be given or allowed by either Party to the other in respect of the performance of any obligation hereunder or the enforcement of any right arising from this Agreement and no single or partial exercise of any right by either Party shall under any circumstances be construed to be an implied consent by such Party or operate as a waiver or a novation of, or otherwise affect any of that Party's rights in terms of or arising from this Agreement or estop such Party from enforcing, at any time and without notice, strict and punctual compliance with each and every provision or term of this Agreement.

28. NECESSARY APPROVALS AND CONSENTS

Each Party:

28.1. warrants to the other Party that it has the necessary rights, licenses and authorities to enter into and perform its obligations in terms of this Agreement.

APPENDIX 1

ESTABLISHMENT OF POINTS OF INTERCONNECTION

1. POIs to be established by effective date

The table below details the route, capacity in terms of 2 Mbit/s systems, signalling type, trunk group direction and ready for service (RFS) date of the POIs to be established between the Parties by the Effective Date.

Mascom MSC	Licensed Provider XXX MSC	Capacity (2 Mbit/s Systems)	Signalling System	Trunk Group Direction (Mascom to Licensed Provider XXX, Licensed Provider XXX to Mascom or Bothway)	Target RFS Date
TBD	TBD	TBD	CCS #7 (STP)	Bothway	Effective Date

2. ADDITIONAL POIs ESTABLISHED

The table below provides for the routes, capacity in terms of 2 Mbit/s systems, signalling types, trunk group directions and ready for service (RFS) dates of POIs established or to be established between the Parties following the Effective Date.

Mascom MSC	Licensed Provider XXX MSC	Capacity (2 Mbit/s Systems)	Signalling System	Trunk Group Direction (Mascom to Licensed Provider XXX, Licensed Provider XXX to Mascom or	Target RFS Date

				Bothway)	
TBD	TBD	1	CCS #7 (STP)	Bothway	TBD

APPENDIX 2

SPECIFICATIONS, SERVICES AND PROCEDURES FOR POINTS OF INTERCONNECTION

1. TECHNICAL SPECIFICATIONS

General

- 1.1.1 The ITU-T Recommendations for Interfacing between Equipment Types and for Common Channel Signalling System Number 7 (CCS 7) provide the framework for adherence to the standards contained herein. The Parties are committed to conform wherever practicable with the ITU-T and ETSI GSM/DCS 1800 Recommendations as amended from time to time. The form of reference will be the ITU-T Recommendations as published in the ITU-T White Book, as amended from time to time, the details of which shall be agreed between the Parties.
- 1.1.2 Notwithstanding the above ITU-T Recommendations, for Calls that are originated in one Telecommunication System and terminated on another, the originating Telecommunication System will be entitled to block backward signals that modify the originating tariff structure. Such backward signals will be discarded and the Call will be force released.
- 1.1.3 In order to protect personnel and equipment on both sides of the interface it is necessary to provide protection against the transmission of dangerous voltages across the interface. Thus, for equipment that uses or generates excessive voltages, a barrier shall be provided to protect the interface from those voltages.

1.2 Physical Interface

The physical interface between the Telecommunication Systems shall be 120 Ohm balanced termination provided by means of a twisted pair terminated on 10 pair Kröne insulation displacement terminating blocks. A loss of 6 dB is supported for both termination types.

1.3 Electrical Interface

1.3.1 Input and Output

The electrical interface shall conform to ITU-T Recommendation G.703 for twisted pairs at 2048 Kbit/s. An input impedance of 120 Ohm balanced is required. The output impedance is approximately 120 Ohms as specified in G.703. This is necessary to meet the required pulse shape masks.

1.3.2 Attenuation

The attenuation of the interconnecting cable (including any digital distribution frame or interconnecting equipment) shall not exceed 6 dB at 1024 Khz.

1.3.3 Interference

Both input ports shall tolerate, without error, interference from a non-synchronous standard test signal (ITU-T Recommendation 0.151) at a level 18 dB lower than the wanted signal.

