

ANNEX B

STATEMENT OF WORK

1. Introduction

- (1) Shared Service Canada (hereinafter referred to as SSC) has a requirement for Local Internet Access Service (LIAS) that will provide it along with other Government Departments (OGDs), with the ability to access the Public Internet Services from many locations across Canada.
- (2) The LIAS will provide access to the Public Internet using commercially available Internet access technologies. One of the intended uses of LIAS is to deploy as a transport medium to connect Departmental Wide Area Networks over secure Virtual Private Networks (VPNs) from various locations across Canada, essentially where direct physical connections to departmental Intranets are not available, including remote business and remote offices.
- (3) The LIAS access or Service Interface Point (SIP) Demarcation and Contractor responsibility are defined in Figure 1.

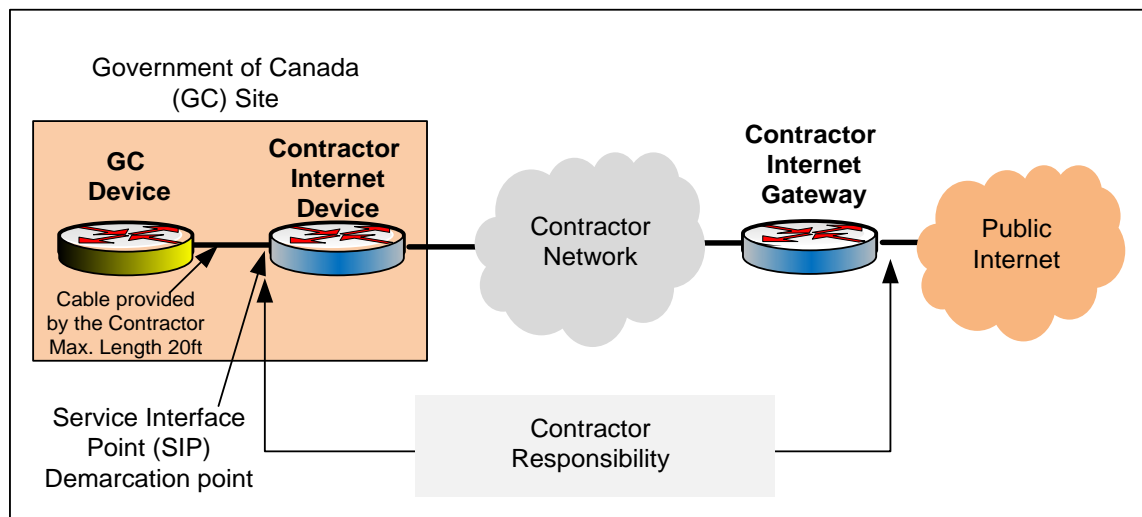


Figure 1: Contractor Responsibility and Demarcation points

2. Local Internet Access Service (LIAS) General Requirements

- (4) The Contractor must provide LIAS, on an as and when requested basis, in full compliance with all the requirements specified herein.
- (5) The Contractor must be able to provide LIAS services at various locations within the province and territory covered under this Contract, where Internet services and the stipulated service speed capabilities are commercially available from the Contractor or any other ISP.
- (6) The Contractor must deliver and install LIAS on the premises at the designated site locations as specified by SSC.
- (7) The Contractor must provide all required network infrastructure in support of the delivery of the LIAS services including the infrastructure from the property line to the demark point of the LIAS SIP inside the building.
- (8) When requested by SSC, the Contractor must be able to relocate the LIAS SIP within the same site location or to other locations within the province or territory.

- (9) The Contractor must maintain the interfacing and infrastructure equipment, to meet the service levels objectives described in section 7.1.1, for LIAS.
- (10) The Contractor must respond to any failure situation to ensure Internet access availability as defined in section 7.1.
- (11) The Contractor acknowledges that the preferred method to exchange management and administrative information electronically with SSC is by a Web Portal. However, other methods such as email or file transfer may be considered as alternative methods but will require the approval of SSC.

