

SHARED SERVICES CANADA

Microcomputer National Master Standing Offer

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1. Resulting Standing Offer Clauses and Conditions

1.1 Offer

- a) The Offeror named on page 1 of this National Master Standing Offer (NMSO) offers to supply, deliver, configure, provide documentation, provide training, provide warranty service and technical support for the systems (including upgrades) and system components, all according to the prices, terms and conditions of this Standing Offer, as and when Shared Services Canada (SSC) or its clients orders Products in accordance with this Standing Offer.
- b) The Offeror offers to deliver all Products in the Annex B - List of Products in accordance with the Default Configuration, as defined in Annex A – Technical Specifications, unless the Call-up specifically requests changes to the Default Configuration.
- c) Unless otherwise expressly provided for in this Standing Offer, the Offeror agrees to supply only goods/services authorized for supply under this Standing Offer on the date the Call-up is issued, without variation or substitution. The Offeror acknowledges that only Products listed on the Online Ordering System on the date the Call-up is issued may be supplied.
- d) The Offeror acknowledges that multiple National Master Standing Offers have been issued for this requirement. Call-ups will be allocated among the Offerors in accordance with the process described in the Article entitled “Call-up Procedures”.
- e) “**Call-up**”, which is defined in 2005 General Conditions, includes any contract issued as a result of an Elevated Call-up process or Request for Volume Discount (RVD). All Call-ups are subject to the terms and conditions set out in the Resulting Contract Clauses.
- f) “**Group**” means the broadest grouping of similar commodities. Desktop and Mobile Devices.
- g) “**Category**” means a specific class of equipment within a Group.
- h) “**Section**” means each of the divisions of Products within a Category offered. Unless otherwise specified, the 4 Sections are: 1-Default System, 2-Upgrades, 3-Components and 4-Unevaluated Options.
- i) “**System**” means a system described in this Standing Offer that meets the minimum Detailed Specifications set out in the Annex A entitled “Technical Specifications”. It is fully operational and in ready-to-use state, containing all major components and all requisite ancillary items. These include but are not limited to: Chassis / enclosure, motherboard / system board, processor / processor modules, memory / memory cards, Operating System, device drivers / software licenses, port licenses, power supplies, cooling fans, internal / external cables to the system, I/O cables, etc. to allow the system to satisfy the requirements.
- j) “**Default System**” means a system configured exactly as set out in the Annex entitled “List of Products”, Item No. 1 for the relevant Category, without variation.
- k) “**Product**” means any System, Upgrade, Component or Unevaluated Option, including documentation. Products are subject to the Call-up Limitations specified unless otherwise specified.

- l) **“Upgrade”** means a change to one or more aspects of the Default System described in the Annex entitled “List of Products”, Upgrade Section, by enhancing its functionality, processing capacity or performance. Upgrades are performed by the Offeror as part of the configuration.
- m) **“Component”** means equipment or product that is part of a System described in the Annex B entitled “List of Products”, Component Section. Each Component with a separate price may be ordered by itself unless otherwise specified.
- n) **“Unevaluated Options”** means the related equipment or components listed on an Offeror’s optional equipment list and approved by the Technical Authority.
- o) **“Online Ordering System”** refers to Shared Services Canada’s IT Procurement website (“IT Pro” <https://www.sscitpro-spcaproti2.com>).
- p) **“Original Equipment Manufacturer (OEM)”** means the entity that manufactures a system (as determined by the brand name appearing on a system and in all certifications, supporting manuals and documentation, which must be the same), not necessarily the Offeror.

1.2 Security Requirements

There are no Security Requirements applicable to this Standing Offer. However, the Standing Offer Authority or Identified User making a Call-up may, in its discretion, include a Security Requirement. In such instances, the Call-up will only be issued to an Offeror who, at the time of the Call-up, satisfies the Security Requirement specified by the Identified User.

1.3 Standard Clauses and Conditions

All clauses and conditions identified in the Standing Offer and resulting contract(s) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

a) General Conditions

- i) 2005 (2022-12-01), General Conditions - Standing Offers - Goods or Services, apply to and form part of the Standing Offer, subject to the stipulation in Section 8 of 2005 General Conditions, “standing offer unit prices” do not include the prices offered by the Offeror in response to individual Requests for Volume Discounts. Canada will not be liable for any errors, inconsistencies, or omissions in any information published regarding this series of Standing Offers. If the Offeror identifies any errors, inconsistencies or omissions, the Offeror agrees to notify the Standing Offer Authority immediately.
- ii) Section 3 of the General Conditions is amended as follows: delete “Pursuant to the *Department of Public Works and Government Services Act*, S.C. 1996, c.16”.
- iii) General Conditions – Standing Offers - Goods or Services is amended as follows: All references to PWGSC contained within the Standard Instructions will be interpreted as a reference to SSC.

1.4 Standing Offers Reporting

- a) The Offeror must compile and maintain records on its provision of goods, services or both to the federal government under contracts resulting from the Standing Offer. This data must include all purchases, including purchases paid for using a Government of Canada Acquisition Card.
- b) The Offeror must provide this data in accordance with the reporting requirements detailed in Annex entitled "Standing Offer Activity Report". If some data is not available, the reason must be indicated. If no goods or services are provided during a given period, the Offeror must still provide a "nil" report.
- c) The data must be submitted on a quarterly basis to the Standing Offer Authority. Quarterly periods are defined as follows:
 - i) 1st quarter: April 1 to June 30;
 - ii) 2nd quarter: July 1 to September 30;
 - iii) 3rd quarter: October 1 to December 31; and
 - iv) 4th quarter: January 1 to March 31.
- d) The electronic reports must be submitted to the Standing Offer Authority no later than 30 calendar days after the end of the quarterly period.
- e) Failure to submit fully completed quarterly reports in accordance with the above instructions will result in the immediate suspension of the Offeror's National Master Standing Offer. After the first instance, Systems will be reinstated on the Online Ordering System refresh date immediately following the submission of the completed report. Subsequent instances will be dealt with under the Article below entitled "Withdrawal or Suspension of Authority to Use Standing Offer".
- f) If requested by the Standing Offer Authority, the Offeror must provide details on its processes for compiling the data required to fulfill its reporting obligations.
- g) For each Category, the Offeror must retain all the data and the filed reports for 6 years from the expiry of that Category.

1.5 Standing Offer Period

- a) This series of National Master Standing Offers does not expire, and will continue to be valid until Canada sets aside this series of NMSOs (the "**Overall Standing Offer Period**").
- b) Canada may place Call-ups under any given Category under this NMSO from the date that Category is issued for a period of two years, plus two optional two-year extensions (the "**Standing Offer Period for a given Category**" or "**Standing Offer Period for that Category**"). For any given Category, this period will be "re-activated" each time that Category is again the subject of a competition published on the Government Electronic Tendering Service. As a result, different Categories may be subject to different end dates.
- c) The Offeror agrees that, for each Category, the rates/prices will be in accordance with the provisions of this Standing Offer throughout the Standing Offer Period for that Category.
- d) The Contract Period of individual Call-ups may extend beyond the Standing Offer Period for a given Category and beyond the Overall Standing Offer Period. That is, a Call-up may be

placed up until the last day of the Standing Offer Period for a given Category; the resulting contract will be in force until all the work has been completed, including warranty services.

- e) At the time Categories are re-competed, or new Categories are added, suppliers who already hold NMSOs may be exempted from providing certain information that they have previously provided in order to obtain their existing NMSO (for example, if the experience requirements remain unchanged, existing Offerors may not be required to re-demonstrate that they have the necessary experience).

1.6 Standing Offer Authority

The Standing Offer Authority is responsible for the establishment of the Standing Offer, its administration and its revision, if applicable. The Standing Offer Authority is also the Contracting Authority for all Call-ups issued under this Standing Offer. Upon the making of a call-up the Contracting Authority, he is responsible for any contractual issues relating to individual call-ups made against the Standing Offer. The Offeror acknowledges that the Standing Offer Authority is entitled to exercise any and all audit and verification rights described in this Standing Offer, including the Resulting Contract Clauses, in respect of any Call-ups made under this Standing Offer and to request any information concerning Call-ups that the Standing Offer Authority considers necessary.

The Standing Offer Authority is: Shared Services Canada - Procurement and Vendor Relations.

1.7 Technical Authority

The Technical Authority is responsible for all matters concerning the technical content of the Work under contracts resulting from this Standing Offer. Any proposed changes to the scope of the Work are to be discussed with the Technical Authority, but any resulting change can only be confirmed by a revision issued by the Standing Offer Authority.

The Technical Authority is: Shared Services Canada - Procurement and Vendor Relations

1.8 Offeror's Representative

See *IT Pro List of Offeror's page*: <https://www.sscitpro-spcaproti2.com/category-s/286.htm>

1.9 Call-up Procedures

- a) **Only Authorized Call-ups to be Accepted:** The Offeror agrees only to accept individual Call-ups made by Identified Users pursuant to this Standing Offer that do not exceed the applicable Call-up Limitations. The Offeror acknowledges that any Call-up made by an Identified User exceeding the applicable Call-up Limitation is not permitted under this Standing Offer and is without authority.
- b) **Contracting Authority:** SSC is the Contracting Authority for all Call-ups, including those made directly by Identified Users.
- c) **Call-ups made directly by Identified Users:** An Identified User may issue a Call-up directly to any Offeror up to the applicable Government Department's Call-up limitations.
- d) **Call-ups made directly by the Standing Offer Authority:** The Standing Offer Authority may issue a Call-up directly to the Offeror up to the applicable SSC Call-up Limitations.
- e) **Call-ups made directly by the Standing Offer Authority Using Request for Volume Discount Process:** For requirements that exceed the Call-up Limitations, SSC will issue a

Request for Volume Discount (“RVD”). In addition to these requirements, SSC may, in its discretion, issue a Request for Volume Discount for any requirement. The Request for Volume Discount process is described in the Annex entitled “RVD Process”.

- f) **No Contracting Outside of Authorities:** The Offeror agrees not to accept Call-ups to perform work in excess of or outside the scope of this Standing Offer without specific written authorization from the Standing Offer Authority. The Offeror acknowledges that the Identified Users are without authority to vary or amend the terms or scope of this Standing Offer.
- g) **Division and Consolidation of Requirements:** Multiple Call-ups will not be issued in order to circumvent competition. The Standing Offer Authority may consolidate requirements across Identified Users and issue Call-ups on a periodic basis to receive better pricing.
- h) **Offeror’s Contact:** the Offeror’s contact for all matters relating to this Standing Offer, including all resulting Call-ups, is available on the Online Ordering System (<https://www.sscitpro-spcapproti2.com>).
- i) **Offeror’s Agents:** The Offeror confirms that the Authorized Resellers listed in the Annex entitled “List of Authorized Resellers and Service Outlets” are authorized to act on its behalf as its agent for the purposes of performing the Work under Call-ups and receiving payment. Any payment made by Canada to an Authorized Reseller will be considered payment to the Offeror itself. This agency relationship (through which the Authorized Reseller performs contractual obligations on behalf of the Offeror) does not amend, diminish or modify any of the responsibilities of the Offeror under the Standing Offer or any resulting Call-ups. The Offeror agrees and understands that it is solely responsible for ensuring that all of its Authorized Resellers complete all Call-ups in accordance with their terms and conditions and that, if the Authorized Reseller fails to fulfill all the Call-up obligations, the Offeror must, upon written notification from the Standing Offer Authority, immediately complete and fulfill those obligations directly at no additional cost to Canada. The Offeror agrees to inform the Standing Offer Authority in writing of any changes in the list of its Authorized Resellers during the Standing Offer Period for a given Category and to remove any Authorized Reseller if requested to do so by the Standing Offer Authority.
- j) **Offeror’s Service Outlets:**
 - i) Throughout the Standing Offer Period for a given Category, the Offeror must maintain a nationwide maintenance service network, which means that the Offeror must have a sufficient number of service outlets necessary to meet the response times specified in other requirements of this document, throughout Canada (other than locations covered by any Comprehensive Land Claims Agreements).
 - ii) Service Outlets must be commercial (not residential) establishments. Service Outlets must have technical support and system service facilities. The Offeror confirms that any Service Outlets listed in the Annex entitled “List of Authorized Resellers and Service Outlets” that are not owned and operated by the Offeror are subcontractors it has chosen to perform Hardware Maintenance Services. Unless the Service Outlet has also been designated by the Offeror as an Authorized Reseller, the Service Outlet will not be considered an agent of the Offeror.
 - iii) The Offeror agrees and understands that it is solely responsible for ensuring that all of its Service Outlets perform all work in accordance with the terms and conditions of the relevant Call-up, and that, if the Service Outlet fails to fulfill any Call-up obligation, the Offeror must, upon written notification from the Standing Offer Authority, immediately fulfill those obligations directly at no additional charge to Canada. The Offeror agrees to inform the Standing Offer Authority in writing of any changes in the list of its Service Outlets during the Standing Offer Period for a given Category.

- iv) Identification of Service Outlets: The Offeror has identified the Service Outlets from which it will provide maintenance and support services under any Call-ups against this Standing Offer in the Annex entitled "List of Authorized Resellers and Service Outlets". Service Outlets are listed on the Online Ordering System.
- v) The Offeror must provide at the time of offer a copy of their Service Level Agreement (SLA) for each authorized service outlet.
- k) **Technical Authority for Call-ups:** SSC is the Technical Authority for all Call-ups, including those made directly by Identified Users.
- l) **Identified Users:** It is intended that the call ups resulting from any subsequent solicitation will be used by SSC and its clients. SSC's clients include SSC itself, those government institutions that are mandated as clients and other organizations for which SSC's services are optional. This process will not preclude SSC from using another method of supply for any of its clients with the same or similar needs, unless a subsequent solicitation for this Project expressly indicates otherwise.

1.10 Notices

Under this Standing Offer, where the Offeror is required to provide notice to Canada or the Minister, notice must be provided in writing to the Standing Offer Authority; where Canada or the Minister is required to provide notice to the Offeror, notice must be provided in writing to the Offeror's representative named above.

1.11 Call-up Instrument

- a) Authorized Call-ups against this Standing Offer, which must reference a valid SSC IT Procurement Reference Number (IT Pro No.) acquired from the Online Ordering System, will be made by Identified Users using Form 942 or by the Standing Offer Authority using its own template. Authorized Call-ups may also be made under this Standing Offer through the Elevated Call-up or the RVD process described in this Standing Offer, in which case the Standing Offer Authority will issue a Call-up using its own template.
- b) Call-ups can also be made by other methods such as telephone, facsimile or electronic means. With the exception of call-ups paid for with a Government of Canada acquisition card (credit card), call-ups made by telephone must be confirmed in writing on the document specified in the Standing Offer, provided the Identified User has acquired an IT Pro Number for that specific call-up.
- c) Call-ups against the Standing Offer paid for with the Government of Canada acquisition card (credit card) at point of sale must be accorded the same prices and conditions as any other Call-up, and will only be valid provided the Identified User has acquired an IT Pro Number for that specific call-up.
- d) Each Call-up results in a separate contract between Canada and the Offeror.
- e) Each Call-up must specify the Standing Offer number, the applicable Category(ies), the IT Pro number, the item number, the Product name, model, and part number.
- f) With the exception of call-ups paid for with a Government of Canada acquisition card (credit card), the Offeror acknowledges that no costs incurred before the receipt of a signed Call-Up can be charged to this Standing Offer or any Call-ups made against it.

- g) The Offeror acknowledges and agrees that the terms and conditions set out in the Resulting Contract Clauses that form part of this Standing Offer apply to every Call-up made under this Standing Offer.
- h) Call-ups against the Standing Offer may include multiple Clients or Identified Users.

1.12 Limitation of Call-ups

The limits for subsequent orders are described in the Annex entitled "Call-Up Limitations".

1.13 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- a) the articles of the Resulting Contract Clauses
- b) the articles of the Standing Offer Clauses;
- c) the general conditions 2005 (2022-12-01), General Conditions - Standing Offers - Goods or Services;
- d) the supplemental general conditions 4001 (2015/04/01), Hardware Purchase, Lease and Maintenance;
- e) the general conditions 2030 (2022-12-01), General Conditions - Higher Complexity – Goods;
- f) Annex A, Technical Specifications;
- g) Annex B, List of Products;
- h) Annex C, Call-up Limitations
- i) Annex D, RVD Process
- j) Annex E, Request for Product Substitution / Price Revision Form;
- k) Annex F, List of Authorized Resellers and Service Outlets;
- l) Annex G, Standing Offer Activity Report;
- m) Annex H, Benchmark Procedures and Set-up Instructions;
- n) Annex I, Benchmark Ratings Analysis;
- o) Annex J, Supply Chain Security Information (SCSI) Assessment;
- p) Annex K, NMSO Expiry Dates; and
- q) Offeror's offer dated on each individual Standing Offer.

1.14 Certifications - Compliance

The continuous compliance with the certifications provided by the Offeror with its offer and the ongoing cooperation in providing associated information are conditions of issuance of the Standing Offer (SO). Certifications are subject to verification by Canada during the entire period of the SO and of any resulting contract that would continue beyond the period of the SO. If the Offeror does not comply with any certification, fails to provide the associated information, or if it is determined that any certification made by the Offeror in its offer is untrue, whether made knowingly or unknowingly, Canada has the right to terminate any resulting contract for default and set aside the Standing Offer.

1.15 Representations and Warranties

- a) The Offeror represents and warrants that, throughout the Standing Offer Period for a given Category:
 - i) every system will be manufactured at a facility registered under ISO 9001:2015 by an accredited registrar under the ISO 9001:2015, whether that certification is held by the Offeror or the Manufacturer of the system;
 - ii) all electrical equipment offered under this Standing Offer is certified or approved for use in accordance with the Canadian Electrical Code, Part 1, by a certification organization accredited by the Standards Council of Canada (SCC) and bears the certification logo that is applicable to the accredited agency. NOTE: Offerors may obtain further information by contacting the SCC at 613-238-3222; and
 - iii) in the case of each Product offered that includes a digital apparatus, that Industry Canada has certified that it does meet the emission limits and labelling requirements set out in the Interference Causing Standard ICES-003, "Digital Apparatus" and the Products must bear the certification label indicating trade name, model number, and the words indicating Industry Canada ICES-003 compliance.
- b) Compliance with these representations and warranties is a condition of authorization of the Standing Offer and subject to verification by Canada during the entire Standing Offer Period and during any resulting Contract. If the Offeror does not comply with any of these representations or warranties or it is determined that any representation or warranty made by the Offeror is untrue, whether made knowingly or unknowingly, the Standing Offer Authority has the right to terminate any resulting contract(s) for default and set aside the Standing Offer.

1.16 Environmental Stewardship and Ethical Supply Chain – All Categories

- a) In support of the Canadian Federal Government's Sustainable Development Strategy, which includes policies on Green Procurement, the device manufacturers must commit to a comprehensive, nationally recognised environmental standards for:
 - i) The reduction or elimination of environmentally hazardous materials;
 - ii) Design for reuse and recycle;
 - iii) Energy efficiency;
 - iv) End of Life Management for reuse and recycle;
 - v) Environmental stewardship in the manufacturing process; and
 - vi) Packaging.
- b) Devices listed in categories 1.0N through 6.0N, 8.0N, 9.0N, 1.0D through 6.0D, must be listed by the Green Electronics Council as EPEAT 2018 Silver level certified. The device must appear on the EPEAT product registry prior September 1st, 2021.

Devices listed in categories 11.0N through 13.0N, must be listed by the Green Electronics Council as EPEAT 2018 Bronze level certified. The device must appear on the EPEAT product registry prior September 1st, 2021.

All monitors that initially needed to conform to EPEAT must be listed by the Green

Electronics Council as EPEAT 2018 Bronze level certified. The monitors must appear on the EPEAT product registry prior September 1st, 2021. (<https://epeat.net/search-computers-anddisplays>)

All microcomputer mobile device carry cases and bags (appearing on the NMSO appearing in the standard options and unevaluated options) must be considered as environmentally sustainable. As such they must be manufactured using the recycled materials which include, but not exclusive of, rPET (recycled polyethylene terephthalate) or rPVB (recycled polyvinyl butyral). Compliant products must appear on the IT Pro e-store or be submitted as a product substitution on or before September 1st, 2021.

c) <https://www.epeat.net/?category=pcsdiscplays>

1.17 **Applicable Laws**

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

1.18 Standing Offer Expansion

SSC may, at any time, conduct further Requests for Standing Offers for new Groups, Categories and Sections, and the resulting offers may be incorporated into this series of National Master Standing Offers. Requirements for new Groups and Categories will be subject to an open competition posted on the Government Electronic Tendering Service. New Sections within an existing Category could be added by SSC having existing Offerors in that Category supplement their Standing Offers. In cases where changes to the NMSO terms and conditions have occurred since the Offeror was first issued a Standing Offer, Offerors may be requested to agree to apply the updated terms and conditions incorporated in a subsequent solicitation process to all Groups, Categories and Sections within their Standing Offer.

1.19 Updated Information About Products

During the Standing Offer Period for a given Category, Offerors are requested to provide regular updates to the Technical Authority regarding upgrades to the capabilities of the Products, such as when additional operating systems are supported or new drivers become available.