1.3.4 Multiplex Characteristics

The multiplex structure shall be in accordance with ITU-T Recommendation G.704, G.705, G.732, Q.500 and Q.511.

1.4 Signalling

1.4.1 Chapter 5 of ITU-T Recommendation G.732 shall apply.

1.4.2 Signalling Protocol

The signalling protocol between the Telecommunications Systems will initially be based on CCS 7 as defined in the ITU-T White Book Recommendations modified with country specific options, including but not limited to ISUP and MAP signaling.

1.4.3 General CCS 7 Principles

- (a) The principle of minimum visibility in respect of the Destination Point Codes (DPCs) shall apply between the Parties.
- (b) The CCS 7 network shall be implemented as agreed between the Parties, including the use of STPs.
- (c) CRC4 will only be used end-to-end over links following agreement between the Parties.

1.4.4 Wander and Jitter

- (a) Maximum jitter at output ports immediately preceding digital switching as per ITU-T Recommendation G.823 (1984) paragraph 2 shall apply.
- (b) Jitter and wander tolerance at input ports will be as per ITU-T Recommendation G.823 (1984) for 2 Mbit/s links on the Primary Digital Hierarchy (PDH) network and for links provided on copper cables with regenerators. It should be noted that the ports should be able to tolerate a frequency offset greater than 50 ppm.

1.4.5 Time Slot Zero

The provisions of Chapter 2 of ITU-T Recommendation G.704 shall apply.

1.4.6 Fault Conditions and Consequent Actions

The provisions of ITU-T Recommendations G.732, Q.500 and Q.511 shall be implemented by the Parties.

1.4.7 Channel Time Slot Encoding

(a) Channel time slots

The 64 Kbit/s channel slots comprising the 2048 Kbit/s stream shall carry “A” law encoded information as defined in ITU-T Recommendation G.711.

(b) Idle channel bit pattern

The idle channel bit pattern in both directions shall be 01010100 (MSB at left hand end) in accordance with paragraph 2.4.6 of ITU-T Recommendation Q.503 when the interface is between digital exchanges.

1.5 Synchronisation

The synchronization of the MSCs will be achieved by having a connection to two Digital Primary Switching Units (DPSUs) or, as an alternative if two direct links are not available, to one DPSU and any other MSC. In the event of both bit streams failing, an internal source meeting ITU-T Recommendation G.811 shall become the worker.

1.6 CCS 7 Signalling Links

- 1.6.1 Signalling link pairs in a combined link set will be operated in a load share mode, with no single signalling link operated at greater than 30% of its theoretical message capacity under normal conditions and 60% under overload conditions.
- 1.6.2 A 64 Kbit/s signalling link will be engineered to offer, in each direction, a normal traffic load of up to 96 ISUP messages per second for trunk signalling and an overload traffic load of up to 192 ISUP messages assuming an average message length of 25 octets shall apply.
- 1.6.3 It will be up to the discretion of either Party to decide as to whether block or overlap signalling is to be used for calls originating on its Telecommunications System.

1.7 Provision for the establishment of IP-to-IP interconnection

1.7.1 Notwithstanding the technical specifications above, or any other terms and conditions in the Agreement, Mascom may offer IP-to-IP interface and interconnection with Licensed Provider XXX, subject to agreement and adherence to other terms and conditions of the Agreement.

1.7.2 If the Parties agree to establish IP-to-IP interface between the networks, then following specifications (in 1.7.3) will provide a framework and guidance to the Parties in order to agree on the final specifications that shall apply between the Parties.

1.8 Technical Specifications for IP Interconnection

1.8.1 General

1.8.2 All references in this Annex to the recommendations of the ITU, ETSI or IETF shall include any amendments or replacements thereto from time to time.

