



BIX.BG Ltd (BIX.BG)
Service Level Agreement (SLA)
effective as of 01.09.2009

1. INTRODUCTION

1.1. AIM

This document has the purpose to fix the SERVICE level that BIX.BG offers to the MEMBERS. BIX.BG's main concern is to ensure and support a professional and high quality SERVICES to the MEMBERS.

1.2. SCOPE

This SLA is applicable only to SERVICES subject to a valid individual contract (the CONTRACT) signed by BIX.BG and the MEMBER.

1.3. Definitions

All the terms that are not defined in this document have the meanings given in the General Terms and Conditions (GTC). In case there isn't any definition given in the GTC terms are to be understood under their standard meanings and interpretations.

2. BIX.BG OBLIGATIONS

2.1. To fix TIME FOR RESTORING THE SERVICE up to 2 (two) hours. The time starts from the technical problem notification.

2.2. To ensure a GUARANTEED SERVICE LEVEL AVAILABILITY on a monthly basis (calendar month) equal to **99.95%**. AVAILABILITY means all the time during the month when the MEMBER has the possibility to use the SERVICE under the contractual parameters. The indicated value of the SERVICE LEVEL AVAILABILITY does not include the time for planned technical maintenance.

2.3. To ensure technical SERVICE support 24 (twenty four) hours a day, 365 days a year by registering and repairing technical problems any time of the night and day.

2.4. To use equipment and software from leading producers. BIX.BG is obliged to have SERVICE maintenance contracts and/or to keep equipment in stock in cases equipment change is needed. This gives BIX.BG the possibility to offer high reliability, security and protection of MEMBERS interests.

2.5. To develop and follow recovery procedures in cases of interruption or lower quality of the SERVICE.

2.6. To monitor the proper functioning of the shared switching infrastructure to ensure uninterrupted SERVICES for the MEMBERS.

2.7. To collocate its equipment in technical centers with backup electricity supply from On-Line UPS and electricity generator independent of the public utility.

3. PLANNED TECHNICAL MAINTENANCE

3.1. BIX.BG has the right to carry out technical maintenances once a month for a period no longer than 2 (two) hours upon prior notification of the MEMBERS at least 48 (fourthly eight) hours before the planned actions. The notification must contain at least the date and the time when the SERVICE is to be off and the expected duration of the lack of SERVICE. Planned technical maintenances are carried out in the period between 02.00 am and 06.00 am GMT+2.

3.2. It is possible lack of SERVICE to appear during the period the planned technical maintenances are carried out, which is beyond BIX.BG responsibility.

4. TECHNICAL PROBLEMS SOLVING PROCEDURE

For solving technical problem the next steps must be followed:

4.1. Notification when technical problems detected.

The PARTIES shall exchange the information about technical problems on phone. If necessary later on the correspondence may continue via e-mail. The MEMBER shall notify the problem by communicating the port name if possible. There are two possible ways of acting depending on which party has detected the problem first:

4.1.1. NOC of the MEMBER notifies the BIX.BG ENGINEER ON DUTY for a detected technical problem.

4.1.2. The BIX.BG ENGINEER ON DUTY notifies NOC of the MEMBER for a detected technical problem.

4.2. Technical problems categorization.

Technical problems are categorized by the BIX.BG ENGINEER ON DUTY according to the degree of their priority as follows:

PRIORITY	DESCRIPTION
Priority 1	SERVICE failure for more than one MEMBER
Priority 2	Failure of one or more SERVICES of a single MEMBER or low quality of two or more SERVICES of a single MEMBER
Priority 3	low-quality of SERVICE of a single MEMBER

4.3. Registering of technical problems.

The BIX.BG ENGINEER ON DUTY opens a Trouble Ticket Number (TTN) and this TTN is announced to the MEMBER.

4.4. Technical problem localization.

The first step in solving the technical problem is determining its cause. The technical problems can be classified as follows:

4.4.1. Problem in BIX.BG's shared switching infrastructure prior the DEMARCATION POINT.

4.4.2. Problem in MEMBER's network and/or between the MEMBER's network and DEMARCATION POINT. In this case the BIX.BG ENGINEER ON DUTY passively observes the development of the problem and after it is solved closes the Trouble Ticket.

BIX.BG and the MEMBER shall cooperate in the process of localization the technical problem.

4.5. Escalation at a technical problem.

In the process of solving a registered, under p. 4.3, technical problem and according to its priority BIX.BG follows the listed terms of internal escalation:

ESCALATION LEVEL	Maximum duration Priority 1	Maximum duration Priority 2	Maximum duration Priority 3
LEVEL 1 (BIX.BG ENGINEER ON DUTY)	Immediately	Immediately	Immediately
LEVEL 2 (BIX.BG CTO)	Immediately	15 min	60 min
LEVEL 3 (BIX.BG CEO)	30 min	60 min	90 min

4.6. Closing the technical problem.

BIX.BG's ENGINEER ON DUTY certifies that the technical problem is solved. That fact shall be approved by the MEMBER (when involved). After that the trouble ticket is closed by checking the date and time.

