

# Service Level Agreement (SLA)

This SLA is established to guarantee a certain level of support and continuous provision of Internet services by the ISP to UN agencies in Lebanon.

The ISP is driving to provide the needed SLA by ensuring a highly redundant local and international backbone.

This SLA represents the minimum agreed parameters by all UN agencies, however, each UN agency can negotiate further requirements and/or variations with the ISP.

## **Network Availability Guarantee:**

- Access lists implemented on the router's interfaces to the Internet.
  - All known TCP/ UDP ports that are commonly used for Trojan attacks are blocked.
  - Only traffic issued from, or destined to ISP network IP space, is allowed on the interfaces.
- No IP-directed broadcast is allowed on all routers' interfaces, to protect from TCP flooding (Smurf attacks).
- Continuous monitoring of syslog traps from all ISP network routers for the following:
  - Intrusion attempts: In case any attempt is detected, the source IP address is verified in the RIPE, ARIN, or APNIC Databases (WHOIS), then the responsible party is officially contacted for investigation and reporting of abuse.
  - Deviation of norms at locations where the WAN components are installed: temperature, power, humidity, etc.
  - Connectivity issues at the physical and network levels (interface up downs, controller card errors, ..).
  - Routing issues.
- Network Operations Center  
In addition to the above, the Network Operations Center network and the point of presence servers, are protected (with the use of ACLs), from non-authorized FTP, TELNET, PING or any other sensitive applications access; only trusted sources are allowed.
- Availability
  - The ISP guarantees a minimum of 99.9% availability of its own Internet network in a calendar month. Service unavailability exists when a Mission connection is unable to transmit and receive IP Packets to/from ISP POP.
  - Service Unavailability is measured from the time ISP has actual knowledge of a service outage and a trouble ticket is opened by ISC "Internet Support Center".
  - If ISP fails to meet the above Internet Service availability SLA, then a five percent (5%) deduction will be effected from the monthly charges as a compensation. Each tenth (1/10) of Internet availability degradation will lead to 5% deduction of monthly charged.
  - Availability is calculated on a month-to-month basis. Availability and penalty are calculated on tenth of percent basis. If the service provider fails to respond within 12 hours, penalties will be applied based on a minimum five percent (5%) of fixed monthly payment.

**PS: Noting that Failures related to the Ministry of Post and Telecommunications infrastructure (on which ISP and all other ISPs rely), will not be accounted for in the above calculation since they are beyond ISP's control and since no SLA is provided by the MOT.**

- **Bandwidth Management over Ethernet - Testing:**  
The Connection between Mission Network and ISP is dedicated (CIR=BBR) with an unlimited traffic. Noting that the bandwidth provided is symmetric and supports VPN.  
The bandwidth contention ratio on the network path through carrier will be 1: 1 (CIR=BBR) as the Internet bandwidth requested is to the Internet and not simply to the carrier's POP.  
In addition, ISP warrants not applying any measure to limit bandwidth.
- **Response time (Internet request)- Network Latency Guarantee:**  
The Internet connection provided for Mission will be full Fiber, copper or Microwave and routed through ISP's international Fiber circuits.
- **Protocols & Services supported:**  
ISP supports all protocols and services unless it is specified otherwise by the government or by Mission.
- **Packet Delivery Guarantee**  
ISP aggregate monthly average packet loss between ISP POPs on Local Network Backbone shall not exceed 0.1 %. Packet Loss shall be calculated based on the arithmetic mean of aggregate monthly measurements between ISP POP in Lebanon and International POP nodes.
- **Testing period**  
ISP will notify Mission five (5) days prior to the required inspection/testing of the Internet service connection. Also note that ISP may conduct a Bit Error Rate (BER) test during the testing period to eliminate cyclic redundancy check (CRC) errors.
- **PRTG - Graph Monitor**  
For Mission monitoring and for own capacity planning and bandwidth optimization, ISP provides the Mission with tools to visualize, track and monitor its links.

MRTG can provide the daily statistics with almost real-time monitoring (graphs at most every 5 minutes), last week statistics, last month statistics, and last year statistics.

Continuous monitoring – SMS Warning

Continuous monitoring is applied on local loop and international circuit; whenever one of the links is down, Mission ICT support staff are notified by e-mail and by SMS.

### **Fault Escalation procedure:**

ISP Engineering Team responsible of the corporate support, quickly accesses and gets to the root of any problem faced by the Mission.

Opening a trouble Ticket:

In the event that Mission needs to open a trouble ticket, incident will be presented to ISP engineering team using the below contacts:

- By Phone: Calling the NOC 24/24.
- By email: (provided by ISP).
- Using a Case Management system offered by ISP.
- Escalation Levels: (provided by ISP).

**SLA Core Requirements:**

- Provision of requested 100% fully dedicated bandwidth: **Availability 99.99% or better**
- Latency to European Site: **RTT less than 69ms**
- Latency to North American Site: **RTT less than 160ms**
- Maximum Incident Resolution Time 24 hours: **IRT less than 1 hour in Beirut, and 2 hours outside Beirut.**
- Physical redundancy of radio path i.e. dual radio paths: **2 Microwave dishes from different ISP points**, in case the connection is through MW.

The bidder must be in a position to offer guaranteed SLA and meet the SLA parameters. The bidder must provide software allowing the monitoring of the targeted SLA (as per the ToR). The SLA should be part of the proposal and should detail the MIR/CIR parameters and include -in addition to all of the above- at least the following elements:

|                                       | <b>Internet connection</b>  | <b>Inter-Branching</b>  |
|---------------------------------------|---|---|
| <b>Network Availability Guarantee</b> | The availability of the service must be equal or greater than 99.99% within 12 months period to the UN agencies or any other entities that are supported by UN with connectivity services.  | The availability of the service must be equal or greater than 99.99% within 12 months period to the UN LEB or any other entities that are supported by UN with connectivity services.   |
| <b>Network Latency Guarantee</b>      | Average round trip latency from the UN LEB agencies (MO and BO) to the corresponding headquarters site shall be no more than 120 ms (69 ms for Europe and 160 ms for North America).<br>Average round trip latency from any other entities that are supported by UN with connectivity services to international internet circuits shall be no more than 120 ms. | Average round trip latency between two UN LEB Offices shall be no more than 20 ms.<br>Average round trip latency between two sites of any other entities that are supported by UN with connectivity services shall be no more than 20 ms. |
| <b>Packet Delivery Guarantee</b>      | Average monthly Packet Loss shall be no more than 0.1%.   | Average monthly Packet Loss shall be no more than 0.05%.  |

**Please note that this document will be the integral part of the service contract to be signed with the selected vendors.**