1.8.3 All Traffic shall be carried using Internet Protocol, with SIP signalling to be the preferred signalling protocol.

2. Abbreviations

The following abbreviations shall apply with respect the technical implementation of interconnection:

- 2.1 SIP – Session Initiation Protocol
- 2.2 IP –Internet Protocol
- 2.3 RPID – Remote Party Indication
- 2.4 RTP – Real Time Protocol
- 2.5 RTCP – Real Time Communication Protocol

2.6 VAD – Voice Activity Detection

3 IP Signalling

3.1 SIP signaling is the preferred method and must conform to RFC3261 as a minimum

3.2 RPID should not be present in the INVITE

3.3 FROM (A-number) and TO (B-Number) format should be E.164 compliant or at a minimum national format, number length 8.

3.4 SIP over UDP is required

4 RTP

Session Description Protocol is accepted and shall conform to RFC2327 as a minimum.

Offered Codec list should be kept to not more than 4 for onward compatibility reasons.

5 Call Admission Control

5.1 Call admission control shall be enforced at the network edge.

5.2 SIP code “503 Service Unavailable” shall be returned for rejected Calls.

6 Supported Codecs

6.1 The following codecs shall be supported, in order of preference:

6.1.1 G.729r8

6.1.2 G.729br8

6.2 VAD should as a preference been turned off.

6.3 No transcoding function is provided.

7 Dual Tone Multi-Frequency

DTMF shall be supported with RFC2833 – Codec identifier 101.

8 SIP Methods

The commands that SIP uses are called methods. SIP defines the following methods outlined below:

SIP Method	Description
INVITE	Invites a user to a Call
ACK	Used to facilitate reliable message exchange for INVITEs
BYE	Terminates a connection between users or declines a Call
CANCEL	Terminates a request, or search, for a user
OPTIONS	Solicits information about a server's capabilities
REGISTER	Registers a user's current location
INFO	Used for mid-session signalling

9 SIP responses

The following are SIP responses and closely resemble HTTP responses:

- 9.1 1xx Informational (e.g. 100 Trying, 180 Ringing)
- 9.2 2xx Successful (e.g. 200 OK, 202 Accepted)
- 9.3 3xx Redirection (e.g. 302 Moved Temporarily)
- 9.4 4xx Request Failure (e.g. 404 Not Found, 482 Loop Detected)
- 9.5 5xx Server Failure (e.g. 501 Not Implemented)

9.6 6xx Global Failure (e.g. 603 Decline)

10 Quality of Service ("QoS")

10.1 Should either Party believe that the quality of the Calls over the IP interconnect are significantly adversely affected by improper provisioning of bandwidth or poor QoS design, the Party will have the right to invoke the Dispute Resolution Procedures outlined in clause **Error! Reference source not found.**2 of the main agreement.

11 Connectivity

11.1 Connectivity media shall be agreed upon by both parties. (Deviation from the below must be agreed on by both parties.)

11.2 IP Internet Protocol shall be used.

11.3 Connectivity shall be point-to-point and not point-to-multipoint

11.4 Interconnection Links shall be dedicated for IP interconnect Traffic; the parties shall configure access lists only allowing voice interconnect Traffic.

11.5 Unlicensed wireless links (ISM) will not be accepted as a connectivity medium.

11.6 eBGP is recommended as an IP routing protocol.

2. PROVISIONING PROCEDURE

12.1 Forecast

12.1.1 The forecast for additional point of interconnect links (POILs) will be carried out either at the Operation and Maintenance meetings, as provided for in Appendix 4, or by written request.

12.1.2 To ensure that one Party is not benefited to the expense of the other, increases in capacity on an existing POI as well as the provisioning of capacity for a new POI shall, unless otherwise agreed, be made in multiples of two.

12.2 Commissioning of POILs

All POILs shall prior to commissioning be tested in accordance with the appropriate test specification for the signalling system employed.

12.3 Signalling Point Code Allocations

The Parties shall liaise with each other regarding the allocation of Signalling Point Codes (SPCs) necessary for the interconnection of the Telecommunications Systems.

13. GRADE AND QUALITY OF SERVICE

13.1 In order to ensure system performance compatibility, the grade of service of both of the Telecommunications Systems as seen from the interface between the two, shall be planned so as to give an average (calculated over a period of a week) probability that not more than 3% of Call attempts encounter congestion.