1.20 Mandatory Product Substitutions

- a) If 50% or more of Offerors in a Category have migrated to next-generation technology, SSC reserves the right to require that any dated Products be updated. Offerors will be given written notice by the Standing Offer Authority to complete a substitution. Submission of a complete request for substitution must be completed within 30 days; otherwise, the identified Product will be removed from the Standing Offer. The “place” held by that System will be held pending submission of a request for substitution, provided it is made in accordance with these terms and within 60 days of the date of removal. If mitigating circumstances are proven by the Offeror, SSC Standing Offer Authority may revise the deadline.
- b) As newer technology becomes available, SSC may update the Categories in this Standing Offer. Only Offerors approved to offer Products (as indicated on the Online Ordering System) within the existing Category will be invited to submit substitution requests to supply new Products for the replacement Category. The Standing Offer Authority would provide the applicable Offerors with written notice describing the replacement requirements. The period for requesting clarifications and submitting the substitution request would be a minimum of 30 days.

1.21 Product Substitutions

- a) **Conditions for Proposing Substitution(s):** The Offeror may propose a substitution for an existing Product authorized for supply under this Standing Offer, provided the proposed substitute meets or exceeds the specification(s) detailed in the Annex entitled “Technical Specifications”, as well as meeting or exceeding the specifications of the existing Product being substituted in all respects unless otherwise specified. The price for the substitute Product must not exceed:
 - i) the ceiling price for the Product originally offered in the Offeror’s Offer;
 - ii) the current published list price of the substitute Product, less any applicable Government discount; or
 - iii) the price at which the substitute Product is generally available for purchase,whichever is the lowest.

- b) **Ceiling Prices:** During substitutions, situations can occur where it is difficult to use the ceiling price of an existing individual Product as a ceiling price limit for the new Product. In cases like this, price support may be requested by the Standing Offer Authority for the individual Product. This is at the sole discretion of the Standing Offer Authority. The Standing Offer Authority also has the right to refuse any substitution that, in the Standing Offer Authority's view, does not represent good value to Canada.
- c) **Substitution Costs:** The proposed substitution will be subject to technical assessment and any costs associated with the technical evaluation will be at the Offeror's expense.
- d) **Benchmark Testing:** SSC may require that the Offeror demonstrate through testing (including compatibility testing) that the proposed substitute Product meets or exceeds the specifications in the Annex entitled "Technical Specifications" as well as meeting or exceeding the specifications of the existing Product being substituted. Testing will be done in accordance with the procedure described in the Annex entitled "Benchmark Procedures and Set-up Instructions". Canada is not obligated to evaluate any or all substitute Products proposed.
- e) **Process for Requesting Substitution:** The request for substitution must be made by submitting to the Standing Offer Authority a completed "Request for Product Substitution/Price Revision Form", which must provide the full details on the nature of the substitution including the URL(s) for the applicable technical specification(s) of the Product, any necessary technical documentation, certifications, manuals and a copy of the current published list price for the Product. Upon request, the Offeror must provide information substantiating compliance with the requirements listed in the annex entitled "Technical Specifications". Also, a revised Annex entitled "List of Products" in both hard and electronic copy may be requested by Canada depending on the extent the of proposed Product substitution(s). Finally, the Offeror must submit an SCSI for each new item on the List of Products for the SCI assessment process described in Annex K.
- f) **Limit on Number of Systems from Same Offeror or Same Manufacturer:**
 - i) **For Thin Client Categories:** Offerors are not permitted to have more than three Systems approved in any Category. No more than three Systems from any one Manufacturer will be approved in any Category. Proposed substitutions that would result in either case will not be approved.
 - ii) **For all other Categories:** Offerors are not permitted to have more than two Systems approved in any Category. No more than two Systems from any one Manufacturer will be approved in any Category. Proposed substitutions that would result in either case will not be approved.
- g) **Same System:** Offerors are not permitted to substitute a System that would result in the Same System (from the same Manufacturer) appearing more than once in a Category. Proposed substitutions that would result in this case will not be approved.
- h) **Category Migration (Recategorization as a Result of Substitution):** Whenever the nature of the proposed substitution is such that the replacement System meets the minimum specifications/ requirements of a higher NMSO Category within the same Group of Categories (e.g., the Product is listed in Category X.1, but the proposed substitution satisfies the specifications in Category X.2), the replacement System may (if requested by the Offeror, and if space exists in that Category) be reclassified in the Category where it belongs (i.e. the highest Category in which it can meet all the mandatory specifications within the same Group), subject to the above-noted condition that Offerors and Manufacturers are not permitted to have more than two (or three for Thin Clients) Systems approved in any NMSO Category and the Same System cannot appear more than once in a Category. Whether to

approve any request by an Offeror to re-categorize a System is within the discretion of the Standing Offer Authority.

- i) **Acceptance of Substitution Discretionary:** Whether or not to accept or reject a proposed substitution is entirely within the discretion of Canada. If Canada does not accept a proposed substitution, the original Product will continue to be authorized under this Standing Offer, unless the Offeror withdraws that Product from the Standing Offer or that Product becomes End of Life unless the article 1.20 “Mandatory Product Substitution” applies.
- j) **Documentation of Accepted Substitution:** Approved substitutions cannot be supplied under a Call-up or in response to RVDs until posted on the Online Ordering System. In the case of a Call-up, the substitution must be posted at the time the Call-up is issued; otherwise, the item posted on the Online Ordering System at the time the Call-up was issued must be supplied. In the case of an RVD, only items posted on the Online Ordering System at the time the RVD is issued can be offered in response to the RVD.
- k) **Discontinued/Out of Stock Products:** The Offeror must immediately notify the Standing Offer Authority if any Product listed in this Standing Offer is discontinued or is otherwise unavailable (e.g., End of Life, Out of Stock). The discontinued or unavailable Product will be removed by SSC from this Standing Offer, but the “place” held by that Product will be held pending submission of a request for substitution, provided it is made in accordance with this Article and within 60 days of providing notice of the lack of availability, or by the next substitution deadline date, whichever is later. If a request for substitution is not made within the timelines described above, a substitution request might not be granted, in which case the Product would no longer be included in the Standing Offer without the possibility of being reinstated. For the purpose of calculating the Evaluated Price, a removed Product that had formed part of the evaluated price calculation will have a value assigned to it equal to the most expensive equivalent Product offered by the other Offerors in the same Category.
- l) **Initially Unavailable Products:** Where Offerors are required to offer all requested upgrades/components and not all Offerors provide a price, for the purpose of calculating the Evaluated Price, a value will be assigned equal to the most expensive equivalent Product in the same category. The Offeror may propose a substitution, provided it is in accordance with this Article. The price for the substitute Product must not exceed the highest ceiling price among all the Offerors. Should no one be offering that particular item in the category, then the first Offeror to offer the item will establish the ceiling price.
- m) **Generational Changes:** Canada recognizes that, during the Standing Offer Period, there may be a generational change in technology that may affect some of the mandatory requirements detailed in the Technical Specifications in the Annex entitled “Technical Specifications”. If this occurs, Canada will examine the available technologies, determine which would be acceptable for substitutions, and will advise the Offerors accordingly.
- n) **One-for-one Substitutions Only:** Substitutions of Products will be on a “one-for-one” basis.
- o) **Unevaluated Options – Products Substitutions or Additions:** For Unevaluated Options, the Offeror may offer a limited number of items that relate directly to their systems. SSC will not authorize professional services as Unevaluated Options. Whether or not to approve any proposed substitution or additional “Unevaluated Options” is within SSC’s sole discretion. Unevaluated Options can be proposed with the Offeror’s offer in Annex B, including the following below. Substitute and additional “Unevaluated Options” must be proposed by the Offeror by submitting a fully completed Annex entitled Request for Product Substitution/Price Revision Form”, together with the following:
 - i) the URL for Product specifications and/or sufficient documentation for the SSC team to complete a technical assessment of the Product;

- ii) a copy of published list prices, where available or price support;
 - iii) if any substitute or Optional Item being offered is manufactured by a Manufacturer not already represented in Products already offered under the Offeror's Standing Offer, a Manufacturer Certification in the form set out in the original solicitation that resulted in this Standing Offer being issued; and
 - iv) the discount off the list price for each item being proposed. The Standing Offer Authority may require the Offeror to provide price support for any proposed Unevaluated Options at any time.
- p) Canada recognizes that during the period of the Standing Offer some of the lower capacity hard disk drives and RAM, specified in the Annex entitled "List of Products", may no longer be available for some of the Default Systems. If this occurs, then NMSO holders may request a substitution for the item for which the specified capacity is no longer available. However, to be acceptable, the current incremental capacity relationship between each of the items defining a hard disk drive or RAM must be maintained.
- q) Canada recognizes that during the period of the Standing Offer the Operating System(s) specified in the Annex entitled "List of Products", may no longer be available for purchase. If this occurs, then NMSO holders may request a substitution for the item and SSC will negotiate a fair and equitable replacement for all Offerors.

1.22 Extension of Existing Product Line

- a) During the Standing Offer Period, if technological improvements have been made to the products available for purchase or lease under this Standing Offer, the Offeror may propose new products that are an extension of an existing Product line or the "next generation" of an existing product line that meet or exceed the specification(s) of existing products under this Standing Offer, if the ceiling price or ceiling outright purchase price for the new product does not exceed:
- i) the ceiling price for the product originally offered in the Offeror's offer that resulted in the issuance of this Standing Offer plus 5% at the discretion of the standing offer authority.
 - ii) the current published list price/rate of the substitute product, less any applicable Government discount; or
 - iii) the price/rate at which the substitute product is generally available for purchase, whichever is the lowest.
- b) Whether or not to accept or reject a proposed new product is entirely within the discretion of Canada. If Canada does not accept a proposed new product that is proposed to replace an existing product, the Offeror must continue to deliver the original product. If accepted, the addition of the new product will be documented for the administrative purposes of Canada by a revision amendment, by adding the new product to the Standing Offer.
- c) No new products will be included in the Standing Offer until one year after the Standing Offer is issued.

1.23 Price Revisions

- a) **Price Refresh:** During the Standing Offer Period for a given Category, the Offeror may submit a request to reduce the current price being offered for any existing Standing Offer

Product. Price increases will only be accepted in conjunction with a substitution to a maximum of the ceiling unit price. Price reductions and increases are both subject to the terms detailed in the article entitled "Product Substitutions"; however, the substitution timelines do not apply to price reductions.

- b) **Temporary Price Drop:** During the Standing Offer Period for a given Category, the Offeror may submit a request to temporarily reduce the current price being offered for an existing Standing Offer Product. The price drop period must be no shorter than 2 periods and no longer than 4 periods. At the end of the period, the Standing Offer price will revert to the price level in effect before the price drop.
- c) **Process for Requesting Price Revision:** The request for a price revision must be made by submitting to the Standing Offer Authority a completed "Request for Product Substitution/Price Revision Form", which must provide the full details on the nature of the revision.
- d) **Acceptance of Price Revision Discretionary:** Whether or not to accept or reject a proposed price revision is entirely within the discretion of Canada. The Standing Offer Authority may also require a certification, before approving a revision that the pricing satisfies the requirement described in the article entitled "Price Protection – Most Favoured Customer". The Offeror agrees that no price revision will be effective until formally authorized by SSC in writing and posted on the Online Ordering System.
- e) **Published Price Drop:** If, during the Standing Offer Period for a given Category, a price decrease is published or publicly announced, the Offeror must provide the benefit of that decrease to Canada by submitting a completed "Request for Product Substitution/Price Revision Form" to reflect the published or publicly announced price reduction.
- f) **Consistent Pricing:** An Offeror that has the same Product listed in multiple Categories must have a consistent price across each of those Categories. It is the Offeror's responsibility, throughout the Standing Offer Period for a given Category, to respect this pricing rule. Where the Offeror lowers the price in one Category, Canada has the right to lower the price on the SSC's Online Ordering System for that Product in all other Categories where it is offered by the Offeror, if the Offeror has not done so.
- g) **Pricing to be lower than specified Call-up Limitations:** Offerors should ensure that all unit pricing for Section 4 is below the specified Call-up Limitation for that Section. This will ensure that authorized users will be able to call-up the particular item when required.
- h) **Exchange rate fluctuations:** See <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/C/C3015C/12>
 - i) Semi-annual SSC will review the exchange rate and Canada assumes some of the risks and benefits for exchange rate fluctuation. The exchange rate fluctuation amount is determined in accordance with the provision of this clause.
 - ii) On a semi-annual basis, Canada may amend the prices in the Standing Offer to reflect the exchange rate.
 - iii) Canada reserves the right to audit any revision to costs and prices under this clause.

1.24 Product Removal

The Standing Offer Authority reserves the right to remove any offered Product. The Product will be removed by SSC from this Standing Offer, but the "place" held by that Product will be held pending

submission of a request for substitution, provided it is made in accordance with the article entitled "Product Substitutions".

For the purposes of calculating Evaluated Price, a Product that has been removed but which forms part of the evaluated price calculation will have a value assigned to it equal to the most expensive equivalent Product offered by the other Offerors in the same Category.

1.25 Time for Processing of Product Substitutions and Price Revision

- a) The Online Ordering System will be updated every two weeks throughout the year to incorporate all newly approved product substitutions and price revisions into the NMSO. These regular, pre-determined dates for the Online Ordering System updates will be indicated on the Online Ordering System. SSC provides no guarantee regarding the time required to process substitution requests or price revision requests.
- b) The Offeror acknowledges that the period from January 1 to March 31 is particularly busy for SSC and that there may be delays in processing price revision requests during that time. SSC will not delay the release of RVDs to coincide with substitutions. Offerors need to consider the possibility of delays in timing their requests.
- c) Only product substitutions that are submitted and testing completed (if applicable) a minimum of two weeks before the posting date will be reflected in the next posting unless otherwise authorized by the Standing Offer Technical Authority.
- d) Only price revisions that are completed and approved a minimum of three business days before the posting date will be reflected in the next posting.

1.26 Withdrawal or Suspension of Authority to Use Standing Offer

- a) Canada may, at any time, for operational reasons, withdraw authority from Identified Users to use the Standing Offer.
- b) Canada may also, at any time, withdraw authority from Identified Users to use this Standing Offer if the Offeror breaches the terms of this Standing Offer or any Call-up, including:
 - i) Delivery of Products not listed in this Standing Offer, except to the extent expressly authorized by this Standing Offer. Authorized Products are those that have been specifically approved in writing by SSC for inclusion in this Standing Offer and are posted on the Online Ordering System on the date the Call-up is made;
 - ii) Delivery of any Product that provides a lower level of performance than or does not meet the minimum specifications and requirements described in the Technical Specifications set out in Annex entitled "Technical Specifications" or the technical specifications of the Product approved for that Offeror and posted on the Online Ordering System, whichever is higher;
 - iii) Substitution of any Product without prior written authorization from the Standing Offer Authority;
 - iv) Price revision without prior written authorization by SSC;
 - v) Late deliveries;
 - vi) Poor warranty/maintenance service;
 - vii) Distribution or publication of advertising, including information included in supplier websites, that has not been approved by the Standing Offer Authority and/or that

might be interpreted as suggesting that unauthorized items are available under the Standing Offer or providing any information that conflicts with any aspect of the terms and conditions, pricing, or availability of Systems currently available under this Standing Offer;

- viii) Failure to submit complete and accurate Standing Offer Activity Reports within the required time frames;
 - ix) Breach of any of the specific terms and conditions detailed in this Standing Offer or any Call-up (e.g. failure to meet the hotline support requirements, failure to respect the Call-up limitations, change of manufacturing facility to a non-ISO 9001: 2015 certified facility, failure to maintain an environmental certification (such as EPSC) where an Offeror is gaining an advantage for being certified, etc.);
 - x) Refusing a Call-up at any time, without sufficient cause, from any Identified User where the Call-up is for a Product currently listed and approved under this Standing Offer, or for options agreed to in a RVD Call-up; and
 - xi) Listing (or failing to remove) any End of Life (EOL) System Products from this Standing Offer and the Online Ordering System.
- c) The Offeror acknowledges that Canada may suspend the authority of Identified Users to use the Offeror's Standing Offer for a period of up to 3 months on the first suspension. Any suspension may affect multiple Categories.
 - d) The Offeror acknowledges that Canada may suspend the authority of Identified Users to use the Offeror's Standing Offer for up to the remaining period of the Standing Offer or simply withdraw authority to use the Standing Offer entirely on any additional breach of any of the terms and conditions of the Standing Offer.
 - e) The Offeror acknowledges that Canada may publish information regarding the status of the Offeror's Offer, including the suspension or withdrawal of authority to use the Offeror's Standing Offer.
 - f) If an individual Call-up made under this Standing Offer is terminated, for default or otherwise, that termination will not automatically result in withdrawal of authority to use the Standing Offer. The Offeror acknowledges, however, that a default under any contract made under this Standing Offer may result in the suspension or withdrawal of authority to use this Standing Offer.
 - g) Any Offeror whose Authorized Reseller or Service Outlet breaches any of the terms and conditions of this Standing Offer or a Call-up may be asked to remove that Authorized Reseller or Service Outlet from its list of authorized agents or subcontractors, in addition to any other remedy SSC may invoke. A breach by an Authorized Reseller or Service Outlet is a breach by the Offeror itself.

1.27 Expansion of Offerors Following Withdrawal of Authority to Use Standing Offer or Voluntary Withdrawal of Offeror

After permanently withdrawing authority to use any Offeror's Standing Offer or if any Offeror voluntarily withdraws its Standing Offer, in whole or in part, Canada may, in its sole discretion, do one or more of the following in respect of any Category:

- a) leave the Category "as is" (i.e., the Standing Offers of the remaining Offerors will remain available for Call-ups and no new Offerors will be added);

- b) call for new Offers in respect of one or more affected Categories through the Government Electronic Tendering Service; or
- c) contact the Offeror (if any) whose offered System complied with all the requirements of the Request for Standing Offer that resulted in the issuance of this Standing Offer and was “next in line” under the evaluation methodology, but who was not issued a Standing Offer because it fell outside the acceptable price range. If that Offeror agrees to honour the ceiling price of the Offeror whose Standing Offer has been cancelled, that Offeror may be issued a Standing Offer in the applicable Category; if that Offeror does not wish to honour the previous Offeror’s pricing, Canada may, but will have no obligation to, contact the next-ranked Offeror.

1.28 Substitute Standing Offer

The Standing Offer is not assignable or transferable and any purported assignment or transfer is void and of no effect. However, the Standing Offer Authority may agree to issue a substitute Standing Offer where:

- a) A request to the Standing Offer Authority to issue a substitute Standing Offer is made by the original Standing Offer Holder; and
- b) The proposed substitute Standing Offer is for the same goods and services, on the same terms and conditions, and at the same prices as the offer submitted by the original Standing Offer Holder.
- c) A substitute Standing Offer request should be submitted to the Standing Offer Authority at least 30 days prior to its requested effective date. Should SSC decline the substitute Standing Offer request, the Standing Offer Holder will be able to either withdraw their Standing Offer or continue to be the legal Standing Offer Holder.

1.29 Categories Set-Aside for Indigenous Business – 4.0N, 7.0N, 8.0N, and 10.0N

All call-ups for Categories 4.0N, 7.0N, 8.0N, and 10.0N will be set aside to Authorized Indigenous Resellers under the federal government’s Procurement Strategy for Indigenous Business (pursuant to the set-aside provisions for small and minority businesses in the international trade agreements, as well as Article 1802 of the Agreement on International Trade, as applicable. An Indigenous Business is a business entity which meets the requirements as published by the government of Canada at this location: <https://www.sac-isc.gc.ca/eng/1100100032808/1612398410366#chp2>. Offerors can be an Original Equipment Manufacturer (OEM) or Value-added Authorized Resellers. While the Offerors of Categories 4.0N, 7.0N, 8.0N and 10.0N do not need to be an Indigenous Business, each Offeror must have at least three (3) Authorized Indigenous Resellers, through which all call-ups will be processed. Offerors of all other Categories must also include at minimum three (3) Authorized Indigenous Resellers as Authorized Resellers, through which call-ups may be processed. Each Authorized Indigenous Reseller acting as a Contractor must comply with the conditions of the Procurement Strategy for Indigenous Business detailed in clause 2.37 of Section 2, Resulting Contract Clauses.

2. Resulting Contract Clauses

The following clauses and conditions apply to and form part of any contract resulting from a call-up against the Standing Offer.

2.1 Purchase Requirement

- a) _____ (the “**Contractor**”) agrees to supply to the Client the goods and services described in the Call-up against the Standing Offer in accordance with, and at the prices set out in this Contract.
- b) **Client:** Any references to “Client” or “Clients” includes any Government Department, Multiple Departments, Departmental Corporation or Agency, Multiple Corporations or Agencies or other Crown entity described in the *Financial Administration Act* (as amended from time to time), and any other party for which the Shared Services Canada has been authorized to act from time to time under section 8 of the Shared Services Act. With respect to each contract, the Client is the Identified User identified in the Call-up or Request for Volume Discount resulting in the contract.
- c) **Reorganization of Client:** The Contractor’s obligation to perform the Work will not be affected by (and no additional fees will be payable as a result of) the renaming, reorganization, reconfiguration, or restructuring of the Client. The reorganization, reconfiguration and restructuring of the Client includes the privatization of the Client, its merger with another entity, or its dissolution, where that dissolution is followed by the creation of another entity or entities with mandates similar to the original Client.
- d) **Transfer of Products to Another Identified User:** The Contractor agrees that Canada may transfer the Products and the licenses to use the Licensed Software running on them from one Identified User to another, without affecting the Contractor’s obligation to provide the services described in the Contract or the Contractor’s obligation to deliver additional quantities in accordance with the Contract.