3. Technical Requirement

- (12) The Contractor must provide Asymmetrical data transmission access to the Internet, by cable and Digital Subscriber Line (DSL) or other technologies with the following features based on commercial availability and as defined in the Basis of Payment:
 - (12.1) Various minimum upload speeds;
 - (12.2) Various download speeds; and
 - (12.3) Various Monthly usage caps.
- (13) The Contractor must provide Symmetrical Internet connections with bidirectional committed bandwidth using more robust broadband technologies supporting higher bandwidth speeds.
- (14) The Contractor must support changes to the throughput according to the bandwidth steps identified in the Basis of Payment up to the maximum capacity supported by the deployed technology and with minimum service interruption.
- (15) The Contractor must specify to SSC the underlying technology used to deliver the LIAS service which will be subject to SSC's approval.
- (16) The majority of the overall SIPs (an estimate of 80%) are expected to be asymmetrical type; this may vary by province.
- (17) The Contractor must include as part of the LIAS service all the required networking infrastructure, facility and terminating equipment such as router, switch and or modem. Where applicable, the Contractor must also include the local loop such as dry loop or phone line for ADSL type services.
- (18) For each LIAS SIP, the Contractor must provide Internet access by a RJ-45 or other approved interface connection (i.e. fibre) to the interface port on GC's premise equipment that supports duplex operation.
- (19) The Contractor must provide an Internet access service with various interfacing capabilities of E10, E100, 1 GigE (10/100/1000Mbps for Ethernet LAN connectivity).
- (20) The Contractor must deliver LIAS service with technologies that support any of the following options when requested by SSC:
 - (20.1) One usable static IP address;
 - (20.2) Multiple usable static IP addresses; and
 - (20.3) Assigned usable dynamic IP addresses using DHCP (Dynamic Host Configuration Protocol).
- (21) When requested and where commercially supported by the Contractor, the Contractor must provide LIAS SIPs with associated IP address registration records as well as the civic address where LIAS services are installed not pointing to SSC and to the Government of Canada. Due to operational requirements, SSC requires that some LIAS SIPs remain discreet and anonymous.

3.1 Internet Protocol (IP) Support

- (22) Subject to commercial availability and Contractor's support schedule, the Contractor must support business or enterprise grade IP using either IPv4, IPv6 or dual IPv4/IPv6 configurations.
- (23) The Contractor must provide the option for SSC to specify the requirement for an IPv4, IPv6 or dual stack IPv4/IPv6 configuration, at specific locations, when ordering Local Internet Access Services (LIAS), depending on availability of the service.
- (24) Where the Contractor is providing an IPv4/IPv6 dual stack configuration and subject to commercial availability, the Contractor's:
 - (24.1) Network must support IPv6 traffic transit natively, without the use of IPv6 tunnelling mechanisms;
 - (24.2) Network equipment and systems must provide the dual stack method for supporting IPv4 and IPv6 concurrently in accordance to RFC 4213; and
 - (24.3) Note that RFC 4213 specifies the two basic transition mechanisms for IPv4 compatibility that can be implemented by IPv6 hosts and routers, as dual stack and configured tunnelling. The dual stack implies providing complete implementations of both versions of the Internet Protocol (IPv4 and IPv6), while configured tunnelling provides a means to carry IPv6 packets over unmodified IPv4 routing infrastructures.

3.2 Network Connectivity

The following requirements may be subject to the Contractor's applicable network security and related provisioning policies:

- (25) The Contractor must provide LIAS in compliance with the following Standards:
 - (25.1) Internet Protocol (RFC 791);
 - (25.2) IP Security Protocol (RFC 4301); and
 - (25.3) Transport Layer Security (RFC 5246).
- (26) The Contractor must ensure in the provisioning of LIAS that the network traffic does not require hardware and software changes to SSC's firewalls and Network Address Translation (NAT) systems.
- (27) The Contractor must ensure that the LIAS will allow application protocol traffic and that the network traffic is not modified including:
 - (27.1) Well known TCP port numbers;
 - (27.2) Non-standard TCP port numbers as specified by SSC;
 - (27.3) Network discovery mechanisms;
 - (27.4) File access and transfer; and
 - (27.5) Email and directory access.
- (28) The Contractor must provide LIAS that is transparent to requests to establish a VPN Tunnel using any of the following Authentication Services as specified by SSC:
 - (28.1) Certificate;
 - (28.2) Radius Server;
 - (28.3) LDAP Server;

- (28.4) Secure ID Server; and
- (28.5) Active Directory.

4. LIAS Optional Services

- (29) The Contractor upon request as an option and where services are available, may be required to provide the following services included as an option in the Contract:
 - (29.1) Asymmetrical Internet services with minimum upload bandwidth speeds of 640Kbps and various available download bandwidth speeds up to 50Mbps and various monthly usage caps;
 - (29.2) Symmetrical Internet Services with bidirectional committed, best efforts and burstable Bandwidth speeds up to 10Gbps;
 - (29.3) Dial Up Internet Access Service capability, supporting speeds of 56 Kbps and 128Kbps, with unlimited Internet access and 24/7 technical support; and
 - (29.4) Protection from denial of service attacks as a separate optional feature, priced separately. This will allow legitimate traffic to traverse to and from its destination while preventing any denial of service attacks overwhelming the LIAS SIP.