13.2 Routes carrying traffic between the Telecommunications Systems in either or both directions shall be designed to operate at a busy hour grade of service of 0.008 subject to the route dimension giving a grade of service of 0.02 at 10% traffic overload and a grade of service of 0.05 at 20% overload. Only under extreme failure conditions should the Telecommunications

Systems not process all of the Calls offered. Sequential circuit selection mechanism will be employed on bothway routes. The direction of the selection process at either end of the link will be determined by agreement.

13.3 The parameters in the table below are intended to be the objectives for circumstances where all circuits forming a traffic route between the two Telecommunications Systems are available to carry traffic.

Performance parameter	Direction	Originating Network (info only)	Interconnect Route (agreed objective)	Terminating Network (info only)
Mean busy hour blocking probability	Mascom to Licensed Provider XXX			
Probability of call failure due to network equipment malfunction (excluding premature release)	Mascom to Licensed Provider XXX Licensed Provider XXX to Mascom			
Probability of call failure due to premature release caused by network equipment malfunction	Mascom to Licensed Provider XXX Licensed Provider XXX to Mascom			

[TABLE PARAMETERS TO BE AGREED BETWEEN THE INTERCONNECTING PARTIES]

APPENDIX 3

ROUTING AND NUMBERING FOR POINTS OF INTERCONNECTION

1. ROUTING PRINCIPLES

1.1 Normal Conditions

Under normal conditions the Parties shall route all Calls across the POI nearest to where such calls originated.

1.2 Abnormal Conditions

The re-routing of traffic under abnormal conditions will be according to the alternate routing indicated in the routing tables supplied by the Parties. The Parties shall inform each other of such re-routing undertaken in the event of severance of routes. When only a portion of a route has failed, traffic should continue to be offered to the remaining portion of that route before overflowing to latter choice routes. In the event of the available capacity on the designated alternative routes being insufficient to handle all the overflow traffic, the Parties shall contact one another to seek agreement to route the remainder of the traffic through its own network to an alternative POI. The predefined prescribed arrangements and details of the information to be handed over in such an event, will be encompassed in a document to be drawn up at the Operation and Maintenance meetings provided for in Appendix 4. In the event that the predefined routing arrangements for abnormal conditions cannot be implemented, due to exceptional circumstances, details of the alternative arrangements that are to be implemented must be supplied.

1.3 Route Diversity and Security Arrangements

1.3.1 For reliability, signalling links shall be provisioned over physically diverse transmission paths where such diversity exists. Any deviation from this rule shall be negotiated between the Parties. If both Parties agree that an additional route for redundancy/diversity is motivated taking into account costs, traffic or other considerations, then such redundant route shall be provisioned for.

1.3.2 All 2 Mbit/s systems carrying CCS 7 signalling links between MSCs shall be clearly marked in the switching and transmission equipment rooms so as to prevent any unnecessary maintenance activities.

1.3.3 The minimum number of links per link set shall be two. Any number of links per link set, however, exceeding two shall be negotiated between the Parties. All circuit conditioning equipment such as PADS, voice compression equipment and echo cancellers must be removed from the signalling links.

2. NUMBERING

2.1 Calls Originating on One Telecommunication System and Terminating on the

APPENDIX 4

OPERATION AND MAINTENANCE PROCEDURES RELEVANT TO THE INTERFACE BETWEEN THE TELECOMMUNICATION SYSTEMS

1. INTERCONNECTION SERVICE DESK (ISD)

It being essential that any malfunctioning of the Interconnection be rectified promptly and efficiently, each Party shall establish an ISD to which all matters relevant to the proper functioning of the Interconnection (generally of a technical nature) are to be reported. Each ISD shall:

- be staffed on a 24-hour basis and equipped with the necessary infrastructure to facilitate efficient communication (ISD contact telephone numbers are to be contained in a separate document and are to be updated by the Parties as and when changes occur);
- offer its full assistance to the other for the rectification of Interconnection Outages and other faults;
- be responsible for processing reported Interconnection Outages and other faults using its own procedures;
- function as the traffic controlling party for the circuit on which it loads outgoing traffic; and
- be used as the contact point for any inter-service assistance required.