When closing the Trouble Ticket the following parameters are taken into account:

4.6.1. **MTTReact** – downtime registration;

4.6.2. **MTTRetore** – downtime duration.

5. FINANCIAL COMPENSATIONS

- 5.1. When exceeding the FIXED TIME TO RESTORE frame for the SERVICE under p.2.1, BIX.BG owes the MEMBER a financial compensation as set below:

Started hours exceeding the fixed time limit to restore the SERVICE	Compensation in % from the monthly fee for the SERVICE
1 hour	10 %
2 hours	15 %
3 hours	20 %
4 and more than 4 hours	30 %

- 5.2. If during a calendar month the real estimated (measured) SERVICE LEVEL AVAILABILITY is lower than GUARANTEED SERVICE LEVEL AVAILABILITY, BIX.BG owes the MEMBER a financial compensation as set below:

MEASURED SERVICE LEVEL AVAILABILITY (MSLA)	Compensation in % from the monthly fee for the SERVICE
99,5% <= MSLA < 99,95%	10 %
98% <= MSLA < 99,5%	20 %
MSLA < 98%	30 %

- 5.3. The MEMBER doesn't have the right to claim financial compensations if:

- 5.3.1. There isn't a written declaration for penalty payment on behalf of MEMBER addressed to BIX.BG within 30 (thirty) days after the reason for this has occurred.
- 5.3.2. BIX.BG has carried out regular or casual technical tests and the MEMBER is forewarned of these actions in advance.
- 5.3.3. The MEMBER hasn't fulfilled any of its obligations towards BIX.BG.
- 5.3.4. As a result of damage or improper proceeding with any equipment or relevant outfit belonging to the MEMBER or its affiliates.

- 5.4. BIX.BG is not liable for :

- 5.4.1. In cases of Force Majeure which are beyond its reasonable control. In such cases art. 306 from the Commercial Law is applied.
- 5.4.2. Technical problem in MEMBER's network and/or between the MEMBER's network and the DEMARCATION POINT.
- 5.4.3. Inability on the MEMBER's site to use the SERVICE.
- 5.4.4. Third parties pretensions towards the MEMBER connected with the use of the SERVICE.
- 5.4.5. The content of any information transferred while using the SERVICE.

- 5.5. BIX.BG issues the MEMBER a credit letter for the financial compensations owed under this section.

6. A PORT OVERLOADING PROCEDURE.

- 6.1. PORT OVERLOADING exists if any of the following circumstances occur:

- 6.1.1. For the period of two consequent months, during more than 5% of the time period, the MEMBER uses more than 80 % of the PORT capacity;
- 6.1.2. For the period of two consequent weeks, during more than 5% of the time period, the MEMBER uses more than 90 % of the PORT capacity.

- 6.2. In five days time period after any of the circumstances under p.6.1 appear, BIX.BG shall inform the MEMBER and shall offer it in 10 days period to take some of the actions listed below :

- 6.2.1. To order an ADDITIONAL PORT; or

6.2.2. To change its PEERING POLICY in order to prevent a future PORT OVERLOADING.

6.3. In case a new PORT OVERLOADING appears in 60 (sixty) days after the 10 days under p.6.2 have expired and the MEMBER has chosen not to order an ADDITIONAL PORT, BIX.BG has the right to begin charging the MEMBER an ADDITIONAL PORT fee and ask the MEMBER to set up and use such ADDITIONAL PORT.

6.4. As far as a GROUP OF PORTS configuration is concerned the above procedure is applied to the entire group as a whole.

7. SECURITY OF THE SHARED SWITCHING INFRASTRUCTURE

7.1. One of BIX.BG main priorities is to ensure the MEMBERS reliable and uninterrupted SERVICES as well as to limit the risks of deliberate or accidental mistakes, defective equipment or lack of speed of certain MEMBER to reflect the quality of the other MEMBERS SERVICES or to suspend them. According to this the following restrictions and rules apply:

7.1.1. BIX.BG PHYSICAL INTERFACES and MEMBERS PHYSICAL INTERFACES shall work in full-duplex regime. If the MEMBER'S equipment supports an Autonegotiation, it is necessary the equipment to be able to switch off this functionality;

7.1.2. BIX.BG does not proceed with frames that doesn't comply with the Ethernet standard – smaller than the minimum and larger than 1500 bytes, as well as wrong CRC code frames or "broken" frames;

7.1.3. Frames forwarded to BIX.BG ports shall have one of the following ethertypes:

- 0x0800 - IPv4
- 0x0806 - ARP
- 0x86dd - IPv6

and restricts all other ethertypes;

7.1.4. PUBLIC PEERING access is allowed as static one at a definite MAC address (Media Access Control address) of the MEMBER. Frames forwarded from attached MEMBER device(s) to an individual BIX.BG address port shall all have the same source MAC address;

7.1.5. Frames forwarded to BIX.BG ports shall not be addressed to a multicast or broadcast MAC destination address except as follows:

- broadcast ARP (Address Resolution Protocol) packages;
- multicast IPv6 Neighbor Discovery (ND) packages.