2.2 Standard Clauses and Conditions

All clauses and conditions identified in the Standing Offer and resulting contract(s) by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2.3 General Conditions

- a) 2030 (2022-12-01), [General Conditions – Higher Complexity – Goods, apply to and form part of the Contract.](#)

Section 2 of the General Conditions is amended as follows: delete “Pursuant to the *Department of Public Works and Government Services Act*, S.C. 1996, c.16”.

General Conditions – Higher Complexity – Goods is amended as follows: delete reference to “Public Works and Government Services (PWGSC)” insert “Shared Services Canada (SSC)”

- b) Supplemental General Conditions:

4001 (2015-04-01), Supplemental General Conditions - Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.

2.4 Security Requirement

- a) Unless otherwise specified in the Call-up form, there are no security requirements. However, the Contractor must treat as confidential, during as well as after the provision of goods or services contracted for, any information of a character confidential to the affairs of Canada, to which the Contractor's servants, subcontractors or agents become privy. If security requirements are included in the Call-up form, all personnel assigned to provide services must have a current security clearance to the level specified in the Call-up, granted by the Canadian Industrial Security Directorate.
- b) Should it become necessary, during the Contract Period, for the Client to invoke further security measures, the Contractor must comply with the security classification at that time.

2.5 Period of Contract

The Work must be completed in accordance with the call-up against the Standing Offer. This Contract is effective on the date the Call-up is issued. The "Contract Period" is the entire period of time in which Contractor is obliged to perform the Work, from the date the Call-up is issued until the end of the Warranty Period or all work required during the Hardware Warranty Period has been completed for all Products, whichever is later.

2.6 Delivery and Installation of Products

The Contractor agrees to supply, deliver and configure, install (if required by a Call-up), integrate and implement (if required by Call-up), provide warranty, maintenance, software support services and documentation for the systems and other Products ordered under this Contract (as specified in the Call-up), to the Identified User, according to the prices, terms and conditions in this Contract. Products must be delivered on an "as and when requested" basis to the location(s) specified in the Call-up, which may be locations anywhere in Canada, when the Call-up is made in accordance with this NMSO. If specified in the Call-up, the Contractor must provide the Identified User with a Delivery Report detailing the delivery location and asset number of all Systems delivered within two weeks of delivery.

2.7 Contact after receipt of Call-up

Upon receipt of the Call-up, the Contractor must acknowledge receipt and advise the Identified User of its best delivery date (which date must be no later than the Delivery Date). If the required number of Products exceeds or threatens to exceed the Contractor's ability to supply by the Delivery Date, the Contractor must immediately advise the Contracting Authority and the Identified User. The Contracting Authority will have the option of terminating the Call-up for default, or of extending the delivery date, or of accepting late delivery. Deliveries received after the Delivery Date will be subject to the discounts described in the clause entitled "Discounts for Late Deliveries and Reimbursement of Reprocurement Costs".

2.8 Contact before Delivery

Unless otherwise specified in the Call-up or the Identified User has agreed in writing to other arrangements, the Contractor must contact the Identified User (or any individual designated as "Delivery Contact" in the Call-up) a minimum of twenty-four (24) hours prior to the delivery of any equipment. Failure to make contact may result in the shipment being refused at destination; any re-shipping costs will be the Contractor's responsibility.

2.9 Default Configuration

The Contractor must deliver all Systems in accordance with the System configuration, as defined in the Annex entitled "Technical Specifications". If the Call-up specifically requests changes to the

Default Configuration the alternate configuration must be in accordance with Annex C (Call-up Limitations) of the Standing Offer.

2.10 Exercising Options to Purchase Optional Quantities

- a) Canada reserves the right to exercise options in order to purchase additional quantities for the Identified User or any other government institution for whom SSC's services are either mandatory or optional at any point during the life of this contract as per the Annex titled – "List of Deliverables and Prices".
- b) Options to purchase the additional quantities specified in the Annex titled – "List of Deliverables and Prices - Department Name Options", may be exercised through a maximum of 3 amendments or IT Pro Orders per Identified User to the RVD Contract, unless otherwise agreed to by the Contractor and the Contracting Authority, at any time within 12 months of the RVD Contract award date. These additional quantities may be exercised through SSC IT Pro Order forms (see sample form at Appendix D-1 – SSC IT Pro Order Form).
- c) Options to purchase the additional quantities specified in the Annex titled – "List of Deliverables and Prices - SSC IT Pro Inventory Options" may be exercised through SSC IT Pro Orders (see sample form at Appendix D-1 – SSC IT Pro Order Form) at any time within 12 months, unless otherwise agreed to by the Contractor and the Contracting Authority, of the RVD Contract award date.
- d) Quantities ordered under SSC IT Pro Inventory Options will be delivered within the best effort delivery times identified in the Annex titled "List of Deliverables and Prices". Canada may confirm the Contractor's ability to meet the best effort delivery times prior to placing an order for optional quantities.
- e) Canada reserves the right to add new delivery and invoicing locations when exercising the optional quantities.
- f) The Contractor agrees not to supply any additional quantities under any Call-up made directly by an Identified User (i.e., additional quantities may only be specified in Call-ups made by the SSC Contracting Authority).
- g) Department and SSC IT Pro Inventory Options: For additional Hardware delivered to SSC Clients, if Canada exercises its option through SSC IT Pro Order forms, Canada will pay the Contractor the firm price(s) set out in Annex titled "List of Deliverables and Prices", FOB destination, including all customs duties, Applicable Taxes extra.
- h) The prices for Department Options should include shipping from the Contractor's Canadian facility to the Identified User. If shipping fees are excluded, shipping from the Contractor's Canadian Facility to the Identified User will be paid to the Contractor at cost and must be identified as a separate line item on the invoice. Canada may at any time request a copy of the shipping invoice to substantiate shipping charges or a report (in Excel format) of all shipping charges from the Contractor's Canadian facility to the Identified User. Any costs associated with shipping the deliverables from an international location to Canada, including shipping costs, customs, or duties, among others, must be included in the unit price of the deliverable.
- i) The prices for SSC IT Pro Inventory Options exclude shipping from the Contractor's Canadian facility to the Identified User. Shipping from the Contractor's Canadian Facility to the Identified User will be paid to the Contractor at cost and must be identified as a separate line item on the invoice. Canada may at any time request a copy of the shipping invoice to substantiate shipping charges or a report (in Excel format) of all shipping charges from the Contractor's Canadian facility to the Identified User. Any costs associated with shipping the

deliverables from an international location to Canada, including shipping costs, customs, or duties, among others, must be included in the unit price of the deliverable.

- j) Identified Users are responsible to pay for any Environmental Handling Fee (EHF) applicable to their order at cost, and based on the delivery address(es).
- k) The product specifications and prices for optional quantities may be published on a third-party hosted e-store solution to enable clients to order the products from SSC. The solution will be a private e-store (SSC IT Pro), requiring members to be given an account and access by SSC. There is a possibility that the specifications and pricing could be accessed by other parties unbeknownst to SSC. If an amendment is issued to include the SSC ITPRO Inventory Options in the Contract, Identified Users will be able to select any options made available on SSC IT Pro inventory resulting in potentially numerous sets of configurations for SSC IT Pro Inventory Options orders.
- l) Competitive Award: The Contractor acknowledges that the Contract has been awarded as a result of a competitive process. No additional charges will be allowed to compensate for errors, oversights, misconceptions or underestimates made by the Contractor when offering for the Contract.

2.11 Exchange Rate Fluctuation

Canada assumes some of the risks and benefits for exchange rate fluctuation. The exchange rate fluctuation amount is determined in accordance with the provision of this clause.

- a) On a semi-annual basis, Canada will amend the prices in the contract to reflect the exchange rate fluctuation if it is greater than 5% (increase or decrease) since the previous price adjustment. The exchange rate fluctuation will be calculated on January 15 and July 15 after contract award and take effect starting the first of the following month. The exchange rate adjustment amount will be calculated in accordance with the following formula:
- b)
$$\text{Adjustment} = \text{initial [Department Option or SSC IT Pro Inventory Option] unit price at contract award} \times (\text{exchange rate for adjustment} - \text{initial exchange rate}) / \text{exchange rate for adjustment}$$
- c) The initial exchange rate is typically set as the noon rate as published by the Bank of Canada on the solicitation closing date.
- d) Canada reserves the right to audit any revision to costs and prices under this clause.

2.12 Definitions

Any capitalized terms not defined in this Contract have the meaning given to them in the Standing Offer or the General Conditions or Supplemental General Conditions incorporated into this Contract by reference

2.13 Substitution of Products

If this Contract was issued following a Request for Volume Discount (RVD) process under the Standing Offer, and if Canada exercises its option to purchase additional quantities specified in the RVD and the item has, since the time the RVD Call-up was issued, been the subject of a substitution under the Contractor's Standing Offer, the Contractor may notify the Standing Offer Authority and substitute a System and/or Component currently listed on the Contractor's Standing Offer on the Online Ordering System that meets the specifications of the RVD Call-up; however, the Contractor must supply the substituted item at the original price provided for in the RVD Call-up. Substitutions will only be permitted if and when Canada exercises its option to purchase

additional quantities; for greater certainty, substitutions will not be permitted for the delivery of the original quantities required to be delivered under this Contract.

2.14 Inspection and Acceptance

Each Product and its supply, delivery, configuration, installation (if required by a Call-up), integration and implementation (if required by the Call-up) including the warranty, maintenance, software support services and associated documentation (as specified in the Call-up) is subject to inspection and acceptance by the Identified User in accordance with Supplemental General Conditions 4001. If the Products do not correspond to the System(s) (including configuration), or Component(s) offered under the Standing Offer or otherwise specified in the Call-up, or if the Products do not meet the Technical Specifications described in the Annex entitled "Technical Specifications" and the Call-up, the Contractor will be in default of this Contract and Canada may reject the Products or require that they be corrected at the sole expense of the Contractor before accepting them. No payment for any Product is due under the Contract unless the Product is accepted. No restocking fees or other charges will apply to Products that are not accepted.

2.15 Payment - Basis of Payment

- a) **Purchased Product:** For the supply, delivery, configuration, installation, integration (if Required by a Call-up) of the Hardware in accordance of the call-up, including the associated documentation, and including Hardware Maintenance Service, during the period of the Standing Offer and any extensions thereof, Canada will pay the Contractor:
 - i) if this Contract results from a Call-up made directly by an Identified User within the Call-up Limitations set out in the Standing Offer, the firm current unit price published on the Online Ordering System on the date the Call-up is issued, DDP Incoterms 2010, Applicable Taxes are extra.
 - ii) If this Contract results from a Call-up made by the Contracting Authority, the unit prices set out in the call-up.
- b) All prices are in Canadian dollars, DDP Incoterms 2010, Applicable Taxes are extra, Customs Duty and excise taxes included, if applicable. Shipping and handling, if applicable, are part of the system price.
- c) **Provincial Disposal Surcharge:** All unit prices are exclusive of any disposal surcharge (environmental handling fee). Any provincial disposal surcharge is extra to the price and will be paid by Canada.

2.16 Limitation of Price

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

2.17 Method of Payment

- a) With the exception of call-ups paid for with a Government of Canada acquisition card (credit card), Canada will pay the Contractor following delivery of the Products in accordance with the payment provisions of the Contract if:
 - i) An accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - ii) All such documents have been verified by Canada; and

- iii) The delivery has been accepted by Canada provided, however, that where warranty, maintenance or support services are included in the price of any deliverable, payment will be made for that deliverable, notwithstanding that all of the warranty, maintenance and support services have yet to be performed.
- b) Credit cards will be accepted for payment of invoices up until the 15th calendar day of the payment period as set out in the Contract. Payment of invoices made by credit card on or before this date will not be subject to the Payment and Interest on Overdue Accounts provisions, as set out in general conditions 2030. Payment of invoices after this date will only be accepted by Government of Canada cheque, direct deposit, or electronic funds transfer, and will be subject to the above-mentioned general conditions provisions.
- c) Government of Canada Acquisition Card will only be used for Call-ups raised by Identified Users valued at \$100,000.00 (GST/HST included) or less.

2.18 Discounts For Late Deliveries and Reimbursement of Reprocurement Costs

- a) If any Products are not delivered by the Delivery Date, and Canada does not terminate the Call-up for default and instead provides the Contractor with additional time to make delivery, the Contractor agrees to reduce the price of the Products by:
 - i) 2% of the value of the Products delivered late, if they are delivered within 1 week of the Delivery Date;
 - ii) 5% for late delivery within 2 weeks of the Delivery Date; and
 - iii) 10% for late delivery more than 2 weeks after the Delivery Date.
- b) If any Products are not configured as required by a Call-up, and Canada does not terminate the Call-up for default and instead provides the Contractor with an opportunity to re-configure the Products in accordance with the Call-up, the Contractor agrees to reduce the price of the Products by 5% of the total value of the Products that are NOT in accordance with the System configuration or the alternative configuration described in the Call-up, in addition to the liquidated damages payable for late delivery of the Products (i.e., where the re-configured goods are delivered after the Delivery Date, the price must also be discounted as described in sub-article (a)).
- c) These discounts constitute liquidated damages and, in total, will not exceed 10% of the total value of the applicable Call-up. The Parties agree that these amounts are their best pre-estimate of the loss to Canada in the event of the defaults described, and that they are not intended to be, nor are they to be construed as, a penalty.
- d) If this Contract is terminated by Canada for default, the Contractor must reimburse Canada for any difference in cost between the contract price for the Products and the cost of procuring the Products from another supplier.
- e) To collect the liquidated damages, Canada has the right to hold back, drawback, deduct or set off from and against any money Canada owes to the Contractor from time to time.
- f) Nothing in this article limits the rights and remedies to which Canada is otherwise entitled under this Contract (including the right to terminate the Contract for default), the Standing Offer, or the law generally.

2.19 Price Protection - Most Favoured Customer:

- a) Items (b) to (h) apply to unevaluated options and non-NMSO products only. Items (b) and (h) do not apply to products offer in response to a Request for Volume Discount (RVD).
- b) To the best of the Contractor's knowledge, the prices it is charging to Canada under the Contract are not higher than the lowest prices/rates that it has charged any other customer (including other Government of Canada entities) for a similar quality and quantity of goods and services in the year before the Contract was awarded.
- c) The Contractor also agrees that, if after the date of the Contract it reduces the prices it charges to other customers for a similar quality and quantity of goods and services, it will reduce the prices for all remaining deliveries under the Contract, if any (with notice to the Contracting Authority).
- d) At any time during the 6 years after making the final payment under the Contract or until all claims and disputes then outstanding are settled, whichever is later, Canada has the right to audit the Contractor's records to verify that it is receiving (or has received) these prices. Canada will give at least 2 weeks' notice before the audit.
- e) During this audit, the Contractor must produce invoices and contracts for similar quality or quantity of goods or services sold to other customers from one year before the Contract was awarded until the end of the Contract Period. If the Contractor is required by law or by contract to keep another customer's information confidential, the Contractor may black out any information on the invoices or contracts that could reasonably reveal the identity of the customer (such as the customer's name and address), as long as the Contractor provides, together with the invoices and contracts, a certification from its Chief Financial Officer describing the profile of the customer (e.g., whether it is a public sector or private sector customer and the customer's size and service locations).
- f) In determining whether the goods and services sold to another customer were of similar quality, the terms and conditions of the contract under which those goods and services were delivered will be considered, if those terms and conditions are reasonably likely to have had a material effect on pricing.
- g) If Canada's audit reveals that the Contractor charged lower prices for a similar quality and quantity of goods and services under any contract where deliveries were made in the year before the Contract was awarded, or that the Contractor delivered additional goods or services under the Contract after reducing its prices for other customers but without reducing the prices under the Contract, then the Contractor must pay to Canada the difference between the amount charged to Canada and the amount charged to the other customer, up to a maximum of 25% of the value of the Contract.
- h) Canada acknowledges that this commitment does not extend to prices charged by any affiliates of the Contractor.

2.20 Invoicing Instructions

- a) The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the General Conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
- b) The Contractor's invoice must include a separate line item for each Product delivered.

- c) By submitting invoices, the Contractor is certifying that the goods and services have been delivered and that all charges are in accordance with the Basis of Payment provision of the Contract, including any charges for work performed by subcontractors.
- d) The Contractor must provide the original copy of each invoice to the Client identified in the Call-up for certification and payment. A copy of the invoice must be provided to the Standing Offer Authority when specified in the Call-up document.
- e) Contract must include the following reference numbers on the invoice:
 - i) IT Pro Number
 - ii) Contract Number
 - iii) Client Reference Number

2.21 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

2.22 Priority of Documents

With respect to individual contracts made under the Standing Offer, if there is a discrepancy between the wording of any documents that appear on the following list, the wording of the document that first appears on the list has priority over the wording of any document that appears later on the list:

- a) The separate Call-up document, if it exists (including any appendices);
- b) These Articles of Agreement;
- c) Annex A, Technical Specifications
- d) Supplementary General Conditions 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance'
- e) General Conditions 2030 (2022-12-01), Higher Complexity – Goods;
- f) Standing Offer E60EJ-11000C/XXX/EJ. Although these Articles of Agreement form part of the Standing Offer, for matters concerning the Standing Offer as a whole (rather than a specific contract), the priority of documents clause in the Standing Offer applies. For matters concerning a specific contract, the Priority of Documents clause in the Standing Offer does not apply; and
- g) Security Requirements (if included).

2.23 Federal Contractors Program for Employment Equity

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Offer" list. The imposition of such a sanction by ESDC will constitute the Offeror in default as per the terms of the Standing Offer.

2.24 Insurance Requirements

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

2.25 Limitation of Liability - Information Management/Information Technology

- a) This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees. This section applies regardless of whether the claim is based in Contract, tort, or another cause of action. The Contractor is not liable to Canada with respect to the performance of or failure to perform the Contract, except as described in this section and in any section of the Standing Offer pre-establishing any liquidated damages. The Contractor is only liable for indirect, special or consequential damages to the extent described in this Article, even if it has been made aware of the potential for those damages.
- b) First Party Liability:
 - i) The Contractor is fully liable for all damages to Canada, including indirect, special or consequential damages, caused by the Contractor's performance or failure to perform the Standing Offer that relate to:
 - A. any infringement of intellectual property rights to the extent the Contractor reaches the section of the General Conditions entitled "Intellectual Property Infringement and Royalties";
 - B. physical injury, including death.
 - ii) The Contractor is liable for all direct damages caused by the Offeror's performance or failure to perform the Contract affecting real or tangible personal property owned, possessed, or occupied by Canada.
 - iii) Each of the Parties is liable for all direct damages resulting from its breach of confidentiality under the Contract. Each of the Parties is also liable for all indirect, special or consequential damages in respect of its unauthorized disclosure of the other Party's trade secrets (or trade secrets of a third party provided by one Party to another under the Contract) relating to information technology.
 - iv) The Contractor is liable for all direct damages relating to any encumbrance or claim relating to any portion of the Work for which Canada has made any payment. This does not apply to encumbrances or claims relating to intellectual property rights, which are addressed under (i) (A) above.
 - v) The Contractor is also liable for any other direct damages to Canada caused by the Contractor's performance or failure to perform the Contract that relate to:
 - A. any breach of the warranty obligations under the Contract, up to the total amount paid by Canada (including any applicable taxes) for the goods and services affected by the breach of warranty; and
 - B. any other direct damages, including all identifiable direct costs to Canada associated with re-procuring the Work from another party if the Contract is

terminated by Canada either in whole or in part for default, up to an aggregate maximum for this subparagraph (B) of the greater of 0.50 times the total estimated cost (meaning the dollar amount shown on the first page of the Standing Offer in the cell titled "Total Estimated Cost" or shown on each call-up, purchase order or other document used to order goods or services under this instrument), or \$1 Million.

- vi) In any case, the total liability of the Contractor under subparagraph (v) will not exceed the total estimated cost (as defined above) for the Contract or \$1 Million, whichever is more.
 - vii) If Canada's records or data are harmed as a result of the Contractor's negligence or willful act, the Contractor's only liability is, at the Contractor's own expense, to restore Canada's records and data using the most recent back-up kept by Canada. Canada is responsible for maintaining an adequate back-up of its records and data.
- c) Third Party Claims:
- i) Regardless of whether a third party makes its claim against Canada or the Contractor, each Party agrees that it is liable for any damages that it causes to any third party in connection with the Contract as set out in a settlement agreement or as finally determined by a court of competent jurisdiction, where the court determines that the Parties are jointly and severally liable or that one Party is solely and directly liable to the third party. The amount of the liability will be the amount set out in the settlement agreement or determined by the court to have been the Party's portion of the damages to the third party. No settlement agreement is binding on a Party unless its authorized representative has approved the agreement in writing.
 - ii) If Canada is required, as a result of joint and several liability or joint and solidarily liable, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada by the amount finally determined by a court of competent jurisdiction to be the Contractor's portion of the damages to the third party. However, despite Sub-article (i), with respect to special, indirect, and consequential damages of third parties covered by this Section, the Contractor is only liable for reimbursing Canada for the Offeror's portion of those damages that Canada is required by a court to pay to a third party as a result of joint and several liability that relate to the infringement of a third party's intellectual property rights; physical injury of a third party, including death; damages affecting a third party's real or tangible personal property; liens or encumbrances on any portion of the Work; or breach of confidentiality.
 - iii) The Parties are only liable to one another for damages to third parties to the extent described in this Sub-article (c).