2. DEFINITIONS

For purposes of this Appendix

2.1. “Cataleptic Failure of Interconnection” means a sudden failure, persisting for longer than 10 seconds, which is characterised by complete inability to perform all required functions of any item in the Interconnection;

2.2. “Interconnection Outages” means a Cataleptic or Partial Failures of Interconnection, whether planned or unplanned of any of the components included in the Interconnection;

2.3 “Partial Failure of Interconnection” means any failure other than a Cataleptic Failure which affects more than 15% of the total number of ports (a port being the interface between the exchange equipment on the one hand and the environment on the other hand).

3. FAULT HANDLING AND RECTIFICATION PROCEDURES

3.1 Unplanned Interconnection Outages

Upon detection of an unplanned Interconnection Outage, the ISDs shall immediately notify each other. At the time of notification the Outage could have ceased to exist or could still be persisting. In cases where the Outage has ceased to exist, the ISDs will note the occurrence, duration and details of the failure. In cases where the Outage is persisting, immediate action shall be taken to localize the fault causing the failure and to identify the Party responsible for clearing the fault (should this have been unclear at first). The ISDs shall thereafter and until full restoration of service inform each other every 15 minutes, or at mutually agreed upon intervals, of the progress of the repair. Once full service has been restored the ISDs will note the Outage duration and details of the failure.

3.2 Planned Interconnection Outages

Planned Interconnection Outages shall be kept to an absolute minimum and shall not be carried out during busy traffic times. The Party planning such an Outage shall inform the other Party's ISD fourteen days in advance (by mutual agreement this time scale may be reduced) and agree upon a suitable time and expected duration for such an Outage. If the planned Outage does not directly affect the other Party, such other Party's ISD shall nevertheless be informed of the planned time and duration of the Outage. During a planned Outage the responsible Party shall, at regular intervals and until full restoration of service, inform the other Party's ISD of the progress. Once full service has been restored the ISDs will note the Outage duration. If full service is not restored within the expected duration, the Outage will be regarded as an unplanned Outage (occasioned by a planned Outage) and the procedure above for dealing with unplanned Outages will be followed.

3.3 Outage and Fault History

Each Party shall maintain records, preferably in electronic format, containing details of all Interconnection Outages and other faults and the corresponding restoration times which were handled between it and the other Party's ISD for a running twelve month period. These records should be used to assess the fault performance of the Interconnection.

4. MAINTENANCE PROCEDURES

4.1 Maintenance Methodology

It is accepted that certain scheduled and unscheduled maintenance actions will be carried out by the Parties on the items comprising the Interconnection. Where such actions could affect the proper functioning of the Interconnection, e.g. when work is to be performed on critical centralised equipment, the other Party's ISD shall be informed accordingly. In the case of scheduled maintenance, the schedule of critical activities shall be made available to the other Party's ISD in advance; it will, however, not be necessary to inform such ISD of the completion of such activities. If the maintenance action results in a Cataleptic or Partial Failure of Interconnection, the procedure provided for in paragraph 3 shall be followed.

4.2 Routine Testing

The Parties shall supply each other with test numbers to be used for test calls in order to do routine testing of the Interconnection circuits. Artificial traffic generators shall be used in such a way so as not to unduly load the POIs.

4.3 System and Circuit Identification

Each Party shall communicate to the other generic system and circuit identification for mapping to its own generic system and circuit identification scheme.

4.4 Interconnection Circuit Utilisation Details

The Parties may, where required, exchange records of utilisation and Call connection performance over the interface to ensure that the service over the interface is maintained at satisfactory levels. Information regarding planned dates for route augmentation shall also be exchanged between the Parties whenever necessary.

4.5 Malicious Call Tracing

Authorised malicious call tracing may be requested by either of the ISDs and the other Party shall give priority to such a request.

5. OTHER ISSUES

5.1 Escalation Procedure for Operational Matters

In all cases of Interconnection Outages or interaction between the Parties concerning operation and maintenance activities, an agreed escalation procedure shall apply.