5. Service Description

- (30) Within 30 FGWDs after contract award, the Contractor must provide a Service Description that includes an overview of:
 - (30.1) LIAS being provided;
 - (30.2) Service Management processes involving moves, adds and changes, problems and service availability;
 - (30.3) Service Design
 - (30.4) Solution Architecture
 - (30.5) Service Level Objectives;
 - (30.6) Service Desk Procedures;
 - (30.7) Network Operations Centre (NOC) processes; and
 - (30.8) Ordering and Bill Payment Procedures.

6. Security Assessment and Authorization (SA&A)

- (31) At SSC's discretions, the SA&A process must be completed prior to the completion of the installation of the LIAS services.
- (32) SSC may request clarifications or documentations in addition to what is requested under section 5 (Service description).
- (33) The SA&A process involves SSC reviewing the documentations requested under section 5 (Service Description) based on which and upon satisfactory demonstrations of all the aspects related to the delivery of LIAS, SSC will provide approval and authorization to proceed with the LIAS installations.

7. Service Management

- (34) The Contractor must provide LIAS in accordance to the following Service Level Objectives (SLO)s and Service Management and Service Operation processes and procedures.

7.1 Service Level Management

- (35) The Contractor is expected to meet the Service Level Objectives defined in Section 7.1.1, paragraph 45 of the SOW on best efforts basis.
- (36) The Contractor must provide the LIAS service in accordance to these Service Level Objectives 24 hours per day, 7 days per week, and 365 days per year (24/7/365).
- (37) The Contractor must provide any hardware and/or software that are necessary to ensure Service Levels Objectives are being met.
- (38) The Contractor must provide SSC with access to its commercially available reporting tool(s) for monitoring Service Level Objectives that are critical for the service quality and delivery to SSC clients.
- (39) The Contractor must provide LIAS Asymmetrical Bandwidth SIPs with a minimum availability of 98%, measured over a period of one calendar month.
- (40) The Contractor must provide LIAS Symmetrical Bandwidth SIPs with a minimum availability of 99.5%, measured over a period of one calendar month.
- (41) The “availability” is a percentage function based on the cumulative outage periods and the total time the Service is available as follows:

$$\frac{(\text{Expected Service Availability for the Month} - \text{Cumulative Outage for the Month}) \times 100\%}{\text{Expected Service Availability for month}}$$

- (42) The Contractor must provide LIAS with a mean time to repair (MTTR) of 24 hours for Asymmetrical bandwidth SIPs.
- (43) The Contractor must provide LIAS with a mean time to repair (MTTR) of 4 hours for Symmetrical bandwidth SIPs.
- (44) Upon request, the Contractor must provide written justification or proof upon failure to meet any service levels. SSC is preauthorized to accept written justification for outages due to any of the following:
 - (44.1) The failure of telecommunication links or equipment, not provided by the Contractor;
 - (44.2) Scheduled maintenance interruptions approved by SSC;
 - (44.3) Action by a person or persons outside the control of the Contractor; or
 - (44.4) Contractor is delayed access or denied access to SSC and GC premises should physical access be required to repair or restore the service.

7.1.1 Service Level Objective Table

- (45) The following table explains the best efforts service levels.

Service Level Parameter	Descriptions	Service Level Objectives
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<p>Transit Delay or Latency for Symmetrical Services</p>	<p>The Contractor upon request of the Technical Authority may be required to measure the round trip transit delay between the LIAS SIP and the Contractor Internet Gateway (Figure 1) using packet sizes of up to 576 bytes.</p> <p>The Contractor may record the packet transit delay for both traffic directions with a minimum sampling period of every 5 minutes, 24/7/365, and may report the measurement results on their web portal, which may be accessible by the Technical Authority.</p>	<p>Maximum transit delay of 75 milliseconds for at least 95% of the packets within any single hour, including the busiest hour.</p>
<p>Packet Data Loss for Symmetrical Services</p>	<p>Upon request of the Technical Authority, the Contractor may be required to measure and record the Packet Data Loss for traffic in both directions between the LIAS SIP and the Contractor Internet Gateway (Figure 1) with a minimum sampling period of every 5 minutes, 24/7/365, and report the measurement results on their web portal that may be accessible by the Technical Authority.</p>	<p>Maximum Packet Data Loss of 1% within any single hour.</p>
<p>Availability</p>	<p>An outage is whenever LIAS cannot communicate with the Internet due to failure of the respective Contractor's LIAS SIP or within the respective Contractor's infrastructure.</p>	<p>Mean Time to Repair the service for Symmetrical & Asymmetrical services within 4 hrs and 24 hrs respectively beginning at the recorded outage start time in the trouble ticket.</p>

7.2 Service Management Reporting

- (46) The Contractor must provide access to a secure and reliable online information management system or Web Portal that is available for the services being provided.
- (47) The Contractor must provide a means for electronic data interchange of information and be approved by SSC if the Web Portal is not available.
- (48) The Contractor must protect the confidentiality of the available information by restricting access to only authorized persons with proper security clearance. For the information SSC has access to, access must be restricted to authorized persons only.