2.26 Hardware

a) With respect to the provisions of Supplemental General Conditions 4001:

Part III of 4001 applies to the Standing Offer (Additional Conditions: Purchase)	Yes
Part IV of 4001 applies to the Standing Offer (Additional Conditions: Lease)	No
Part V of 4001 applies to the Standing Offer (Additional Conditions: Maintenance)	Yes
Delivery Location	As indicated in the Call-up issued against the Standing Offer, which may identify any one or more locations in Canada, Canada reserves the right to adjust the location of acceptance for the equipment specified in any Call-up. Acceptance may take place at the Contractor's plant or at a warehouse facility. Goods will still remain DDP where the vendor is liable for delivery to all end locations including all shipping costs. The Warranty Period begins on the date received by the site authority at the final destination.
Installation Site (if required by Call-up)	As indicated in the Call-up issued against the Standing Offer, which may identify any one or more locations in Canada, except locations subject to one or more of the Comprehensive Land Claims Agreements. If not indicated, the installation site is the same as the delivery site.
Delivery Date	30 federal government working days after the date specified on the Call-up.
Contractor must deliver Hardware Documentation	Yes, one complete set with each Product delivered as requested.
Contractor must update Hardware Documentation throughout Contract Period	Yes
Hardware Documentation must include maintenance documentation	No
Language of Hardware Documentation	The Hardware Documentation must be delivered in either English or French, based on the Identified User's selection, as indicated in the Call-up. If the Call-up does not indicate the Identified User's choice of language, the Hardware Documentation must be delivered in English. If available, the Hardware Documentation must be delivered in bilingual format.

Special Delivery Requirements	No unless indicated in the Call-up issued against the Standing Offer, which may identify any one or more locations in Canada.
Special Site Delivery or Installation Requirements	No unless indicated in the Call-up issued against the Standing Offer.
Contractor must Install Hardware at time of Delivery	As per Call-up issued against the Standing Offer.
Contractor must Integrate and Configure Hardware at time of Installation	As per Call-up issued against the Standing Offer.
Hardware is part of a System	Yes, the System includes the Hardware and the Licensed Software.
Hardware Warranty Period	Despite 4001, the Hardware Warranty Period under Part III is three (3) years from the date of acceptance, unless a different Hardware Warranty Period is indicated in the Call-up.
Hardware Maintenance Period	The Hardware Maintenance Period is the same as the Hardware Warranty Period.
Parts Supplied as Part of Hardware Maintenance Service	Parts used to provide Hardware Maintenance Service may be refurbished parts, as long as they are certified "equal quality" to new equipment.
Lease Period	N/A
Delivery of Lease Hardware	N/A
Class of Maintenance Service	<p>There are four classes of maintenance service:</p> <ul style="list-style-type: none"> a) Standard On-Site Maintenance Service, as described in 4001 and modified in these Articles of Agreement; b) Advanced Replacement Maintenance Service, as described below; and c) Return-to-Service-Outlet Maintenance Service, as described in 4001 and modified in these Articles of Agreement. d) Enhanced On-Site Maintenance Service, as described below; e) Despite 4001, Section 26(1), if the Call-up does not specify a class of service, the Contractor must provide: <ul style="list-style-type: none"> a. For Thin Clients and Category 7.0N: Return-to-Service- Outlet Maintenance Service b. For all other Categories: Standard On-Site Maintenance Service or Advanced Replacement Maintenance Service

Principal Period of Maintenance (PPM)	Despite 4001, the PPM for Standard On-site Maintenance Service is 8:00 to 17:00 local time where the Product is in use, Monday through Friday, excluding statutory holidays observed by the federal government at that location. For Enhanced On-Site Maintenance Service, the PPM is 24 hours a day, 7 days a week, 365 days a year.
Toll-free Telephone Number for Maintenance Service	SEE LIST OF OFFEROR'S ON THE ONLINE ORDERING SYSTEM
Website for Maintenance Service	SEE LIST OF OFFEROR'S ON THE ONLINE ORDERING SYSTEM

2.27 Licensed Software

- a) The Products must be delivered with any software specified in the Call-up or required for the Products to function in accordance with the Technical Specifications in the Annex entitled "Technical Specifications" (the "Licensed Software"). The unit price(s) include all fees and costs associated with the licenses to the Licensed Software, as well as the software maintenance and support services described in this Contract, which must be provided throughout the Hardware Maintenance Period.
- b) The Licensed Software must be the current release and, unless otherwise specified, require no further research or development to meet the Technical Specifications (and any other functionality described in the Standing Offer or Call-up).
- c) The Licensed Software must be supported by, and fully compatible with the Product(s) up to the limit of the Product's expansion capability (with no additional licensing fees payable). All software must be completely integrated with and fully interfaced to the Product.
- d) This Contract grants to Canada the perpetual license (i.e., the license to use the Licensed Software is not a "demo" model and does not expire) to install, copy, deploy and use the Licensed Software with the Product(s) in accordance with the terms of this Contract (which does not include any terms or conditions contained in a shrink-wrap or click-wrap license, or other form of license delivered with the Licensed Software).
- e) Canada acknowledges that the Licensed Software is only licensed to Canada, not sold.
- f) If the Licensed Software includes any features, functions or characteristics ("Disabling Codes") that might cause the Licensed Software to be unusable by Canada without passwords, authorization codes or similar information, the Contractor must provide to Canada, in advance and on an ongoing basis (including after the Contract Period) all the information required by Canada to continue to use the Licensed Software with the Products.
- g) The Contractor must deliver the Products together with documentation about the Licensed Software that contains enough detail to permit the Identified User to access, install, copy, deploy, test and use all features of the Licensed Software. The documentation regarding the Licensed Software must be provided in either the same language as the Hardware Documentation, or must be bilingual (French and English), as specified by Canada.

2.28 Safeguarding Electronic Media

- a) Before using them on Canada's equipment or sending them to Canada, the Contractor must electronically scan, using a regularly updated product, all electronic media used to perform the Work for computer viruses and other coding intended to cause malfunctions. The Contractor must notify Canada if any electronic media used for the Work are found to contain computer viruses, malware, ransomware or other malicious coding intended to cause malfunctions.
- b) If digitally recorded information or documentation is damaged or lost while in the Contractor's care or in transit to Canada's specified delivery site, including accidental erasure, the Contractor must immediately replace it at its own expense.

2.29 Hardware Maintenance Service

In addition to 4001, Section 25, the following applies to the Hardware Maintenance Service:

- a) **Manufacturer's Warranty:** If the Contractor wishes to rely on the Manufacturer's warranty to provide the Hardware Maintenance Services, the Contractor must complete all warranty registration requirements with any Manufacturers on behalf of the Identified User. The Contractor must also notify the Identified User in writing of any requirement to register for international warranty coverage required if the end user will travel abroad with Products supplied under this Contract. Regardless of any Manufacturer's warranty, the responsibility for providing the Hardware Maintenance Services remains with the Contractor.
- b) **Magnetic Media:** To maintain the confidentiality of information that may be recorded on any storage media-based product requiring Hardware Maintenance Services, the storage media in all devices requiring repair or replacement must remain in the possession of Canada. Faulty storage media will not be returned to the Manufacturer, and Offerors need to factor that into their cost.
- c) **Device Retention:** Further to article (b) above, should the construction of the device preclude storage media retention, the device itself will be retained. Subsequent proof of device failure, to the satisfaction of the Contractor, will be furnished upon request.
- d) **Hotline Services:** With respect to the hotline services required to be provided under Supplemental General Conditions 4001, Section 25(5)(a), the Contractor must issue a trouble ticket for all end user problems that cannot be resolved over the telephone.

2.30 Classes of Hardware Maintenance Service

In addition to 4001, Section 26, the following applies to the Classes of Hardware Maintenance Service. For the default warranty the bidder may choose between warranty (a) **Standard On-site Maintenance Service** and warranty (b) **Advanced Replacement Maintenance Service** defined below. All bidders must offer a downgraded Return-To-Depot warranty as well:

- a) **Standard On-site Maintenance Service:** During the PPM throughout the Hardware Maintenance Period, the Contractor must perform on-site maintenance on any Hardware for which a problem is reported at the location in Canada where the Hardware was in use at the time the problem occurred, in accordance with the following:
 - i) The contractor must respond to the service requestor via the requestors' medium of choice (email, messaging, telephone, etc.) within 4 hours of the initial contact.
 - ii) Should a site presence be necessary, the Contractor must arrive on site within the following timeframes:

- A. If the equipment is located within a radius of 100 km from any population center of at least 100,000 people, a service technician must respond by telephone within 1 hour of the telephone call for service and a service technician must arrive at the site within twenty-four (24) hours of the initial call requesting service;
 - B. If the equipment is located within a radius of 100 km from any population center of 30,000 to 99,999 people, a service technician must respond by telephone within 1 hour of the telephone call for service and a service technician must arrive at the site within forty-eight (48) hours of the initial call requesting service; and
 - C. For all other locations within Canada, a service technician must respond by telephone within 1 hour of the telephone call for service and a service technician must arrive at the site within seventy-two (72) hours of the initial call requesting service.
- iii) After starting the maintenance, the Contractor must work continuously throughout the PPM until it returns the Hardware to Fully Functional Operation or until Canada suspends the work.
 - iv) The period from the time that Canada notifies the Contractor to suspend the Work until Canada notifies the Contractor to resume work will not be considered Downtime in the availability level calculation, if applicable. If the Hardware requires maintenance at a time when the required response time would result in the Contractor's service technician arriving at the site outside of the PPM, and Canada does not request service outside of the PPM at the applicable rate, if available under the Contract, then the period until the next PPM will not be considered Downtime in any availability level calculation.
 - v) Within 15 federal government working days of Canada requesting maintenance, the Contractor must restore the Hardware to Fully Functional Operation or must deliver a replacement that is identical to the original device.
 - vi) If the Contract includes a separate hourly rate for On-Site Maintenance Service performed outside the PPM, and the user placing the call for Hardware Maintenance Service specifically requests that the service be performed outside the PPM at an additional charge, the Contractor must arrive at the site within the timeframes specified in subsection 3(a) as though the service were being performed within the PPM. In this case, the Contractor is entitled to include a charge on the next invoice, at the On-Site Maintenance Service hourly rate for work outside the PPM specified in the Contract, for the hours worked outside the PPM. The Contractor is entitled to charge for the actual time worked outside of the PPM or two (2) hours, whichever is more, but is not entitled to charge for travel time. Where the Contractor performs the Hardware Maintenance Service outside the PPM, the time outside the PPM until the Hardware is restored to Fully Functional Operation will be considered Downtime.
 - vii) The Contractor may also submit a charge on its next invoice, at the On-Site Maintenance Service hourly rate for work outside the PPM specified in the Contract, for hours worked outside the PPM where the Contractor arrives at the site during the PPM and begins the Work, but is unable to complete the Work during the PPM, if Canada's on-site representative specifically requests that the service technician remain after the PPM ends to complete the Work at an additional charge. To submit this charge, the Contractor must obtain the signature of Canada's on-site representative agreeing to the additional charge. Because the Contractor's service technician is already at the site, the Contractor must only charge for the actual time

worked outside the PPM, and no minimum charge applies. Where the Contractor performs the Hardware Maintenance Service outside the PPM, the time outside the PPM until the Hardware is restored to Fully Functional Operation will be considered Downtime.

- viii) If no On-Site Maintenance Service hourly rate for work outside the PPM is specified in the Contract, the Contractor is not required to perform the Hardware Maintenance Service outside the PPM and must not submit a charge if it chooses to complete the Work outside the PPM.
- ix) If necessary the Contractor will be responsible for all the shipping costs.
- b) **Advanced Replacement Maintenance Service:** Once a hardware fault has been pre-determined, and mutually agreed to using the Contractor's help desk triage process, an identical replacement device is shipped directly to the client within 1 business day. The packaging of the replacement device must include pre-populated RMA and pre-paid shipping information. The defective device is to be sent back to the Contractor in same packaging as the replacement unit within 48 hours of receipt of the replacement device. The applicable service ticket will be closed upon acceptance of the defective device by the Contractor. The Contractor will be responsible for all the shipping costs.
- c) **Return-to-Depot Maintenance Service:** On the initial call to the Contractor, the Client will be given appropriate RMA and shipping information. The client will then return the product to an OEM authorisation repair facility. The repair must be completed within 72 hours of receipt and the product immediately returned. Should the device be accessed as irreparable an identical replacement must be returned. The replacement must be identical to the original device or, if not available, must exceed that of the original and must be acceptable to the warranty requestor.
- d) **Enhanced On-Site Maintenance Service:** This upgraded class of On-site Hardware Maintenance Service may be requested in a Call-up or RVD. It carries the same terms and conditions as On-Site Maintenance Service with the exception to the nature of the response (physical presence of a technician within 4 hours) and the PPM is 24 hours a day, 7 days a week, 365 days a year. Further conditions are as follows:
 - A. Should the client be unable to connect to a trained service technician on the initial call, a response to that call must be received by a service technician within 1 hour. Should a site visit be necessary, a service technician must arrive at the client site within 4 hours of the initial call. A maximum of 4 hours is mandatory where the System is located within a radius of 100km from any population centre of at least 100,000 people; and
 - B. Where the System is located within a radius of 100km from any population centre of 30,000 to 99,999 people, a service technician must respond similarly by telephone within 1 hour of the initial service call and a service technician must arrive on site within 24 hours of that initial call; and
 - C. For all other locations within Canada, a service technician must respond by telephone within 1 hour of the telephone call for service and a service technician must arrive on site within 48 hours of the initial call.
- e) **Upgrades, Components and Unevaluated Options:** All system-internal upgrades (RAM, SSD, LTE modem, etc.) ordered at the same time and intended for use with the System will be covered by the same time period as the System. Mobile device docking stations will carry the same warranty and warranty duration as the device up to a maximum of three (3) years.

Accessories (such as USB keys, external drives, external keyboards, etc.) will carry the warranty of the original manufacturer.

- f) **Battery Warranty:** To be applicable to all classes of warranty specified in item 2.30 herein, the mobile device battery is a minimum of 3 years or 1000 power cycles (whichever occurs first) or in the event of a premature decrease in rundown time or failure. Indication of the number of power cycles must come from the OEM written diagnostics or Windows 10 battery report. A failed battery is defined as holding less than 70% of its original charge.
- g) **Unauthorised Upgrade Mitigation:** Should an Offeror or OEM be unwilling to honor the warranty of a device that contains an unauthorised internal upgrade (performed outside of their purview), the applicable reseller who performed that upgrade will be responsible for honouring the terms and conditions of the warranty, specified herein, as it pertains to that component or upgrade. Should that unsanctioned component or upgrade cause partial or total device failure, that reseller is responsible for the entire device replacement. The replacement must be identical to the original device or, if not available, must exceed that of the original and must be acceptable to the warranty requestor.

2.31 Software Maintenance and Support Services

As part of the Hardware Maintenance Service, the Contractor must also perform the following software maintenance and support services throughout the Hardware Maintenance Period:

- a) provide Canada with the most recent minor revision, maintenance release and patch version of all of the Licensed Software during the Hardware Maintenance Period, as soon as they are available;
- b) provide both routine and emergency code corrections and fixes;
- c) provide telephone assistance with software problem resolution through the hotline;
- d) provide assistance in the correction of software errors, and assistance in System tuning and configuration;
- e) provide telephone response within one hour of a request for assistance during the PPM. If telephone assistance is not satisfactory to the end user and where a Product is rendered inoperative by a software problem that cannot be remedied by the Contractor within 24 hours of the request for assistance (or the beginning of the next PPM, if the request for assistance is made outside of the PPM), the Contractor must provide a solution or circumvention;

2.32 Product Replacement Service

If any Product fails to perform in accordance with the Technical Specifications and functional descriptions contained or referenced in the Call-up and requires remedial Hardware Maintenance Service three or more times during the Hardware Maintenance Period, the Contractor must, if requested by the Identified User, replace the Product at no cost with another item meeting the specifications of the Product. The replacement Product must be delivered no later than 15 federal government working days after the request is received. The Contractor must provide Operating System restoration and hardware-specific configuration on the replacement Product at no charge.

2.33 Warranty Services Information for End Users

The Contractor must provide the following information in electronic format when each System is delivered, unless otherwise specified by the client:

- a) the toll-free number to be used for Hardware Maintenance Service;
- b) the Hardware Warranty Period and applicable dates for each System in accordance with the Call-up;
- c) the information that will be required by the call center to provide any Hardware Maintenance Services; and
- d) details of the Hardware Maintenance Services being provided under this Contract, including the definition of the Principal Period of Maintenance, repair times, response times, etc. all in accordance with the provisions of this Contract.
- e) The information in (a) through (d) must be provided to the Identified User with each delivery.

2.34 User-Serviceable Products

The Contractor agrees that the Identified User's technical support staff may perform maintenance and/or upgrades to the Products and replace user-replaceable or user-serviceable components without affecting the obligation of the Contractor to provide the Hardware Warranty Services.

2.35 Access to Canada's Facilities

The Contractor is responsible for timely identification of the need for access to Canada's facilities, equipment and personnel, if required (for example, for delivery and installation). Subject to the approval of the Identified User, arrangements will be made with the Contractor for access. The Contractor agrees to comply with all standing orders or other regulations in force on the site where the work is performed, including those relating to the safety of persons on the site or the protection of property against loss or damage from any and all causes including fire.

2.36 Loss or Damage to Magnetic Records or Documentation

If, in the course of transit from the Contractor's site to the specified delivery site or while otherwise in the Contractor's care, magnetically recorded information and/or documentation becomes damaged or lost, including accidental erasure, it must be replaced at the Contractor's expense.

2.37 Procurement Strategy for Indigenous Business (PSIB)

The Contractor warrants that its certification of compliance is accurate and complete and in accordance with the "Requirements for the Set-aside Program for Indigenous Business" detailed in Annex 9.4 of the Supply Manual.

- a) The Contractor must keep proper records and documentation relating to the accuracy of the certification provided to Canada. The Contractor must obtain the written consent of the Contracting Authority before disposing of any such records or documentation before the expiration of six years after final payment under the Contract, or until settlement of all outstanding claims and disputes, under the Contract, whichever is later. All such records and documentation must at all times during the retention period be open to audit by the representatives of Canada, who may make copies and take extracts. The Contractor must provide all reasonably required facilities for any audits.
- b) Nothing in this clause must be interpreted as limiting the rights and remedies which Canada may otherwise have pursuant to the Contract.

2.38 Condition of Material

Unless provided otherwise in the Contract, material supplied must be new and conform to the latest issue of the applicable drawing, specifications and part number that is in effect on the offer closing date or, if there was no offer solicitation, the date of the Contract.

2.39 Technical Documentation – User Manual

Each system must include an operator/user manual(s). These manuals must be comprehensive guides that offer the user instructions for setting up, installing and configuring all components of the default system offered. The manual(s) must consist of at least the following:

- a) The manual(s) for each system must be available in both official languages.
- b) User manual: user manual for each system must include an accurate description of all hardware components and all their respective features. This must include descriptions of, and installation and configuration instructions, for all components.
- c) Diagrams: For the purposes of orientation, and as a complement to the setup and configuration instructions, the manual must offer internal and external diagrams of the system as delivered. These diagrams must accurately illustrate the system (front and rear), rear port configuration, battery removal, memory and card media insertion and removal, docking station procedures (if applicable).
- d) The manual(s) must include documentation for power, power management, environmental or site preparation requirements.
- e) The manual(s) must include diagnostics/troubleshooting section referencing errors generated through system BIOS and any other hardware errors. This section must also include appropriate explanations and troubleshooting advice for each error described.
- f) The features in articles (a) through (e) must be included in the same document, in the same format and their respective chapters must be referenced properly in a table of contents and indexes.
- g) Should the system undergo a major configuration change (changes in motherboard, BIOS make, setup/configuration routines, external cabinet and chassis) during the life of the Standing Offer, the manuals must reflect that change in the form of a manual reissue or an addendum shipped with the original manual. The addendum must be the same quality, typeface and page size as the original manual.
- h) The manuals must not describe components that are obsolete and are not included in the system.
- i) The manuals described in this Annex must be available electronically on the respective OEM web site.

2.40 Certifications - Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its offer or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Compliance with the certifications provided by the Contractor in its offer is a condition of the Contract and the certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification or it is

determined that any certification made by the Contractor in its offer is untrue, whether made knowingly or unknowingly, Canada has the right, under the default provision of the Contract, to terminate the Contract for default.