5.2 Software Upgrades/Modifications

5.2.1 To ensure that there are no interworking problems, software enhancements shall, prior to the introduction thereof into an active exchange, be introduced and tested between the

Parties at a test exchange. A minimum of two weeks written notice shall be given before testing can commence.

5.2.2 Unless otherwise agreed in writing between the Parties, a 30-day lapse is required between a software upgrade in any MSC or switching unit and the general release into the rest of the network.

5.2.3 A controllable number of software patches should be activated in any 24-hour period on the same switching unit. The testing of such patches will be by agreement in writing. All applications and tests shall be done between 22h00 and 05h00 or during such other low traffic periods as may be agreed.

5.3 Operation and Maintenance meetings

Whenever required, but not less frequently than every six months, meetings are to be held between the ISDs in order to review the general performance of the Interconnection, information exchanges, the procedures provided for herein and/or any other relevant matters.

APPENDIX 5

INTERCONNECTION RATES

A. RATES PAYABLE TO MASCOM

1. TERMINATION RATES FOR LOCAL/NATIONAL ORIGINATED CALLS

Rate group	Applicable hours	Rate per minute
All hours	Mondays to Sundays 00:00 to 24:00	Pula 0.25 (Excluding VAT)

The rate payable to Mascom is applicable for all incoming national/Botswana local originated traffic and is subject to fulfilment of all other terms and conditions of the Agreement.

At the time of entering into this Agreement, Mascom is not willing to accept that Licensed Provider XXX transits and terminates any international originated traffic destined for the Mascom Network Service and customers. Therefore, the only interconnection service allowed for termination on the Mascom Network Service, for the purpose of this Agreement, is national/locally originated traffic by Licensed Provider XXX's subscribers and based on the allocated number range(s) to Licensed Provider XXX.

Licensed Provider XXX hereby commits to sending only national/local originated traffic to Mascom that has the original CLI (calling line identity) based on the unique Botswana number range allocated to Licensed Provider XXX from the BOCRA.

If Licensed Provider XXX were to send any internationally originated traffic to Mascom customers, either with original CLI or converted to local CLI, this shall constitute a breach of this Agreement, entitling Mascom, without prejudice to or limitation of its other rights and entitlements in terms of this Agreement, to block all traffic from Licensed

Provider XXX with immediate effect. Mascom shall further not be obligated to allow any traffic from Licensed Provider XXX for a minimum period of 6 months from the date of the breach.

Notwithstanding the above, Licensed Provider XXX shall commit to send interconnect traffic to be terminated by Mascom over the agreed POIs of a value to be determined on a case-by-case basis taking into account the prevailing market conditions at the time. This level of traffic shall be reached not later than 3 months after the Commercial Date. In the event that the traffic does not exceed the minimum commitment so agreed after the 3 months grace period, Mascom shall nevertheless be entitled to charge the Licensed Provider a penalty to be determined and shall be charged per month from the commencement of the Accounting Period until such time as the minimum traffic commitment is exceeded.

B. RATES PAYABLE TO LICENSED PROVIDER XXX

Rate group	Applicable hours	Rate per minute
All hours	Mondays to Sundays 00:00 to 24:00	To be Agreed (Excluding VAT)

APPENDIX 6

END TO END CUSTOMER EXPERIENCE QUALITY SPECIFICATIONS

1. DEFINITIONS

‘CLI’ means the Calling Line Identity of the user originating the Message.

‘Originating Network’ is the network who the user who initiates a Message is directly connected to.

‘Originating Telecommunications Network’ is the network over which Messages travel to the Mascom POI from the user who originates a call.

‘Quality Specifications’ is the minimum technical specifications defined by Mascom to support the desired customer experience for any Messages delivered to its network for transit or termination as defined in this Appendix.

‘Post Dialing Delay’ is the time interval between the end of the calling party dialling and the reception of an appropriate network response including a ring tone, busy tone, congestion tone or recorded voice announcement.