7.2.1 Service Level Reports

- (49) The Contractor must deliver the Service Level Reports on a monthly basis to SSC by the tenth day of the following month for review and approval. The Service Level Reports document the service performance through monitoring and measurements.
- (50) The Contractor must provide the Service Level Reports in electronic format on their Web Portal or via other SSC approved information exchange means. The reports must include:
 - (50.1) The Contractor's service performance values;

- (50.2) A trouble ticket report of service incidents and problems, describing the incident, issues, diagnosis, corrective actions and resolution time; and
- (50.3) An order provisioning report that provides the description, date started, and date completed of the orders in progress and completed.
- (51) When requested by SSC, the Contractor must provide within 2 FGWDs a written root cause analysis and report on the failed service delivery describing the incident, diagnosis, problem, corrective action and mitigation strategy to prevent a similar incident from occurring.
- (52) The Contractor must provide reporting of IP traffic data, for specific site locations where available.
- (53) The Contractor upon SSC's request may be required, where permitted under the provisioning of the service to store:
 - (53.1) 5-minute aggregate IP traffic data for the last 14 days;
 - (53.2) 30-minute aggregate IP traffic data for the last 8 weeks; and/or
 - (53.3) 2-hour aggregate IP traffic data for the last 6 months.
- (54) The Contractor must provide a monthly Financial Expenditure report to SSC containing the minimum following information:
 - (54.1) Account or customer information;
 - (54.2) Service location;
 - (54.3) Invoice number;
 - (54.4) Invoice date;
 - (54.5) Service charges;
 - (54.6) Total cost before taxes;
 - (54.7) Applicable Taxes; and
 - (54.8) Monthly Total Cost.

7.3 Contractor's LIAS Service Desk

- (55) The Contractor must provide a Service Desk for SSC and OGDs to call for assistance 24 hours per day, 7 days per week, and 365 days per year.
- (56) The Service Desk must accept emails from SSC and OGDs to a Contractor-provided mailbox with an auto reply to confirm receipt of the email.
- (57) The Service Desk must acknowledge receipt of emails received from email addresses authorized by SSC of receiving the email 24 hours per day, 7 days per week, 365 days per year.
- (58) The Contractor must provide the following telephone number(s) and associated Public Switched Telephone Network (PSTN) services for the Service Desk:
 - (58.1) North American toll-free number(s); and
 - (58.2) TTY/ FAX/TDD (teletypewriter / telecommunications device for the deaf) access.
- (59) The Service Desk must answer calls (in person and pre-recorded messages) using the SSC's official language (French and English) requested by the caller in response to a message provided initially to the caller in both French and English that allows the caller to select their language of choice.
- (60) The Contractor must provide support, on a 24/7/365 basis, to receive calls from the SSC Service Desk and OGDs service desks regarding service issues.

- (61) The Contractor must work cooperatively with other SSC as specified in the Service Order request to resolve service-affecting issues including cooperation with other SSC contractors when requested.
- (62) The Contractor must notify SSC and OGDs within 15 minutes of any service affecting issues detected or reported.
- (63) The Contractor must be able to track and report on all service-affecting issues.
- (64) The Contractor must provide information to SSC and OGDs with regard to the Contractor's trouble ticketing system to facilitate the communication and update of information of service affecting issues with respect to the provisioning of LIAS.
- (65) The Contractor must report by email or phone to SSC and OGDs on the progress and status of the resolution of critical service-affecting issues every 30 minutes until the service is restored.
- (66) The Contractor must attend meetings in person or by teleconferences with SSC and OGDs, given 3 days advance notice, to discuss and resolve service-affecting issues regarding the performance of the services. When requested, Contractor's technical experts must also attend the meeting.
- (67) The Contractor must provide the name of the company and the individual who will be assigned to go on site, with the necessary security clearance and notify the contract personnel on site, in advance, in order to allow the Contractor's representative on site.

7.4 Operations Centre

- (68) The Contractor must have a Network Operations Centre that is operating 24 hours per day, 7 days per week, 365 days per year with the infrastructure and resources required for the reliable operational provisioning of the LIAS.