2.41 Hardware Certifications and Approvals

- a) All high-voltage electrical equipment associated with the mobile device (e.g. AC power adapter) and supplied under the Contract must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, prior to delivery, by an agency accredited by the Standards Council of Canada. That equipment must bear the certification logo that is applicable to the accredited agency. Current accredited agencies include, but are not exclusively comprised of:
 - i) Canadian Standards Association (CSA).
 - ii) Underwriters' Laboratory Inc. (cUL) (cULus).
 - iii) Underwriters' Laboratories of Canada (ULC).
 - iv) QPS Evaluation Services (cQPS) (formerly Entela Canada (cEntela).
 - v) Intertek Testing Services (cETL).
 - vi) Met Laboratories (cMET).
 - vii) OMNI Environmental Services Inc (cOTL).
 - viii) TUV Rhineland of North America (cTUV)
 - ix) Nemko Canada (cN)
- b) The associated equipment must comply with the emission limits and labelling requirements set out in the Interference Causing Standard ICES-003, "Digital Apparatus", published by Industry Canada.
- c) Mobile devices must be certified by Microsoft's Windows Hardware Quality Labs as being Windows 10 Professional compatible. The certification must be between Microsoft and the OEM / device manufacturer. The device must appear on the list of certified products prior to offer closing:

<https://partner.microsoft.com/en-us/dashboard/hardware/search/cpl>

2.42 Value-Added Vendor Support – Support Personnel

- a) The Offeror must have, on-staff or through a maximum of two third-party technical support subcontractor(s), an existing and experienced technical support infrastructure, staffed with personnel trained on the Offeror's products. This technical support infrastructure must consist of two hardware technicians based in the National Capital Region (NCR) and a minimum of fifteen technicians across Canada.
- b) The Offeror must have, on-staff or through an authorised subcontractor, at least one technician based in the NCR with a comprehensive knowledge of client image creation. If requested, this technician must assist with the client image creation and verification prior to duplication. This image creation process may occur entirely on the client premises.
- c) The Offeror must have an established hardware-training program for federal government employees specific to the device and ancillary equipment. The course curriculum must

include device hardware (which includes the model or model family being supplied), management software, security, diagnostics and other service and utilities as available from the default device manufacturer. This course must be available in both English and French.

2.43 Value-Added Vendor Support – Telephone Support

- a) The Offeror must provide end-user accessible telephone hardware technical support for all supplied devices, involving hardware troubleshooting, configuration support and any systemic software/hardware interoperability issues and/or connectivity issues.
- b) The telephone support staff must support:
 - i) All components of the device supplied;
 - ii) Windows 7 and 10 Professional Operating System as it relates to the Offeror's device;
 - iii) Peripherals, if supplied by the Offeror as it relates to the Offeror's device; and
 - iv) Connectivity issues relating to all terrestrial and wireless communications device supplied.
- c) The telephone support line must:
 - i) Be a toll free service;
 - ii) Employ a minimum staff of five device engineers concurrently during regular business hours (8:00 a.m. to 6:00 p.m. in all Canadian time zones), from Monday through Friday excluding Federal Government holidays;
 - iii) Offer this support service in both official languages (French and English) based on the caller's choice;
 - iv) Be accessible from all parts of Canada, United States and from international locations where service is available;
 - v) Use a serial number or service number tracking system that identifies all components, respective versions and respective driver versions of the installed device undergoing the troubleshooting;
 - vi) Use an electronically shared, nation-wide knowledge database to be used by support staff for all troubleshooting expertise, product idiosyncrasies and configuration parameters and all warranty entitlements for each specific component supplied;
 - vii) Provide a minimum 90% first call connection rate to a trained and qualified support technician. If a message centre expedites the call a trained and qualified technician must respond, in the language of the caller's choosing, within one hour. During the call the technician must engage in a problem diagnosis process with the customer prior to a service call being placed;
 - viii) Not exceed an on-hold time of more than five minutes on initial call;
 - ix) Be at no additional cost (i.e. included in the cost of the device). The cost of the service must be included the cost of the device; and
 - x) Be available for the life of the purchased hardware warranty.

2.44 Remote User-Assisted Diagnostics – All Categories with the exception of 7.0N

- a) The OEM must make available a diagnostic utility which has the ability to assist clients with diagnosing out-of-tolerance conditions. The error states can then be communicated to and interpreted by the respective OEM telephone support personnel.
- b) The diagnostic utility must isolate component-level status conditions and error states.
- c) The diagnostic utility must be authored and exclusively available from the respective OEM and must be publicly available from the OEM web site.

2.45 Web Site Support

The Offeror must provide an Internet site offering:

- a) Support file areas offering download/upload access for drivers, setup and configuration files and other pertinent software. These files, drivers and documents must be clearly identified as pertaining to the specific make and model of the device;
- b) Message areas for technical assistance and problem diagnosis with system engineers; and
- c) Technical information library for downloading product information files, pertinent white papers, default device user service manuals (French and English);
- d) FAQ (frequently asked questions) areas specific to the device delivered;
- e) Bulletins pertaining to product announcements, product recalls, component recalls bug fixes, etc;
- f) Customized notification subscription services to alert clients of device driver revisions, BIOS/firmware that pertain to the exact model family, product recalls, component recalls;
- g) The web site support features must be contained on the default device original equipment manufacturers web site. Links to other manufacturer's web sites cannot be used to achieve the mandatory requirements stated in this article;
- h) The web site support features must be available in French and English including the final destination page. Exceptions for unilingual content are allowed for technical descriptions, support forums, part number references and technical documentation;
- i) If the Offeror refers specifically to this NMSO on its web site, the information presented must be accurate in that only equipment and related prices listed on the Online Ordering System may be represented as being available on its NMSO.

2.46 ISV Certifications

For Categories- 8.0N, 10.0N, 5.0D and 6.0D, the device must have ISV (Independent Software Vendor) certifications for a minimum of 8 distinct applications. A minimum of 5 ISVs must be included in those certifications and must include any of the following: Adobe, ANSYS, Autodesk, Avid, Bentley, Dassault Systemes, ESRI, Schlumberger, Siemens, fFA – GeoTerac, Landmark, PTC, MSC Software. Where applicable ISV certifications must be applicable to the device and not just the video controllers.

2.47 Deployment Services – All Categories with the exception of 7.0N

- a) The following pre-delivery and deployment services must be available to the client, when requested, during a RVD solicitation. These services are applicable to Windows 10 and Windows 7 (for Desktop Category 2.1 only) deployments. As the demand for Windows 7 is expected to diminish throughout 2020 it is expected the availability of these service will diminish accordingly. The NMSO holder must inform the NMSO contract authority of their ability to deliver Windows 7 deployment services at that time. The minimum quantity eligible for the services described in articles (a) through (e) below is 100 devices.
- b) **Collaborative Image Creation and Duplication**
 - i) Offerors must offer a client imaging creation, duplication and automated image deployment service if requested. Depending on client preference that image can be a common baseline or may involve the inclusion of, but limited to; department owned COTS (common-off-the-shelf) applications, department specific applications, department specific customization, security setup, up-to-date patching and theft recovery info. All images that result from the collaborative image creation and duplication process must be encrypted and secured.
 - ii) When consulting with the client the contractor's image creation workflow process must offer all of the following process if called upon by the client:
 - A. Requirements definition (e.g. "white boarding")
 - B. Statement of Work agreed upon by department
 - C. Design/Develop
 - D. Validation
 - E. Test Plan and execution
 - F. Duplication
 - G. Gold Image certification only after Departmental test phase has been signed off as successful by department
 - H. The Gold Image checksum must be provided to the client as a means to verify it for security and integrity
 - iii) The Offeror must have the at least two following related professional certifications in-house (one of which must be PMP) and have the related knowledge base available to the client's imaging process when called upon:
 - A. MCP, MCSE, or other related Microsoft certifications
 - B. Enterprise Systems (Active Directory)
 - C. Any TCP, IP certifications
 - D. ITIL (Information Technology Infrastructure Library)
 - E. Agile Software Development
 - F. Quality certification such as, but not exclusive of, LSS (Lean Six Sigma)

G. Comp TIA (Computing Technology Industry Association) A+ certification

H. PMP (Project Management Professional)

c) **Baseline Image Duplication**

- i) Offerors must offer a basic client imaging validation and automated duplication service if requested during an RVD. Depending on client preference that image can be a common baseline or may involve the inclusion of, but limited to, department owned COTS applications, department specific applications, department specific customization, security setup and up-to-date patching and theft recovery info;
- ii) This service is not expected to have the image verified or validated by the Offeror, prior testing by the department and certification expected to be done during bench test phase prior to release of image to contractor.
- iii) The Offeror must have a quality assurance process that the image once deployed will boot through to the O/S main screen. A first unit test must be provided to the client demonstrating successful image duplication.
 - A. During this phase it is not the responsibility of the Offeror to fix the image, rather it is the responsibility to inform the client that the first unit test failed so that the client may address and resolve the image issue.
 - B. Additional fees would apply to the client if at that time they choose to have the Offeror resolve the issue for them, and timelines for delivery would be extended to a mutually agreed upon time.

d) **Imaging Facility Security Requirements**

- i) The imaging facility used to perform the imaging services specified in Item 4.0, paragraphs (a) and (b) herein must:
 - A. Be ISO 9001-2008 certified
 - B. The facility must be secured in that it must have, as a minimum, a challenge point for access, i.e.: badge swipe access, NFC badge access or biometric access
 - C. The specific location where image engineering takes place must have additional security in that only those permitted access to the room have the ability to enter the room through electronic security measures, i.e. badge swipe access, NFC badge access or biometric access.
 - D. The image must be stored on a secure image server where each image is encrypted and separate from other client images.
 - E. Images are to be pushed from the secure image server directly to the devices being imaged.
 - F. Images are not be placed on a SUB key or other external media without written consent by the client. Any images stored on external media must be encrypted.
 - G. Older images are to be deleted upon written request by the client.
 - H. The image must be encrypted during any storage or transmission phase.

- I. The image facility, image lab and image process (end to end) must be auditable by the Canadian Federal Government upon request.

e) **System Centre Configuration Manager Device Driver Packing**

- i) The device manufacturer must have available updated, consolidated device driver packs applicable to the device specified herein for use with Microsoft System Centre Configuration Manager (SCCM) vers. 2008 or later, for the user-specified version of Windows. These drivers must be available on the OEM web site in a catalogue format which allows the user to customise and consolidate according to device family and specific configuration.
- ii) These driver packs must facilitate WinPE assisted deployments in that they must slipstream the appropriate drivers during initial boot without user intervention, (commonly referred to as "silent installation") which subsequently allows for operating device install.
- iii) Any drivers, or SCCM driver packs (catalogues) must have the checksum listed on the OEM support site as a means verify it for security and integrity.

f) **Asset Tagging Creation**

- i) The Offeror must offer an asset tagging creation service which includes client specified data to be affixed to the offer device and/or monitor prior to shipping. This label must be placed on the device in a location on the device as specified by the department.
- ii) Once affixed the label must not interfere with the normal operation of the device in that it must not obstruct device cavities, vents, fasteners, connectors or hinges. The client reserves the right to determined positioning of the label.

g) **Just-in-Time Delivery**

- i) All Offerors must offer a just-in-time shipping option upon client request. This involves pre-determined, staggered deliveries that will synchronize with the clients' rate of deployment and mitigate 3rd party warehousing costs. As each client departments' rate of deployment varies the number of shipments and timelines will be described in the applicable RVD solicitation.
- ii) Client defined variables will include; shipping frequency, shipping quantities, shipping locations, shipping priorities.
- iii) The client reserves the right to change frequency, quantities and priorities aft contract award.

h) **Bulk Packaging**

- i) When requested, the Contractor must ship all devices using bulk packaging.

2.48 On-going Supply Chain Integrity Process

- a) **Supply Chain Integrity Process:** The Parties acknowledge that a Supply Chain Integrity Process assessment was a key component of the procurement process that resulted in the award of this Contract. In connection with that assessment process, Canada assessed the

Contractor's Supply Chain Security Information (SCSI) without identifying any security concerns. The following SCSI was submitted:

- i) Product list; and
- ii) a list of subcontractors.

This SCSI is included as Form 8. The Parties also acknowledge that security is a critical consideration for Canada with respect to this Contract and that on-going assessment of SCSI will be required throughout the Contract Period. This Article governs that process.

b) **Assessment of New SCSI:** During the Contract Period, the Contractor may need to modify the SCSI information contained in Form 8. In that regard:

- i) The Contractor, starting at contract award, must revise its SCSI at least once a year to show all changes made, as well as all deletions and additions to the SCSI that affect the services under the Contract (including Products deployed by its subcontractors) during that period; the list must be marked to show the changes made during the applicable period. If no changes have been made during the reporting year, the Contractor must advise the Contracting Authority in writing that the existing list is unchanged.
- ii) The Contractor agrees that, during the Contract Period, it will periodically (at least once a year) provide the Contracting Authority with updates regarding upcoming new Products that it anticipates deploying in the Work (for example, as it develops its "technology roadmap" or similar plans). This will allow Canada to assess those Products in advance so that any security concerns can be identified prior to the Products being deployed in connection with the services being delivered under the Contract. Canada will endeavour to assess proposed new Products within 30 calendar days, although lengthier lists of Products may take additional time.
- iii) Canada reserves the right to conduct a complete, independent security assessment of all new SCSI. The Contractor must, if requested by the Contracting Authority, provide any information that Canada requires to perform its assessment.
- iv) Canada may use any government resources or consultants to conduct the assessment and may contact third parties to obtain further information. Canada may use any information, whether it is provided by the Contractor or comes from another source, that Canada considers advisable to conduct a comprehensive assessment of any proposed new SCSI.

c) **Identification of New Security Vulnerabilities in SCSI already assessed by Canada:**

- i) The Contractor must provide to Canada timely information about any vulnerabilities of which it becomes aware in performing the Work, including any weakness, or design deficiency, identified in any Product used to deliver services that would allow an unauthorized individual to compromise the integrity, confidentiality, access controls, availability, consistency or audit mechanism of the system or the data and applications it hosts.
- ii) The Contractor acknowledges that the nature of information technology is such that new vulnerabilities, including security vulnerabilities, are constantly being identified and, that being the case, new security vulnerabilities may be identified in SCSI that have already been the subject of an SCSI assessment and assessed without security concerns by Canada, either during the procurement process or later during the Contract Period.

d) **Addressing Security Concerns:**

- i) If Canada notifies the Contractor of security concerns regarding a Product that has not yet been deployed, the Contractor agrees not to deploy it in connection with this Contract without the consent of the Contracting Authority.
- ii) At any time during the Contract Period, if Canada notifies the Contractor that, in Canada's opinion, there is a Product that is being used in the Contractor's solution (including use by a subcontractor) that has been assessed as having the potential to compromise or be used to compromise the security of Canada's equipment, firmware, software, systems or information, then the Contractor must:
 - (A) provide Canada with any further information requested by the Contracting Authority so that Canada may perform a complete assessment;
 - (B) if requested by the Contracting Authority, propose a mitigation plan (including a schedule), within 10 business days, such as migration to an alternative Product. The Contracting Authority will notify the Contractor in writing if Canada approves the mitigation plan, or will otherwise provide comments about concerns or deficiencies with the mitigation plan; and
 - (C) implement the mitigation plan approved by Canada.
 - (D) This process applies both to new Products and to Products that were already assessed pursuant to the Supply Chain Integrity Process assessment by Canada, but for which new security vulnerabilities have since been identified.
- iii) Despite the previous Sub-article, if Canada determines in its discretion that the identified security concern represents a threat to national security that is both serious and imminent, the Contracting Authority may require that the Contractor immediately cease deploying the identified Product(s) in the Work. For Products that have already been deployed, the Contractor must identify and/or remove (as required by the Contracting Authority) the Product(s) from the Work according to a schedule determined by Canada. However, prior to making a final determination in this regard, Canada will provide the Contractor with the opportunity to make representations within 48 hours of receiving notice from the Contracting Authority. The Contractor may propose, for example, mitigation measures for Canada's consideration. Canada will then make a final determination.

e) **Cost Implications:**

- i) Any cost implications related to a demand by Canada to cease deploying or to remove a particular Product or Products will be considered and negotiated in good faith by the Parties on a case-by-case basis and may be the subject of a Contract Amendment. However, despite any such negotiations, the Contractor must cease deploying and/or remove the Product(s) as required by Canada. The negotiations will then continue separately. The Parties agree that, at a minimum, the following factors will be considered in their negotiations, as applicable:
 - (A) with respect to Products already assessed without security concerns by Canada pursuant to an SCSJ assessment, evidence from the Contractor of how long it has owned the Product;
 - (B) with respect to new Products, whether or not the Contractor was reasonably able to provide advance notice to Canada regarding the use of the new Product in connection with the Work;

- (C) evidence from the Contractor of how much it paid for the Product, together with any amount that the Contractor has pre-paid or committed to pay with respect to maintenance and support of that Product;
 - (D) the normal useful life of the Product;
 - (E) any “end of life” or other announcements from the manufacturer of the Product indicating that the Product is or will no longer be supported;
 - (F) the normal useful life of the proposed replacement Product;
 - (G) the time remaining in the Contract Period;
 - (H) whether or not the existing Product or the replacement Product is or will be used exclusively for Canada or whether the Product is also used to provide services to other customers of the Contractor or its subcontractors;
 - (I) whether or not the Product being replaced can be redeployed to other customers;
 - (J) any training required for Contractor personnel with respect to the installation, configuration and maintenance of the replacement Products, provided the Contractor can demonstrate that its personnel would not otherwise require that training;
 - (K) any developments costs required for the Contractor to integrate the replacement Products into the Service Portal, operations, administration and management systems, if the replacement Products are Products not otherwise deployed anywhere in connection with the Work; and
 - (L) the impact of the change on Canada, including the number and type of resources required and the time involved in the migration.
- ii) Additionally, if requested by the Contracting Authority, the Contractor must submit a detailed cost breakdown, once any work to address a security concern identified under this Article has been completed. The cost breakdown must contain an itemized list of all applicable cost elements related to the work required by the Contracting Authority and must be signed and certified as accurate by the Contractor’s most senior financial officer, unless stated otherwise in writing by the Contracting Authority. Canada must consider the supporting information to be sufficiently detailed for each cost element to allow for a complete audit. In no case will any reimbursement of any expenses of the Contractor (or any of its subcontractors) exceed the demonstrated out-of-pocket expenses directly attributable to Canada’s requirement to cease deploying or to remove a particular Product or Products.
 - iii) Despite the other provisions of this Article, if the Contractor or any of its subcontractors deploys new Products that Canada has already indicated to the Contractor are the subject of security concerns in the context of the Work, Canada may require that the Contractor or any of its subcontractors immediately cease deploying or remove that Product. In such cases, any costs associated with complying with Canada’s requirement will be borne by the Contractor and/or subcontractor, as negotiated between them. Canada will not be responsible for any such costs.
- f) **General:**
 - i) The process described in this Article may apply to a single Product, to a set of Products, or to all Products manufactured or distributed by a particular supplier.

- ii) The process described in this Article also applies to subcontractors. With respect to cost implications, Canada acknowledges that the cost considerations with respect to concerns about subcontractors (as opposed to Products) may be different and may include factors such as the availability of other subcontractors to complete the work.
- iii) Any service levels that are not met due to a transition to a new Product or subcontractor required by Canada pursuant to this Article will not trigger a Service Credit, nor will a failure in this regard be taken into consideration for overall metric calculations, provided that the Contractor implements the necessary changes in accordance with the migration plan approved by Canada or proceeds immediately to implement Canada's requirements if Canada has determined that the threat to national security is both serious and imminent.
- iv) If the Contractor becomes aware that any subcontractor is deploying Products subject to security concerns in relation to the Work, the Contractor must immediately notify both the Contracting Authority and the Technical Authority and the Contractor must enforce the terms of its contract with its subcontractor. The Contractor acknowledges its obligations pursuant to General Conditions 2030, Subsection 9(3).
- v) Any determination made by Canada will constitute a decision with respect to a specific Product or subcontractor and its proposed use under this Contract, and does not mean that the same Product or subcontractor would necessarily be assessed in the same way if proposed to be used for another purpose or in another context.

2.49 Change of Control

- a) At any time during the Contract Period, if requested by the Contracting Authority, the Contractor must provide to Canada:
 - i) an organization chart for the Contractor showing all related corporations and partnerships; for the purposes of this Sub-article, a corporation or partnership will be considered related to another entity if:
 - (A) they are "related persons" or "affiliated persons" according to the Canada Income Tax Act;
 - (B) the entities have now or in the two years before the request for the information had a fiduciary relationship with one another (either as a result of an agency arrangement or any other form of fiduciary relationship); or
 - (C) the entities otherwise do not deal with one another at arm's length, or each of them does not deal at arm's length with the same third party.
 - ii) a list of all the Contractor's shareholders; if the Contractor is a subsidiary, this information must be provided for each parent corporation or parent partnership, up to the ultimate owner; with respect to any publicly traded corporation, Canada anticipates that the circumstances in which it would require a complete list of shareholders would be unusual and that any request from Canada for a list of a publicly traded corporation's shareholders would normally be limited to a list of those shareholders who hold at least 1% of the voting shares;
 - iii) a list of all the Contractor's directors and officers, together with each individual's home address, date of birth, birthplace and citizenship(s); if the Contractor is a subsidiary, this information must be provided for each parent corporation or parent partnership, up to the ultimate owner; and any other information related to ownership and control that may be requested by Canada.