‘Re-Origination of Messages’ is the process of receiving a Message from a Calling Party intended for the Called Party and using fixed or mobile telecommunications equipment to reinitiate the Message to the Called Party. Re-origination of Messages excludes any functions performed by equipment required to perform protocol conversion, transcoding, media conversion or security functions within a Telecommunications System.

‘Transmission Delay’ is the time interval for a signal to travel across the Originating Telecommunications Network.

2. APPLICATION

Messages must comply with Quality Specifications over the end to end Originating Telecommunications Network as agreed between the Parties.

3. QUALITY SPECIFICATIONS

3.1. Post Dialling Delay

3.1.1. The Post Dialling Delay must meet the performance requirements in the following table.

Connection Service Type	Mean Value (Seconds)	95th Percentile
Fixed to Mascom (Local)	≤ 6	≤ 9
Fixed to Mascom (National)	≤ 9	≤ 12
Mobile to Mascom (Local)	≤ 12	≤ 15
International to Mascom [only applies if Mascom were to agree with other Party to terminate international originated traffic destined to Mascom network]	≤ 12	≤ 15

3.2. Transmission Delay (Latency)

3.2.1. Subject to Clause 3.2.2, the one-way Transmission Delays must meet the requirements in the following table.

Network Portion	Latency (non-satellite connections)	Latency (including one satellite connections)
Fixed to Mascom	≤150ms	≤410ms
Mobile to Mascom	≤150ms	≤410ms

3.2.2. The following exceptional call cases are not subject to the requirements for Transmission Delay:

- a). Unavoidable double satellite hops.
- b). Unavoidable use of low bit rate voice encoded satellite circuits in the Originating Network for a hard to reach (isolated and remote) location.

3.3. Echo Control

3.3.1. Echo cancellers must be employed when the round trip delay exceeds 34 ms.

3.3.2. Partners who operate a digital mobile network must provide echo cancellers within their networks for both call directions.

3.4. Synchronisation and Slip

3.4.1. The Slip performance of a 64 kbit/s connection must meet the requirements specified in the following table.

Performance Category	Mean Slip Rate	Proportion of Time (Total time ≥ 1 year)
A	≤ 5 slips in 24 hours	$\geq 98.9\%$
B	≥ 5 slips in 24 hours ≤ 30 slips in 1 hour	$< 1\%$
C	> 30 slips in an hour	$< 0.1\%$

3.5. Packet Loss

3.5.1. Messages originated or transmitted by VOIP networks prior to delivery to the Mascom network must have less than 1% packet loss from origination to the Mascom POI.

3.6. CLI

3.6.1. Subject to clause 3.6.2, all Messages must include the CLI of the Calling Party in accordance with the following table.

Message Origination	Average Messages with Calling Party CLI	95 th Percentile
Botswana	99.8%	99.9%

Other [only applies if Mascom were to agree with other Party to terminate international originated traffic destined to Mascom network]	99%	99.5%

3.6.2. Subject to Mascom written approval, the Partner may send Messages without CLI where it is not available due to regulatory, legal or technical fault.

3.7. Re-Origination of Messages

3.7.1. The Partner must not use any fixed or mobile telecommunications equipment to re-originate Messages.

4. VERIFICATION OF COMPLIANCE

4.1. Distribution of Measurement Devices

4.1.1. Call measurement devices must be distributed in order to provide a generally representative view of the specified call case scenario that is the subject of the performance anomaly.

4.2. Distribution of Measurement Calls

4.2.1. A schedule of measurement calls must be developed by ensuring that the test call distribution is generally representative of traffic flows across the Originating Telecommunications Network with respect to:

- a). distribution of traffic with time of day and day of week; and
- b). origin of traffic.

4.3. Measurement Periods

4.3.1. Measurements must:

- a). be distributed across a 24 hour period; and

- b). extend over no less than seven consecutive days.

4.4. Number of Measurement Calls Required

4.4.1. The sample size to be tested is determined by the degree of confidence (e.g. 95%) to which a measured parameter is required to be specified.

4.4.2. When a Partner is required to test a Quality Specification parameter, the Partner must also test the other parameters using the same sample unless otherwise agreed with Mascom.