7.1.6. Maximum broadcast packages forwarded from the MEMBER'S equipment must not exceed 50 (fifty) in number per second per PHYSICAL INTERFACE;

7.1.7. The MEMBER shall not announce to the ROUTE SERVERS IP address space reserved for Private networks (Private IPs);

7.1.8. The MEMBER shall not announce to the ROUTE SERVERS AS numbers reserved for private use (Private AS);

7.1.9. Traffic shall not be routed between two or more BIX.BG ports owned by the same BIX.BG MEMBER;

7.1.10. The MEMBER must aggregate as far as possible the announced prefixes (MEMBER ADDRESS SPACE). The smallest IP address block allowed to be announced is /24 (256 IP addresses). The MEMBER shall register the announced prefixes according to RIPE or another public routing registry rules;

7.1.11. The MEMBER shall not announce BIX.BG IP address space to other networks, outside its own network and these of its clients, without explicit written permission of BIX.BG;

7.1.12. BIX.BG can limit the PUBLIC PEERING traffic in both directions (source and destination), when source IP address space or destination IP address space is not part of the prefixes announced by the MEMBER to ROUTE SERVERS. All routes to be announced in a PEERING session shall be registered in the RIPE or other public routing registry;

7.1.13. For the purpose of monitoring on BIX.BG site, the MEMBER must not forbid ICMP (Internet Control Message Protocol) communication of BIX.BG IP address space.

7.2. If the restrictions and rules under p.7.1. are broken, BIX.BG notifies the MEMBER. If in 24 (twenty four) hours period the problem is not eliminated, BIX.BG has the right to suspend the SERVICES. If the breach is essential and puts a normal functioning of other MEMBERS' SERVICES at risk, BIX.BG has the right to suspend the MEMBER SERVICES without delay and then to notify it.

8. BGP4 and ROUTE SERVERS (RS)

- 8.1. Two BGP4 sessions are held simultaneously with the both BIX.BG ROUTE SERVERS for a complete redundancy (backup) as to the both ROUTE SERVERS the same announces are sent: rs1.bix.bg (IP:193.169.198.10), rs2.bix.bg (IP:193.169.199.10).
- 8.2. For the BGP4 sessions set up BIX.BG IP addresses are used, the next-hop (the destination IP address) is the same BIX.BG IP address used for the BGP4 session set up.
- 8.3. The first AUTONOMOUS SYSTEM in the route announced by the MEMBER to the ROUTE SERVERS is its own AS.
- 8.4. Using the BGP Community the MEMBER can give BGP announces to any MEMBER. The following BGP announces are applied to the announced prefix:

BGP Community	RS instruction
0:MEMBER-AS	Not to announce to this MEMBER
15669:MEMBER-AS	To announce to this MEMBER
0: 15669	Not to announce to any MEMBER
15669: 15669	To announce to all MEMBERS

8.5. ROUTE SERVERS local preference by default is equal to 100 (one hundred). The BGP Community gives the possibility for change as explained below:

BGP Community	RS instruction
15669:65000	Local preference* = 0
15669:65050	Local preference* = 50

- 8.6. Concerning the incoming traffic (announces to be accepted) the control belongs wholly to the MEMBER. It can filter which announces received from ROUTE SERVERS to accept.
- 8.7. In order to have full functional identity between PUBLIC and private PEERING, RS can eliminate its own AS from the route sent to the MEMBER. In this case it will appear as they are directly connected and no private BGP session between them is needed.
- 8.8. Announces received by RS will be checked daily in RIPE and announces not registered there won't be accepted. This shall be done in order to prevent wrong prefixes that can't be transferred by the MEMBER.
- 8.9. ROUTE SERVERS estimate the best path using standard rules of routing for each prefix and send it to the MEMBER.

9. SERVICE LEVEL AGREEMENT AMENDMENTS

- 9.1. BIX.BG has the right to amend the Service Level Agreement. BIX.BG publishes the amendment on its Internet site www.bix.bg in order to inform the MEMBERS at least 30 (thirty) days before entering into force.
- 9.2. The MEMBER has the right to terminate the CONTRACT if it does not agree with the amendments in 10 (ten) days term after entering into force except in case the amendments are due to legislation or concern new SERVICES or possibilities and this does not reflect essentially on the used SERVICES.

10. GENERAL RULES

- 10.1. Financial compensations are calculated on the monthly fees basis applied during the period the SERVICE problem is registered.
- 10.2. The total amount of the financial compensation during a calendar month can't exceed 50% (fifty percent) from the SERVICE monthly fee.

10.3. For the purpose of this SERVICE LEVEL AGREEMENT the information registered by BIX.BG will be used as basic data, and the information registered by the MEMBER are considered as control data.

MEMBER:

BIX.BG:

Represented by:

Represented by: Dimo Nikolov