- b) If requested by the Contracting Authority, the Contractor must provide this information regarding its subcontractors as well. However, if a subcontractor considers this information to be confidential, the Contractor may meet its obligation by having the subcontractor submit the information directly to the Contracting Authority. Regardless of whether the information is submitted by the Contractor or a subcontractor, Canada agrees to handle this information in accordance with Subsection 23(3) of General Conditions 2030 (General Conditions – Higher Complexity – Goods), provided the information has been marked as either confidential or proprietary.
- c) The Contractor must notify the Contracting Authority in writing of:
 - i) any change of control in the Contractor itself;
 - ii) any change of control in any parent corporation or parent partnership of the Contractor, up to the ultimate owner; and
 - iii) any change of control in any subcontractor performing any part of the Work (including any change of control in any parent corporation or parent partnership of the subcontractor, up to the ultimate owner).

The Contractor must provide this notice by no later than 10 FGWDs after any change of control takes place (or, in the case of a subcontractor, within 15 FGWDs after any change of control takes place). Where possible, Canada requests that the Contractor provide advance notice of any proposed change of control transaction.

- d) In this Article, a “change of control” includes but is not limited to a direct or indirect change in the effective control of the corporation or partnership, whether resulting from a sale, encumbrance, or other disposition of the shares (or any form of partnership units) by any other means. In the case of a joint venture Contractor or subcontractor, this applies to a change of control of any of the joint venture’s corporate or partnership members. In the case of a Contractor or subcontractor that is a partnership or limited partnership, this requirement also applies to any corporation or limited partnership that is a partner.
- e) If Canada determines in its sole discretion that a change of control affecting the Contractor (either in the Contractor itself or any of its parents, up to the ultimate owner) may be injurious to national security, Canada may terminate the Contract on a “no-fault” basis by providing notice to the Contractor within 90 days of receiving the notice from the Contractor regarding the change of control. Canada will not be required to provide its reasons for terminating the Contract in relation to the change of control, if Canada determines in its discretion that the disclosure of those reasons could itself be injurious to national security.
- f) If Canada determines in its sole discretion that a change of control affecting a subcontractor (either in the subcontractor itself or any of its parents, up to the ultimate owner) may be injurious to national security, Canada will notify the Contractor in writing of its determination. Canada will not be required to provide the reasons for its determination, if Canada determines in its discretion that the disclosure of those reasons could itself be injurious to national security. The Contractor must, within 90 days of receiving Canada’s determination, arrange for another subcontractor, acceptable to Canada, to perform the portion of the Work being performed by the existing subcontractor (or the Contractor must perform this portion of the Work itself). If the Contractor fails to do so within this time period, Canada will be entitled to terminate the Contract on a “no-fault” basis by providing notice to the Contractor within 180 days of receiving the original notice from the Contractor regarding the change of control.
- g) In this Article, termination on a “no-fault” basis means that neither party will be liable to the other in connection with the change of control or the resulting termination, and Canada will

only be responsible for paying for those services received up to the effective date of the termination.

- h) Despite the foregoing, Canada's right to terminate on a "no-fault" basis will not apply to circumstances in which there is an internal reorganization that does not affect the ownership of the ultimate parent corporation or parent partnership of the Contractor or subcontractor, as the case may be; that is, Canada does not have a right to terminate the Contract pursuant to this Article where the Contractor or subcontractor continues, at all times, to be controlled, directly or indirectly, by the same ultimate owner. However, in any such case, the notice requirements of this Article still apply.

2.50 Subcontracting

- a) Despite the General Conditions, none of the Work may be subcontracted (even to an affiliate of the Contractor) unless the Contracting Authority has first consented in writing. In order to seek the Contracting Authority's consent, the Contractor must provide the following information:

- i) the name of the subcontractor;
- ii) the portion of the Work to be performed by the subcontractor;
- iii) any other information required by the Contracting Authority; and

If Security Requirements were included in the Call-up form, the Contractor may also be required to provide:

- iv) the Designated Organization Screening or the Facility Security Clearance (FSC) level of the subcontractor;
 - v) the date of birth, the full name and the security clearance status of individuals employed by the subcontractor who will require access to Canada's facilities;
 - vi) completed sub-SRCL signed by the Contractor's Company Security Officer for CISD completion.
- b) For the purposes of this Article, a "subcontractor" does not include a supplier who deals with the Contractor at arm's length whose only role is to provide telecommunications or other equipment or software that will be used by the Contractor to provide services, including if the equipment will be installed in the backbone or infrastructure of the Contractor.

ANNEX A: TECHNICAL SPECIFICATIONS – MOBILE DEVICES

1. Introduction

This document addresses the requirements which apply to the following categories:

- 1.0N - Thin and Light Notebook - Windows 10 Pro
- 2.0N - Ultra Thin and Light Notebook - Windows 10 Pro
- 3.0N - 15 Inch Notebook - Windows 10 Pro
- 4.0N - Detachable 2-in-1 Device - Windows 10 Pro
- 5.0N - Advanced Detachable 2-in-1 Device - Windows 10 Pro
- 6.0N - Convertible 2-in-1 Notebook - Windows 10 Pro
- 7.0N - Slate Tablet - Windows 10 Pro, Android Knox, Apple iOS 11
- 8.0N - 15 Inch Mobile Engineering Workstation - Windows 10 Pro
- 9.0N - 15 Inch Thin and Light Mobile Workstation – Windows 10 Pro
- 10.0N - 17 inch Mobile Engineering Workstation - Windows 10 Pro
- 11.0N - Ruggedised Notebook - Windows 10 Pro
- 12.0N - Ruggedised Detachable 2-in-1 Device - Windows 10 Pro
- 13.0N - 10 Inch Ruggedised Slate Tablet - Windows 10 Pro

2. Configurations

The mobile devices must meet or exceed the technical specifications outlined in this Annex.

2.1 Category 1.0N – Thin and Light Notebook

a) Processor and Chip Set

- i) Intel Core i5- 8350U or AMD Ryzen 5 Pro 3500U
- ii) Intel SoC chip set or AMD Picasso Zen + platform standard
- iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH
- v) All Intel processors must include UHD 620 or Radeon 540X graphics
- vi) All AMD processors must include Radeon Vega 8 Graphics
- vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.

b) **RAM**

- i) 16.0 GB of DDR4 2400 MHz. or LPDDR3.
- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

c) **Internal Solid State Device (SSD)**

- i) The SSD hard disk must be a minimum 256 GB.
- ii) The SSD must be PCIe connected and use NVMe protocol.

d) **Display**

- i) The display must have a resolution of 1920x1080 (FHD). This resolution must be non-virtual.
- ii) The display must produce an active display of a minimum of 13.3 inches to a maximum of 14.0 inches (measured diagonally) at its native resolution.
- iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology with LED back lighting.
- iv) The display must be a 10 point capacitive touch screen.

e) **Form Factor**

- i) The device design must be the traditional clamshell.

f) **Audio**

- i) The system must include built-in stereo speakers with a high definition audio controller.

g) **Communications**

- i) The system must include an embedded, integrated dual-band wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
- ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
- iii) The system must have a user-facing web camera.
- iv) The system must have an integrated, user-facing, noise-reducing, dual array microphones.

h) **Ports**

The system must physically have the following ports:

- i) One internal USB-C port delivering USB 3.1 Gen 2 protocol and a minimum PD2 level Power Delivery
- ii) Two full sized USB-A or Type C ports using USB 3.1 protocol
- iii) One full sized digital video port

- iv) Internal audio line in/microphone port/audio line out combination port.
- i) FIPS 201 compliant contactless Smart Card reader or a Windows Hello enabled Camera or a Windows Hello enabled fingerprint reader.
- j) **Battery and Power Management**
 - i) The device must have an internal Lithium Ion battery
 - ii) The device must come with an OEM supplied and approved AC adapter
- k) **Keyboard**
 - i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF) with control keys in both languages.
- l) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- m) **Weight and Dimensions**
 - i) Total travelling weight, which does not include the AC adapter must not exceed 3.8 lbs.
- n) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.2 Category 2.0N – Ultra Thin and Light Notebook

- a) **Processor and Chip Set**
 - i) Intel Core i5-8350U or AMD Ryzen 5 Pro 3500U
 - ii) Intel SoC chip set or AMD Picasso Zen + platform standard
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
 - iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH
 - v) All Intel processors must include SoC UHD 620 graphics
 - vi) All AMD processors must include SoC Radeon Vega 8 Graphics or Radeon 540X graphics
 - vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.
- b) **RAM**
 - i) 16.0 GB of DDR4 2400 MHz. or LPDDR3-2133
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

c) **Internal Solid State Device (SSD)**

- i) The SSD hard disk must be a minimum 256 GB.
- ii) The SSD must be PCIe connected and use NVMe protocol.

d) **Display**

- i) The display must have a resolution of 1920x1080 (FHD). This resolution must be non-virtual.
- ii) The display must produce an active display of a minimum of 13.3 inches to a maximum of 14.0 inches (measured diagonally) at its native resolution
- iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology with LED back lighting.
- iv) The display must be a 10 point capacitive touchscreen.
- v) The device must be available with a display upgrade to a minimum 2560x1440 resolution

e) **Form Factor**

- i) The device design may be either a traditional clamshell design or a convertible design. If convertible, it must have a 360° hinge that horizontally rotates from the closed position to a flat, inverted (tablet) position or a detachable display which can be inverted (facing away from the keyboard). There must be sufficient resistance throughout the designed rotation to afford fixed positions.

f) **Audio**

- i) The system must include built-in stereo speakers with a high definition audio controller.

g) **Communications**

- i) The system must include an embedded, integrated dual-band wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
- ii) The system must include an embedded, integrated Bluetooth Combo 4.1 controller.
- iii) The system must have a user-facing web camera
- iv) The system must have an integrated, user-facing, noise-reducing dual array microphone.

h) **Ports**

The system must physically have the following ports:

- i) One internal USB-C port delivering USB 3.1 Gen 2 protocol and a minimum PD2 level Power Delivery or a proprietary port which offers both data and power for a single cable connection to a docking station branded by the same OEM.
- ii) One full sized USB-A or additional USB-C ports using USB 3.1 protocol
- iii) One full sized or mini digital video port

- iv) Internal audio line in/microphone port/audio line out combination port.
- i) **Battery and Power Management**
 - i) The device must have an internal Lithium Ion battery
 - ii) The device must come with an OEM supplied and approved AC adapter
- j) **Keyboard**
 - i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF)
- k) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- l) **Weight and Dimensions**
 - i) Total travelling weight, which does not include the AC adapter must not exceed 3.25 lbs. if clamshell. If 360° hinged or detachable display the weight must not exceed 3.4 lbs.
- m) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.3 Category 3.0N – 15 Inch Notebook

- a) **Processor**
 - i) Intel Core i5- 8365U or AMD Ryzen 5 Pro 3500U
 - ii) Intel SoC chip set or AMD Picasso Zen + platform standard
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation
 - iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH
 - v) All Intel processors must include SoC UHD 620 graphics or Radeon 540X graphics
 - vi) All AMD processors must include SoC Radeon Vega 8 Graphics
 - vii) Devices must be available with CPU upgrades to either the Intel Core i7-8665U or AMD Ryzen 7 Pro 3700U.
- b) **RAM**
 - i) 16.0 GB of DDR4 2400 MHz. or LPDDR3-2133 and must be available in a 32.0 GB. configuration
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Internal Solid State Device (SSD)**

- i) The SSD hard disk must be a minimum 256 GB.
 - ii) The SSD must be PCIe connected and use NVMe protocol.
- d) **Display**
- i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
 - ii) The display must produce an active display minimum of 15.6 inches at its native resolution or 15 inches if the display is based on a 3:2 aspect ratio.
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology with LED back lighting.
 - iv) The display must be a 10 point capacitive touch screen.
 - v) The system must offer an optional, discrete video controller.
- e) **Form Factor**
- i) The device design must be the traditional clamshell or 360° hinged convertible.
- f) **Audio**
- i) The system must include built-in stereo speakers with a high definition audio controller.
- g) **Communications**
- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have a user-facing web camera and world facing web camera if convertible design.
 - iv) The system must have an integrated, user-facing, noise-reducing, dual array microphone.
- h) **Ports**
- The system must physically have the following ports:
- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery
 - ii) Two additional USB-C or USB-A ports using USB 3.1 protocol
 - iii) One digital video port
 - iv) Internal audio line in/microphone port/audio line out combination port
- i) **Battery and Power Management**
- i) The device must have an internal Lithium Ion battery.
 - ii) The device must come with an OEM supplied and approved AC adapter.

- j) **Keyboard**
 - i) The QWERTY keyboard must be available in both English layout and a bilingual layout (Microsoft CF) with control keys in both languages.
 - ii) The native keyboard must have a separate numeric keypad.
- k) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- l) **Weight and Dimensions**
 - i) Total travelling weight, which does not include the AC adapter must not exceed 3.25 lbs. if clamshell. If 360° hinged or detachable display the weight must not exceed 3.4 lbs.
- m) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.4 Category 4.0N – 12 Inch Detachable 2-in-1 Mobile Device

- a) **Processor**
 - i) Intel Core i5- 8350U or AMD Ryzen 5 Pro 3500U
 - ii) Intel SoC chip set or AMD Picasso Zen + platform standard
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
 - iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH.
 - v) All Intel processors must include SoC UHD 620 graphics or Radeon 540X graphics.
 - vi) All AMD processors must include SoC Radeon Vega 8 Graphics.
 - vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.
- b) **RAM**
 - i) 16.0 GB of DDR4 2400 MHz. or LPDDR3-2133
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 256 GB.
 - ii) The SSD must be a PCIe NVMe class device.
- d) **Display**

- i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
 - ii) The display must produce a minimum active display of 12 inches to a maximum of 13.3 inches (measured diagonally) at its native resolution.
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology with LED back lighting.
 - iv) The display must be a capacitive, 10 point, multi-touch enabled.
- e) **Form Factor**
- i) The device design must involve a user-detachable keyboard. Both components (display and keyboard) must be specifically designed to be an integral device when attached. Both components must be manufactured and branded by the same OEM. When the display is dis-connected from the keyboard it must rest at various angles facing the user (e.g. +/- 45 degrees).
- f) **Audio**
- i) The system must include built-in stereo speakers with a high definition audio controller.
- g) **Communications**
- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have a user-facing and world facing web cameras.
 - iv) The system must have an integrated, user-facing, noise-reducing array microphone.
- h) **Sensors**
- i) Device must come equipped with; Gyroscope; Ambient Light Sensor, eCompass/Magnetometer or Accelerometer.
- i) **Ports**
- The system must physically have the following ports:
- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery or a proprietary port which offers both data and power for a single cable connection to a docking station branded by the same OEM.
 - ii) One full sized USB-A or additional USB-C ports using USB 3.1 protocol
 - iii) Internal audio line in/microphone port/audio line out combination port
- j) **Battery and Power Management**
- i) The device must have an internal Lithium Ion battery.
- k) **Keyboard**

- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).
- l) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
 - ii) All devices must have a stylus as branded by the device OEM available for purchase under System Components.
- m) **Weight and Dimensions**
 - i) Total travelling weight, which includes both the display and keyboard, as specified in this Annex, must not exceed 3.1 lbs.
- n) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.5 Category 5.0N – 12 Inch Advanced Detachable 2-in-1 Mobile Device

- a) **Processor**
 - i) Intel Core i5- 8350U or AMD Ryzen 5 Pro 3500U
 - ii) Intel SoC chip set or AMD Picasso Zen + platform standard
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
 - iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH.
 - v) All Intel processors must include SoC UHD 620 graphics.
 - vi) All AMD processors must include SoC Radeon Vega 8 Graphics or Radeon 540X graphics.
 - vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.
- b) **RAM**
 - i) 16.0 GB of DDR4 2400 MHz or LPDDR3-2133
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 256 GB.
 - ii) The SSD must be a PCIe NVMe class device.
- d) **12 inch Display**

- i) The display must have a minimum resolution of 2150x1440. This resolution must be non-virtual.
 - ii) The display must produce a minimum active display of 12 inches to a maximum of 13.5 inches (measured diagonally) at its native resolution
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology with LED back lighting.
 - iv) The display must be a 10 point capacitive touch screen.
- e) **Form Factor**
- i) The device design must involve a user-detachable keyboard. Both components (display and keyboard) must be specifically designed to be an integral device when attached. Both components must be manufactured and branded by the same OEM. When the display is connected to the keyboard it must rest at an angle facing the user (e.g. +/- 45 degrees).
- f) **Audio**
- i) The system must include built-in stereo speakers with a high definition audio controller.
- g) **Communications**
- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth Combo 4.2 controller.
 - iii) The system must have a user-facing camera and if a detachable design it must have an additional world facing web cameras.
 - iv) The system must have an integrated, user-facing, noise-reducing array microphone.
- h) **Sensors**
- i) Device must come equipped with Gyroscope; eCompass/Magnetometer or Accelerometer.
- i) **Ports**
- The system must physically have the following ports:
- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery or a proprietary port which offers both data and power for a single cable connection to a docking station branded by the same OEM.
 - ii) One full sized USB-A or additional USB-C ports using USB 3.1 protocol
 - iii) Internal audio line in/microphone port/audio line out combination port
- j) **Battery and Power Management**
- i) The device must have an internal Lithium Ion battery.
- k) **Keyboard**

- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).
- l) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
 - ii) All devices must have a stylus as branded by the device OEM available for purchase under System Components.
- m) **Weight and Dimensions**
 - i) Total travelling weight, which includes both the display and keyboard, as specified in this Annex, must not exceed 2.9 lbs.

2.6 Category 6.0N – 12 Inch Convertible 2-in-1 notebook

a) Processor

- i) Intel Core i5- 8350U or AMD Ryzen 5 Pro 3500U
- ii) Intel QM370 chip set or Intel SoC or AMD Picasso Zen + platform standard
- iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH.
- v) All Intel processors must include SoC UHD 620 graphics or Radeon 540X graphics.
- vi) All AMD processors must include SoC Radeon Vega 8 Graphics.
- vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.

b) RAM

- i) 16.0 GB of DDR4 2400 MHz or LPDDR3-2133
- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

c) Internal Solid State Device (SSD)

- i) The SSD hard disk must be a minimum 256 GB.
- ii) The SSD must be a PCIe NVMe class device.

d) 12 inch Display

- i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
- ii) The display must produce a minimum active display of 12 inches (measured diagonally) at its native resolution.
- iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology and LED back lighting.
- iv) The display must be a 10 point capacitive touch screen.

e) Form Factor

- i) The device design must involve convertible design. The display must be attached to the keyboard using a 360° hinge and must horizontally rotate from the closed position to a flat, inverted position. There must be sufficient resistance throughout the rotation to afford fixed positions.

f) Audio

- i) The system must include built-in stereo speakers with a high definition audio controller.

g) **Communications**

- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
- ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
- iii) The system must have a user-facing web camera.
- iv) The system must have an integrated, user-facing, noise-reducing array microphone.

h) **Sensors**

- i) Device must come equipped with; Gyroscope; eCompass/Magnetometer.

i) **Ports**

The system must physically have the following ports:

- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery or a proprietary port which offers both data and power for a single cable connection to a docking station branded by the same OEM.
- ii) One full sized USB-A or additional USB-C ports using USB 3.1 protocol
- iii) Internal audio line in/microphone port/audio line out combination port.

j) **Battery and Power Management**

- i) The device must have an internal Lithium Ion battery.

k) **Keyboard**

- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).

l) **Pointing Device**

- i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- ii) All devices must have a stylus as branded by the device OEM available for purchase under System Components.

m) **Weight and Dimensions**

- i) Total travelling weight, which includes both the display and keyboard, as specified in this Annex, must not exceed 3.4 lbs.

n) **Autopilot**

- i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.7 Category 7.0N – 10 Inch Slate tablet

a) **Operating System**

- i) The operating system must be either Microsoft Windows 10 Pro, or Apple iOS 12 or Android Knox 3.2
- b) **Processor**
 - i) Intel Pentium 4415Y or Apple A10 Fusion or Qualcomm Octa Core
- c) **RAM**
 - i) 8.0 GB. if Windows 10 Pro based,
 - ii) 4.0 GB. if Android based
- d) **Internal Solid State Device (SSD) or ROM**
 - i) If Windows 10 Pro or Apple iOS based the SSD hard disk must be a minimum 128 GB.
 - ii) If Android based the device must have a 64 GB. ROM
- e) **10 Inch Display**
 - i) The display must be either IPS or sAMOLED based and must have a minimum resolution of 1800x1200 with a 1400:1 contrast ratio. The resolution must be non-virtual.
 - ii) The display must produce a minimum active display of 9.7 inches (measured diagonally) at its native resolution.
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology and LED back lighting.
 - iv) The display must be a 10 point capacitive touch screen.
 - v) If Windows 10 Pro based the tablet must have an integrated stand which affords a user-facing viewing angle. Accessories to achieve this positioning will be evaluated as non-compliant.
- f) **Form Factor**
 - i) Device must be a traditional slate tablet.
- g) **Audio**
 - i) The system must include built-in stereo speakers with a high definition audio controller and UAJ audio port or USB-C port supporting a digital video protocol.
- h) **Communications**
 - i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have user-facing and world facing cameras.
 - iv) The system must have an integrated microphone.

- v) The system must not have cellular telephony or must offer the ability to have that capability disabled.
- i) **Stylus**
 - i) All devices must have a stylus as branded by the device OEM available for purchase under System Components.
- j) **Sensors**
 - i) Device must come equipped with; Gyroscope; eCompass/Magnetometer; Ambient Light Sensor
- k) **Ports**

The system must physically have the following ports:

 - i) If Windows 10 Pro based it must have one USB-C, one docking station port.
 - ii) If Apple iOS based it must have Lightning connector or USB-C connector.
 - iii) If Android based it must have a USB-C port supporting a digital video protocol.
- l) **Battery and Power Management**
 - i) The device must have an internal Lithium Ion or Lithium Polymer battery.
- m) **Security**

The device must include the following hardware based security devices:

 - i) If Windows 10 Pro based it must have a TPM 2.0 module and
 - ii) If Apple iOS based it must have a bio-metric touch ID sensor or Apple Face ID authentication.
 - iii) If Android based it must be a Knox Security Platform
- n) **Weight and Dimensions**
 - i) Total travelling weight, which includes the display as specified in this Annex, must not exceed 1.2 lbs for devices with displays measuring between 9.7 and 11.5 inches and must not exceed 1.7 lbs for devices with displays measuring greater than 11.5 inches.

2.8 Category 8.0N – 15 Inch Mobile Workstation

- a) **Processor and chip set**
 - i) Intel Core i7- 9850H
 - ii) Intel CM246 chip set
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
 - iv) Devices must be available with CPU upgrades to either the Intel Core i9-9880H or Intel Xeon E-2286M.
- b) **RAM**

- i) 16.0 GB of DDR4 2400 MHz. and must be available in configurations up to and including 128 GB.
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Internal Solid State Device (SSD)**
- i) The SSD hard disk must be a minimum 256 GB.
 - ii) The SSD must be PCIe connected and use NVMe protocol.
- d) **Display and Controller**
- i) The display must have a resolution of 1920x1080 (FHD). These resolutions must be non-virtual.
 - ii) The display must produce a minimum active display of 15.6 inches (measured diagonally) at its native resolutions.
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology and LED back lighting.
 - iv) The display must be a 10 point capacitive touch screen.
 - v) The device must be available with a display upgrade to a minimum WQHD (3840x2160) resolution.
 - vi) The system must have a discrete Nvidia Quadro P1000 or T1000 video controller and must offer an optional video controller upgrades.
- e) **Audio**
- i) The system must include built-in stereo speakers with a high definition audio controller.
- f) **Communications**
- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 5.0 controller.
 - iii) The system must have a user-facing web camera.
 - iv) The system must have an integrated, user-facing, noise-reducing dual array microphone.
- g) **Ports**
- The system must physically have the following ports:
- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery
 - ii) Two additional USB-C or USB-A ports using USB 3.1 protocol

- iii) One full-sized digital video port.
- iv) Internal audio line in/microphone port/audio line out combination port.
- h) **Battery and Power Management**
 - i) The device must have an internal Lithium Ion battery
 - ii) The device must come with an OEM supplied and approved AC adapter
- i) **Keyboard**
 - i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF) with control keys in both languages.
 - ii) The native keyboard must have a separate numeric keypad.
- j) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- k) **Weight and Dimensions**
 - i) Total travelling weight, which does not include the AC adapter must not exceed 7.0 lbs. (non-touch).
- l) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.9 Category 9.0N – 15 Inch Thin and Light Mobile Workstation

- a) **Processor and chip set**
 - i) Intel Core i7- 9850H or Intel Core i7-8650U capable of a 20 watt TDP burst mode
 - ii) Intel CM246 if Quadro based or QM370 or SoC chip set if GeForce based.
 - iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- b) **RAM**
 - i) 16.0 GB of DDR4 2400 MHz. if Quadro based or 16.0 GB of LPDDR3 1866 MHz. if GeForce based
 - ii) Quadro based devices must be available in a 32.0 GB. configuration
 - iii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 256 GB.
 - ii) The SSD must be PCIe connected and use NVMe protocol.

d) **Display and Controller**

- i) The display must have a resolution of 1920x1080 (FHD). These resolutions must be non-virtual.
- ii) The display must produce a minimum active display of 15 inches (measured diagonally) at its native resolutions.
- iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology and LED back lighting.
- iv) The display must be a 10 point capacitive touch screen.
- v) The device must be available with a display upgrade to a minimum WQHD (3000x2000) resolution with 10 point capacitive touchscreen capabilities.
- vi) The system must offer a discrete Nvidia Quadro P1000 or T1000 or Nvidia Geforce GTX 1060 video controller.

e) **Form Factor**

- i) The device design may be either a traditional clamshell design or a convertible design. If convertible, it must have a 360° hinge that horizontally rotates from the closed position to a flat, inverted (tablet) position or a detachable display which can be inverted (facing away from the keyboard). There must be sufficient resistance throughout the designed rotation to afford fixed positions.

f) **Audio**

- i) The system must include built-in stereo speakers with a high definition audio controller.

g) **Communications**

- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
- ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
- iii) The system must have a user-facing web camera and an additional world facing camera if convertible design.
- iv) The system must have an integrated, user-facing, noise-reducing dual array microphone.

h) **Ports**

The system must physically have the following ports:

- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery
- ii) Two additional USB-A or USB-C ports using USB 3.0 protocol
- iii) One digital video port.
- iv) Internal audio line in/microphone port/audio line out combination port.

i) **Battery and Power Management**

- i) The device must have an internal Lithium Ion battery
- ii) The device must come with an OEM supplied and approved AC adapter

j) **Keyboard**

- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).

k) **Pointing Device**

- i) System must have an integrated multi-point glide pad with left and right mouse button functionality.

l) **Weight and Dimensions**

- i) Total travelling weight, which does not include the AC adapter must not exceed 5.0 lbs. (non-touch) if Quadro video based and 4.3 lbs if GTX video based.

m) **Autopilot**

- i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.10 Category 10.0N – 17 Inch Mobile Workstation

a) **Processor and chip set**

- i) Intel Core i7- 9850H
- ii) Intel CM246 chip set
- iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- iv) Devices must be available with CPU upgrades to either the Intel Core i9-9880H or Xeon E-2286M.

b) **RAM**

- i) 16.0 GB of DDR4 2400 MHz. and must be available in configurations up to and including 64 GB.
- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

c) **Internal Solid State Device (SSD)**

- i) The SSD hard disk must be a minimum 256 GB.
- ii) The SSD must either a PCIe NVMe device.

d) **Display and Controller**

- i) The display must have a resolution of 1920x1080 (FHD). These resolutions must be non-virtual.

- ii) The display must produce a minimum active display of 17 inches (measured diagonally) at its native resolutions.
 - iii) The display must have either IPS (IN Plane Switching) or WVA (Wide Viewing Angle) technology and LED back lighting.
 - iv) The device must be available with a display upgrade to a minimum WQHD (3840x2160) resolution.
 - v) The system must offer a discrete Nvidia Quadro P1000 or T1000 video controller and must offer an optional video controller upgrades.
- e) **Audio**
- i) The system must include built-in stereo speakers with a high definition audio controller.
- f) **Communications**
- i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 5.0 controller.
 - iii) The system must have a user-facing web camera.
 - iv) The system must have an integrated, user-facing, noise-reducing dual array microphone.
- g) **Ports**
- The system must physically have the following ports:
- i) One internal USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery
 - ii) Two additional USB-C or USB-A ports using the USB 3.1 protocol
 - iii) One full-sized digital video port.
 - iv) Internal audio line in/microphone port/audio line out combination port.
- h) **Battery and Power Management**
- i) The device must have an internal Lithium Ion battery
 - ii) The device must come with an OEM supplied and approved AC adapter
- i) **Keyboard**
- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF) with control keys in both languages.
 - ii) The native keyboard must have a separate numeric keypad.
- j) **Pointing Device**

- i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- k) **Weight and Dimensions**
 - i) Total travelling weight, which does not include the AC adapter must not exceed 8.0 lbs. (non-touch).
- l) **Autopilot**
 - i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

2.11 Category 11.0N – Ruggedised Notebook

- a) **Processor**
 - i) Intel 7th generation Core i5-7300U processor
 - ii) All processors and chipset must include Intel VT-d and VT-x virtualisation.
- b) **Operating System**
 - i) Microsoft Windows 10 Pro
- c) **RAM**
 - i) 16.0 GB of DDR4 2133 MHz. or LPDDR3 1866 MT/s
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- d) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 256 GB. and must conform to the Opal Storage Specification version 2.0.
- e) **Display**
 - i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
 - ii) The display must produce an active display of between 12.0 inches and 15.0 inches (measured diagonally) at its native resolution.
 - iii) The display must be a capacitive or resistive, 10 point, gloved, multi-touch enabled.
 - iv) The display must be outdoor viewable and must have a minimum of brightness of 1000 nits.
- f) **Communications**
 - i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have a user-facing web camera.

- iv) The system must offer an optional, internal, dedicated GPS available to be purchased at a later date.

g) **Ports**

The system must physically have the following ports:

- i) Two USB ports one of which one must be USB 3.0, RJ-45 Ethernet, one digital video, one RS-232 serial, docking station connector.

h) **Battery and Power Management**

- i) The device must have two user-removable internal 22 Whr. Lithium Ion batteries or have a single 50 Whr. Lithium Ion battery.

i) **Keyboard**

- i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).
- ii) The keyboard must be backlit and must have the ability to turn off back-lighting using the keyboard.

j) **Port Replicator**

- i) Notebooks must have a port replicator available for purchase and must be manufactured by or approved by the respective system manufacturer.
- ii) The port replicator must have the following ports:
 - (A) 3 x USB ports, 2 of which must be USB 3.0
 - (B) Two video ports, one of which must be digital.
 - (C) RJ-45 Ethernet port.
- iii) The port replicator must interface with the device through a dedicated bus interface or USB-C and must be able to positively charge the device while docked. The port replicator must include its own AC adapter.
- iv) The port replicator must support two monitors simultaneously and support the Windows extended desktop.

k) **Pointing Device**

- i) System must have an integrated multi-point glide pad with left and right mouse button functionality.

l) **Security and Authentication**

- i) The colour of the device's exterior must be available in an inconspicuous and non-reflective, matte black or matte gray if requested by the client.

m) **Weight and Dimensions**

- i) Total travelling weight, which includes both the display, keyboard and internal battery, as specified in this Annex, must not exceed 8.0 lbs.

n) **Autopilot**

- i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

o) **Form Factor**

- i) Device design must be either the traditional clamshell or detachable display.

p) **Rugged Device Regulatory and Environmental Compliance**

The ruggedized notebook must be tested and certified to meet the following MIL-STD-810G and IP-65 Ingress test and procedures (all temperatures noted are in Fahrenheit):

- i) Altitude: MIL-STD-810G, 500.5, Procedures I, II - 40,000 ft. non-operating and operating
- ii) High temperature: MIL-STD-810G, 501.5, Procedures I, II, III - 158° non-operating to 140° operating
- iii) Low temperature: MIL-STD-810G, 502.5, Procedures I, II – minus 60° non-operating, minus 20° operating
- iv) Thermal shock: MIL-STD-810G, 503.5, Procedure I – from plus 20° to minus 60° (3 cycles)
- v) Rain: MIL-STD-810G, 506.5, Procedure I – 70 MPH, 15 minute exposure
- vi) Humidity: MIL-STD-810G, 507.5, Procedure II – temp cycles from 86° to 140°, 95% relative humidity
- vii) Explosive atmosphere MIL-STD-810G, 511.5, Procedure I
- viii) Vibration: MIL-STD-810G, 514.6, Procedures I (Cat 4 or Cat 20 or Cat 24) non-operating
- ix) Shock: MIL-STD-810G, 516.6, Procedures I – 40g, 11 ms. operating
- x) Transit drop: MIL-STD-810G, 516.6, Procedure IV – 26 drops at 36 inches onto 2 inch plywood*
- xi) Transit drop: MIL-STD-810G, 516.6, Procedure IV - 26 drops at 48 inches onto 2 inch plywood*
- xii) Transit drop: MIL-STD-810G, 516.6, Procedure IV - 26 drops at 60 inches onto 2 inch plywood*
- xiii) Freeze/thaw: MIL-STD-810G, 524, Procedure III
- xiv) Solid ingress protection: IEC 60529, IP-6X
- xv) Liquid ingress protection: IEC 60529, IP-X5
- xvi) Electromagnetic interference: MIL-STD-461F
- xvii) Blowing dust: MIL-STD-810G, 510.5, Procedures I
- xviii) Blowing sand: MIL-STD-810G, 510.5, Procedures II

2.12 Category 12.0N – Ruggedised Detachable 2-in-1 Mobile Device

- a) **Processor**
 - i) Intel 6th generation M5-6Y57 processor
 - ii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- b) **Operating System**
 - i) Microsoft Windows 10 Pro
- c) **RAM**
 - i) 16 GB of DDR3L 1600 MHz.
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- d) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 512 GB and must conform to the Opal Storage Specification version 2.0.
- e) **Display**
 - i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
 - ii) The display must produce an active display of between 10 inches and 12 inches (measured diagonally) at its native resolution and be finished with a non-reflective matte finish.
 - iii) The display must be a capacitive or resistive, 5 point, gloved multi-touch enabled.
 - iv) The device design must involve a user-detachable keyboard or display. Both display and keyboard must be specifically designed for each other and must be by branded by the same OEM.
 - v) The display must be outdoor viewable and must a minimum brightness of 800 nits or 600 nits if the display employs Direct-View LED technology.
- f) **Audio**
 - i) The system must include built-in speaker and integrated microphones.
- g) **Communications**
 - i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have a user-facing web camera.
 - iv) The system must offer an optional, internal WWAN cellular modem

- v) The system must offer an optional, internal, dedicated GPS available which may be purchased at a later date.
- h) **Sensors**
 - i) Device must come equipped with; Gyroscope; eCompass/Magnetometer; Ambient Light Sensor
- i) **Ports**

The system must physically have the following ports:

 - i) One USB 3.0 type A or type C, one digital video, one UAJ audio jack, docking station connector
 - ii) The system must offer an optional RS-232 serial port
- j) **Battery and Power Management**
 - i) The device must have an internal 26 Whr. Lithium Ion battery with the facility for a second internal battery.
- k) **Keyboard (must be supplied with the display portion)**
 - i) The QWERTY keyboard must be available in both English layout and bilingual layout (Microsoft CF).
 - ii) The keyboard must be backlit and must have the ability to turn off back-lighting using the keyboard.
- l) **Port Replicator**
 - i) Notebooks must have a port replicator available for purchase and must be manufactured by or approved by the respective system manufacturer.
 - ii) The port replicator must have the following ports:
 - (A) 3 x USB ports, 2 of which must be USB 3.0.
 - (B) Two video ports
 - (C) RJ-45 Ethernet port
 - iii) The port replicator must interface with the device through a dedicated bus interface or USB-C and must be able to positively charge the device while docked. The port replicator must include its own AC adapter.
 - iv) The port replicator must support two monitors simultaneously and support the Windows extended desktop.
- m) **Pointing Device**
 - i) System must have an integrated multi-point glide pad with left and right mouse button functionality.
- n) **Security and Authentication**

- i) The colour of the device's exterior must be available in an inconspicuous and non-reflective, matte black or matte gray if requested by the client.

o) **Weight and Dimensions**

- i) Total travelling weight, which includes both the display, keyboard and single internal battery, as specified in this Annex, must not exceed 4.9 lbs.

p) **Autopilot**

- i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

q) **Rugged Device Regulatory and Environmental Compliance**

The ruggedised system unit and ruggedised keyboard must be tested and certified to meet the following MIL-STD-810G and IP-65 Ingress test and procedures (all temperatures noted are in Fahrenheit):

- i) Altitude: MIL-STD-810G, 500.5, Procedures I, II - 40,000 ft. non-operating and operating
- ii) High temperature: MIL-STD-810G, 501.5, Procedures I, II, III - 158o non-operating to 140o operating
- iii) Low temperature: MIL-STD-810G, 502.5, Procedures I, II – minus 60o non-operating, minus 20o operating
- iv) Thermal shock: MIL-STD-810G, 503.5, Procedure I – from plus 20o to minus 60o (3 cycles)
- v) Rain: MIL-STD-810G, 506.5, Procedure I – 70 MPH, 15 minute exposure
- vi) Humidity: MIL-STD-810G, 507.5, Procedure II – temp cycles from 86o to 140o, 95% relative humidity
- vii) Explosive atmosphere MIL-STD-810G, 511.5, Procedure I
- viii) Vibration: MIL-STD-810G, 514.6, Procedures I (Cat 4, 20 or 24) non-operating
- ix) Shock: MIL-STD-810G, 516.6, Procedures I – 40g, 11 ms. operating
- x) Transit drop: MIL-STD-810G, 516.6, Procedure IV – 26 drops at 36 inches onto 2 inch plywood*
- xi) Transit drop: MIL-STD-810G, 516.6, Procedure IV - 26 drops at 48 inches onto 2 inch plywood*
- xii) Freeze/thaw: MIL-STD-810G, 524, Procedure III
- xiii) Solid ingress protection: IEC 60529, IP-6x
- xiv) Liquid ingress protection: IEC 60529, IP-x5
- xv) Electromagnetic interference: MIL-STD-461F
- xvi) Blowing dust: MIL-STD-810G, 510.5, Procedures I

- xvii) Blowing sand: MIL-STD-810G, 510.5, Procedures II

2.13 Category 13.0N – 10 Inch Ruggedised Slate Tablet

- a) **Processor**
 - i) Intel 6th generation Core i5-6300U processor
 - ii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- b) **Operating System**
 - i) Microsoft Windows 10 Pro
- c) **RAM**
 - i) 8 GB of DDR3L 1600 MHz.
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- d) **Internal Solid State Device (SSD)**
 - i) The SSD hard disk must be a minimum 256 GB. and must conform to the Opal Storage Specification version 2.0.
- e) **10 inch Display**
 - i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
 - ii) The display must produce an active display of 10 inches (measured diagonally) at its native resolution.
 - iii) The display must be a capacitive or resistive, 5 point, gloved, multi-touch enabled.
 - iv) The display must be outdoor viewable.
- f) **Audio**
 - i) The system must include built-in speaker and integrated microphones.
- g) **Communications**
 - i) The system must include an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna.
 - ii) The system must include an embedded, integrated Bluetooth 4.1 controller.
 - iii) The system must have a user-facing web camera.
 - iv) The system must offer an optional, internal WWAN cellular modem.
 - v) The system must offer an optional, internal, dedicated GPS.
- h) **Sensors**

- i) Device must come equipped with; Gyroscope; eCompass/Magnetometer; Ambient Light Sensor

i) **Ports**

The system must physically have the following ports:

- i) One USB 3.0 type A or type C, one digital video, one UAJ audio jack
- ii) The system must offer an optional RS-232 serial port.

j) **Battery and Power Management**

- i) The device must have an internal 34 Whr. Lithium Ion battery.

k) **Security and Authentication**

- i) The case must include a Kensington lock slot or equivalent.

l) **Weight and Dimensions**

- i) Total travelling weight, which includes both the display, keyboard and single internal battery, as specified in this Annex, must not exceed 4.9 lbs.

m) **Autopilot**

- i) All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding.

n) **Rugged Tablet Regulatory and Environmental Compliance**

The ruggedized tablet must be tested and certified to meet the following MIL-STD-810G and IP-65 Ingress test and procedures (all temperatures noted are in Fahrenheit):

- i) Altitude: MIL-STD-810G, 500.5, Procedures I, II - 40,000 ft. non-operating and operating
- ii) High temperature: MIL-STD-810G, 501.5, Procedures I, II, III - 158o non-operating to 140 o operating
- iii) Low temperature: MIL-STD-810G, 502.5, Procedures I, II – minus 60o non-operating, minus 20o operating
- iv) Thermal shock: MIL-STD-810G, 503.5, Procedure I – from plus 20o to minus 60o (3 cycles)
- v) Rain: MIL-STD-810G, 506.5, Procedure I – 70 MPH, 15 minute exposure
- vi) Humidity: MIL-STD-810G, 507.5, Procedure II – temp cycles from 86o to 140o, 95% relative humidity
- vii) Explosive atmosphere MIL-STD-810G, 511.5, Procedure I
- viii) Vibration: MIL-STD-810G, 514.6, Procedures I (Cat 4 or Cat 20 or Cat 24) non-operating
- ix) Shock: MIL-STD-810G, 516.6, Procedures I – 40g, 11 ms. operating

- x) Transit drop: MIL-STD-810G, 516.6, Procedure IV – 26 drops at 36 inches onto 2 inch plywood*
- xi) Transit drop: MIL-STD-810G, 516.6, Procedure IV - 26 drops at 48 inches onto 2 inch plywood*
- xii) Freeze/thaw: MIL-STD-810G, 524, Procedure III
- xiii) Solid ingress protection: IEC 60529, IP-6x
- xiv) Liquid ingress protection: IEC 60529, IP-x5
- xv) Electromagnetic interference: MIL-STD-461F
- xvi) Blowing dust: MIL-STD-810G, 510.5, Procedures I
- xvii) Blowing sand: MIL-STD-810G, 510.5, Procedures II

2.14 Category 14.0N – Semi-Ruggedized Notebook

a) Processor

- (i) Intel Core i5-8350U or AMD Ryzen 5 Pro 3500U
- (ii) Intel SoC chip set or AMD Picasso Zen + platform standard
- (iii) All Intel processors and chipset must include Intel VT-d and VT-x virtualisation.
- (iv) All AMD processors and chipsets must include AMD-v virtualisation and DMTF-DASH
- (v) All Intel processors must include SoC UHD 620 graphics
- (vi) All AMD processors must include SoC Radeon Vega 8 Graphics or Radeon 540X graphics
- (vii) Devices must be available with CPU upgrades to either the Intel Core i7-8650U or AMD Ryzen 7 Pro 3700U.

b) Operating System

- (i) Microsoft Windows 10 Pro

c) RAM

- (i) 16.0 GB of DDR4 RAM and must be available in a 32 GB. configuration
- (ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer.

d) Internal Solid State Device (SSD)

- (i) The SSD must be minimum 256 GB.

e) Display and Video Controller

- (i) The display must have a resolution of 1920x1080. This resolution must be non-virtual.
- (ii) The display must produce an active display of 14.0 inches (measured diagonally) at its native resolution.
- (iii) The display must be a capacitive or resistive, 10 point, gloved, multi-touch enabled.
- (iv) The display must be outdoor readable producing a minimum of 800 nits brightness at the resolution specified.
- (v) The device must be available with an optional, discrete video controller upgrade. The minimum GPU upgrade must be the AMD Radeon RX 540 or Radeon Pro WX 4150 or an equivalent Nvidia GPU and must come with a minimum of 2 GB of dedicated video RAM.

f) Form Factor and Design

- (i) The device design may be a traditional clamshell design with a securely installed, front carrying handle. The handle must be “hard” in that it must be constructed of a solid material similar to that of the device’s case. The device must also utilise a user-upgradeable, modular architecture. The modules must offer a variety of options which include a second battery, user authentication methods and additional ports.

g) Communications

The device must:

- (i) Have an embedded, integrated wireless 802.11 a/g/n/ac adapter with integrated dual antenna;
- (ii) Have an embedded, integrated Bluetooth 4.2 controller;
- (iii) Have a user-facing web camera and dual array microphones. Camera must have an integrated privacy shutter;
- (iv) Be available with an optional, internal, dedicated GPS;
- (v) Must be available with an optional, internal, 4G LTE cellular modem.

h) Ports

The device must have:

- (i) Three full sized USB ports either type A or Type C;
- (ii) One digital video port;
- (iii) A RS-232 port either standard or available as an option;
- (iv) A SIM or Micro SIM or Nano SIM either standard or available as an option;
- (v) Media card slot;
- (vi) Integrated hinged doors or shutters which protect all ports listed in this section and available as options. The AC power port is an exception.

i) Battery and Power Management

The device must:

- (i) Have an internal, user-removable internal 46 Whr. (Watt hour) Lithium Ion battery;
- (ii) Be able to accommodate a second, identical battery simultaneously installed with the primary battery;
- (iii) Come standard with an AC adapter rated at 65 watts or greater;
- (iv) Have, either offered as standard or optional, an AC adapter that is rated at 100 watts or greater.

j) Keyboard

The native keyboard must:

- (i) Be a QWERTY keyboard and must be available in both English layout and bilingual layout (Microsoft CF);
- (ii) Be backlit and must have the ability to turn off back-lighting using the keyboard;

k) Office Docking Station

- (i) Notebooks must have a docking station available for purchase and must be manufactured by and/or approved by the respective device manufacturer.
- (ii) The docking station must have the following ports:
 - a) 3 x USB ports, either type A or type C
 - b) Two video ports, one of which must be digital.
 - c) RJ-45 Ethernet port.
- (iii) The docking station must interface with the device through a dedicated bus interface or USB-C and must be able to positively charge the device while docked. The docking station replicator must include its own AC adapter.
- (iv) The docking station must support two monitors simultaneously and support the Windows extended desktop.

l) Ruggedized Vehicle Mount

The ruggedized vehicle mount must:

- (i) Be specifically designed for the ruggedized device bid;
- (ii) Have a compatible system bus connection;
- (iii) Offer port replication of the following: Ethernet RJ-45, 2 x USB type A, dual high gain RF antenna pass through, 15 pin D-sub VGA, HDMI or DisplayPort (full-sized or mini), RS-232 Serial D-sub;
- (iv) Have the ability to securely retain the device regardless of being locked or unlocked;

- (v) Provide VESA 75 or 100 compatible mounting apertures;
- (vi) Be MIL-STD 810G tested and certified for the following:
 - a) High temperature: MIL-STD-810G, 501.6, Procedures I at -140° (non-operating) and Procedure II at 140° (operating)
 - b) Low temperature: MIL-STD-810G, 502.6, Procedures I at minus 60° (non-operating), and minus 20° (operating)
 - c) Humidity: MIL-STD-810G, 507.6, Procedure I – temp cycles from 86° to 140°, 95% relative humidity (non-operating)
 - d) Vibration: MIL-STD-810G, 514.6, Procedures I (Cat 4) (operating) and cat 24 (non-operating)
 - e) Shock Functional: MIL-STD-810G, 516.6, Procedures I – 40g, 11ms. (operating)
 - f) Conform to SAE J1455 design guidelines;
- (vii) Must power the docked ruggedized device specified herein.

Full engineering test reports from independent test laboratories demonstrating the vehicle mount's compliance must be included in the bid solicitation.

m) Universal Vehicle Mount

- (i) The vehicle mount must be the Precision Mounting Technologies/Gamber-Johnson "Universal Laptop Cradle" or equivalent. Offeror may propose equivalent product during the Q&A process. The Contracting Authority reserves the right to determine equivalency at that time. The Offeror will be duly informed prior to the closing date of the Solicitation.
- (ii) The cradle model must be specific to the notebook's display dimension (e.g. standard 4:3 ratio or widescreen 16:9 ratio)

n) Pointing Device

- (i) Device must have an integrated multi-point glide pad with left and right mouse button functionality.

o) Weight and Dimensions

- (i) Total travelling weight which includes the notebook (as specified in this annex), single internal battery, handle and not including the AC adapter must not exceed 5.8 lbs.

p) Rugged Device Regulatory and Environmental Compliance

The semi-ruggedized notebook must be tested and certified to meet all of the MIL-STD-810G and IP-xx Ingress test and procedures listed below.

- (i) Altitude: MIL-STD-810G, 500.6, Procedure I at 30,000 ft. (non-operating) and Procedure II at 15,000 ft. (operating)
- (ii) High temperature: MIL-STD-810G, 501.6, Procedures I at 140° F (non-operating) and Procedure II at 140° F (operating)

- (iii) Low temperature: MIL-STD-810G, 502.6, Procedures I at minus 60°F (non-operating), and minus 20°F (operating)
- (iv) Thermal shock: MIL-STD-810G, 503.6, Procedure I from plus 160°F to minus 60°F (3 cycles) (non-operating)
- (v) Humidity: MIL-STD-810G, 507.6, Procedure I – temp cycles from 86°F to 140°F at 95% relative humidity (non-operating)
- (vi) Blowing dust: MIL-STD-810G, 510.6, Procedures I
- (vii) Blowing sand: MIL-STD-810G, 510.6, Procedures II
- (viii) Vibration: MIL-STD-810G, 514.6, Procedures I (Cat 4) (operating) and cat 24 (non-operating)
- (ix) Shock Functional: MIL-STD-810G, 516.6, Procedures I – 40g, 11 ms. (operating)
- (x) Transit drop: MIL-STD-810G, 516.6, Procedure IV – 26 drops at 36 inches onto 2 inch plywood (non-operating). All drops must be performed on the same test unit.
- (xi) Solid ingress protection: IEC 60529, IP-x5
- (xii) Liquid ingress protection: IEC 60529, IP-x3

Full engineering test reports from an independent test laboratory demonstrating the notebooks compliance must be included in the bid solicitation

q) **Autopilot**

- i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

3. Docking Stations –All Windows 10 based devices excluding categories 7.0N, 11.0N, 12.0N and 13.0N

- a) All devices must have a docking station available for purchase and must be manufactured by or approved by the respective system manufacturer.
- b) The docking station must have the following downstream ports:
 - i) 3 x USB 3.0 ports (type A or C), one of which must be charging.
 - ii) Two digital DisplayPort video ports.
 - iii) Audio out and audio in through UAJ port or through one of the USB-C ports.
 - iv) RJ-45 Ethernet port.
- c) The docking station must interface with the device through a USB-C port delivering USB 3.1 protocol and a minimum PD2 level Power Delivery or a proprietary port which offers both data and power for a single cable connection to a docking station branded by the same OEM.

- d) The power provided must be able to provide sufficient voltage to fully charge the applicable device manufactured by the same OEM. Annex B List of Deliverables will accommodate additional dockings stations that are design to accommodate higher voltage devices (e.g. mobile workstations).
- e) The docking station must include its own AC adapter.
- f) The docking station must support two FHD monitors simultaneously or a single 4K monitor at their native resolutions and support the Windows extended desktop.
- g) The docking station must not present second MAC address to the network address to the network or device connecting to the dock must have System Universal Unique Identifier (System UUID) that is embedded in the computer firmware by the device OEM for identification.

4. Security and BIOS – All Windows 10 based devices excluding category 7.0N

The following are two distinct streams of security delineated as Medium and Advanced. Depending on their level of compliance offerors may bid their proposed products in either stream. Both security streams will co-exist in the categories defined herein. It will be at the clients' discretion to choose which stream is appropriate for their business needs and will choose accordingly prior to an RVD.

Accordingly the system must include the following hardware security devices and services:

a) **Medium Security**

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. PTT (Platform Trust Technology) firmware TPM is acceptable for Category 2.0N only.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The device must have the ability to be secured by a cable lock.
- v) Second level user authentication must be available through at least one the following methods:
 - (A) Integrated ISO/IEC 14443 compliant smart card reader (contacted or contactless).
 - (B) Windows Hello enabled camera.
 - (C) Windows Hello static fingerprint reader.
- vi) Device OEM created and supplied BIOS/UEFI security features and related security utilities or management suite that allow for the set-up and/or management of:
 - (A) Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with smartcard reader))

b) **Advanced Security**

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) All devices must have Absolute Data & Device Security (not-enabled)
- iv) All devices must have the ability to be secured by a cable lock.
- v) Second level user authentication must be available through at least one the following methods:
 - (A) Integrated ISO/IEC 14443 compliant smart card reader (contacted or contactless).
 - (B) Windows Hello enabled camera.
 - (C) Windows Hello enabled static fingerprint reader.
- vi) Device OEM created and supplied BIOS/UEFI security features and related security utilities must be available that allow for the set-up and/or management of:
 - (A) Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - (B) System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;
 - (C) System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- vii) System unit OEM must have available an image verification utility which must:
 - (A) Verify the security and quality of the image prior to or following deployment;
 - (B) Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - (C) Identify issues and anomalies and recommend remediation;
 - (D) Operate under Microsoft Windows 10 Pro;
 - (E) Be authored and approved by the device OEM;
 - (F) Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.

- viii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - (A) Mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.
 - (B) Adhere to and include the principals and be currently an active participant in the conformance to (if the development does not include industry participation) or development of (if industry participation is integral) at the least three of the following related international secure supply chain standards, initiatives and best practices:
 - a) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)
 - b) ISO 28000 – Supply Chain Resiliency
 - c) ISO – 15408 – Common Criteria
 - d) NIST 800-161 – Supply Chain Risk Management
 - e) NIST Cybersecurity Framework
 - f) TAPA – Transported Asset Protection Association
 - g) ISO 27036-2 and ISO 27036-3 Information technology – Security techniques
 - h) C-TPAT tier 3 certification
- ix) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not acceptable.

ANNEX A: TECHNICAL SPECIFICATIONS – DESKTOPS AND THIN CLIENTS

5. Introduction

This document addresses the requirements which apply to the following categories:

- 1.0D Ultra Small Form Factor Desktop (USFF) - Windows 10 Professional
- 2.0D Small Form Factor Desktop (SFF) - Windows 10 Professional
- 2.1D Windows 7 Professional Compatible (SFF and Tower)
- 3.0D Tower Desktop - Windows 10 Professional
- 4.0D 3D Workstation - Windows 10 Professional
- 5.0D Single Processor Engineering Workstation – Windows 7 and 10 Professional
- 6.0D Dual Processor Engineering Workstation – Windows 7 and 10 Professional
- 1.0T Stateless Thin Client
- 1.1T Secure Stateless Thin Client with Fibre
- 2.0T Windows 10 IoT Thin Client
- 2.1T Secure Windows 10 IoT Thin Client with Fibre

6. Configurations

Desktops and thin clients must meet or exceed the technical specifications outlined in this Annex.

6.1 Category 1.0D – Ultra Small Form Factor Desktop – Windows 10

a) Processor and Chip Set

- i) Intel Core i5-8500T (35 watt) or AMD Ryzen 5 2400GE (35 watt)
- ii) Intel Q370 chip set or AMD B300 chip set
- iii) All processors and chipsets must include Intel VT-d and VT-x or AMD-v virtualisation.
- iv) All processors and chipsets must include either Intel AMT or DMTF DASH
- v) Intel i7 or AMD Ryzen 7 processors will not be accepted and will be evaluated as non-compliant.

b) RAM

- i) 16.0 GB DDR4 2400 MHz.
- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

c) Graphics

i) Intel UHD Graphics 630 GPU or AMD Radeon RX Vega 11 Graphics

d) **Internal Solid State Device (SSD)**

i) The SSD must be a minimum capacity of 256 GB.

ii) The SSD must be an M.2 PCI Express and utilize the NVMe (Non-Volatile Memory Express) interface.

e) **Audio**

i) The device must have a two channel high definition audio controller.

ii) The device must include a built-in speaker for the recreation of Windows generated sound events.

f) **Communications**

i) The device must offer an optional, internal, wireless M.2 based 802.11 a/g/n/ac and Bluetooth 4.1 combination adapter with integrated or external antenna if requested.

ii) The device must have an internal Ethernet 10/100/1000 network adapter.

g) **External Ports and Internal Expansion**

The device must physically have the following expansion after configuration specified herein:

i) Three full sized USB type A or type C with USB 3.1 protocol. Two ports must appear on the case front.

ii) One full sized RJ-45

iii) Two full-sized DisplayPort vers. 1.2 video ports

iv) Audio line in and line out or UAJ port. This must appear on the case front.

v) Vacant external optional port to accommodate an additional full-sized digital video port or RS-232 serial port or VGA port

vi) One internal M.2 expansion slot

vii) One internal 2.5 inch drive bay

h) **Keyboard and Mouse**

i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.

ii) The mouse must be wired 3 button with scroll function.

i) **Security and BIOS**

The following are two distinct streams of security delineated as Advanced and Medium. Depending on their level of compliance offerors may bid their proposed products in either stream. Both security streams will co-exist in the categories previously defined. It will be at the clients' discretion to choose which stream is appropriate for the business needs and will specify that stream prior to an RVD.

Accordingly the system must include the following hardware security devices and services:

Medium Security

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System or motherboard OEM (Original Equipment Manufacturer) created and supplied BIOS/UEFI security features and related security utilities or management suite that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader));

Advanced Security

- vi) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- vii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- viii) Absolute Data & Device Security (not-enabled)
- ix) The case must include a Kensington lock slot or equivalent.
- x) System unit OEM created and supplied BIOS/UEFI security features and related security utilities that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - b. System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;
 - c. System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- xi) System unit OEM must have available an image verification utility which must:
 - a. Verify the security and quality of the image prior to or following deployment;

- b. Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - c. Identify issues and anomalies and recommend remediation;
 - d. Operate under Microsoft Windows 10 Pro;
 - e. Be authored and approved by the device OEM;
 - f. Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.
 - xii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - a. Must mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.
 - b. Must adhere to and include the principals and be currently an active participant in the development of at the least three of the following related international secure supply chain standards, initiatives and best practices:
 - 1) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)
 - 2) ISO 28000 – Supply Chain Resiliency
 - 3) ISO – 15408 – Common Criteria
 - 4) NIST 800-161 – Supply Chain Risk Management
 - 5) NIST Cybersecurity Framework
 - 6) TAPA – Transported Asset Protection Association
 - 7) ISO 27036-1 Information technology – Security techniques
 - xiii) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not accepted.
- j) **Power Supply**
- i) External AC adapter (min. 4 feet) with a stated minimum PFC (Power Factor Correction) of 87% efficiency. AC Adapter must be included.
- k) **Case and Dimensions**
- i) The USFF external case must not exceed 1.2 litres.
 - ii) The case must have VESA 100 mounting apertures or must have OEM approved VESA mounts available if requested.
- l) **Compatibility**

- i) All devices in this category must be Windows 10 Professional compatible.
- m) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.2 Category 2.0D – Small Form Factor Desktop – Windows 10

- a) **Processor and Chip Set**
 - i) Intel 8th generation Core i5-8500 or AMD Ryzen 5 2400G
 - ii) Intel Q370 chip set or AMD B350 chip set
 - iii) All processors and chipset must include Intel VT-d and VT-x or AMD-v virtualisation.
 - iv) All processors and chipsets must include either Intel AMT or DMTF DASH.
 - v) Intel i7 or AMD Ryzen 7 processors will not be accepted and will be evaluated as non-compliant.
- b) **RAM**
 - i) 16.0 GB DDR4 2400 MHz.
 - ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Graphics**
 - i) Intel UHD Graphics 630 GPU or AMD Radeon RX Vega 11 Graphics
- d) **Internal Solid State Device (SSD)**
 - i) The SSD must be a minimum capacity of 256 GB.
 - ii) The SSD must an M.2 PCI Express and utilize the NVMe (Non-Volatile Memory Express) interface.
- e) **Audio**
 - i) The device must have a two channel high definition audio controller.
 - ii) The device must include a built-in speaker for the recreation of Windows generated sound events.
- f) **Communications**
 - i) The device must offer an optional, internal, wireless M.2 based 802.11 a/g/n/ac and Bluetooth 4.1 combination adapter with integrated if requested.
 - ii) The device must have an internal Ethernet 10/100/1000 network adapter.
- g) **External Ports and Internal Expansion**

The device must physically have the following expansion after configuration specified herein:

- i) Six full sized USB type A or type C with USB 3.1 protocol. Two ports must appear on the case front.
 - ii) One full sized RJ-45
 - iii) Two full-sized DisplayPort vers. 1.2 video ports
 - iv) Audio line in and line out or UAJ port. This must appear on the case front.
 - v) One internal M.2 expansion slot
 - vi) Two internal SATA vers. 3.0 storage connectors
 - vii) One internal PCIe x16 vers. 3.0 expansion slot
 - viii) One internal PCIe x1 vers. 3 expansion slot
 - ix) One internal 2.5 inch drive bay
- h) **Keyboard**
- i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.

i) **Security and BIOS**

The following are two distinct streams of security delineated as Advanced and Medium. Depending on their level of compliance offerors may bid their proposed products in either stream. Both security streams will co-exist in the categories previously defined. It will be at the clients' discretion to choose which stream is appropriate for the business needs and will specify that stream prior to an RVD.

Accordingly the system must include the following hardware security devices and services:

Medium Security

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System or motherboard OEM (Original Equipment Manufacturer) created and supplied BIOS/UEFI security features and related security utilities or management suite that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader));

Advanced Security

- vi) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- vii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- viii) Absolute Data & Device Security (not-enabled)
- ix) The case must include a Kensington lock slot or equivalent.
- x) System unit OEM created and supplied BIOS/UEFI security features and related security utilities that allow for the set-up and/or management of:
 - d. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - e. System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;
 - f. System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- xi) System unit OEM must have available an image verification utility which must:
 - a. Verify the security and quality of the image prior to or following deployment;
 - b. Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - c. Identify issues and anomalies and recommend remediation;
 - d. Operate under Microsoft Windows 10 Pro;
 - e. Be authored and approved by the device OEM;
 - f. Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.
- xii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - a. Must mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.

- b. Must adhere to and include the principals and be currently an active participant in the development of at the least three of the following related international secure supply chain standards, initiatives and best practices:
 - 8) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)
 - 9) ISO 28000 – Supply Chain Resiliency
 - 10) ISO – 15408 – Common Criteria
 - 11) NIST 800-161 – Supply Chain Risk Management
 - 12) NIST Cybersecurity Framework
 - 13) TAPA – Transported Asset Protection Association
 - 14) ISO 27036-1 Information technology – Security techniques
- xiii) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not accepted.
- j) **Power Supply**
 - i) Internal power supply must be 80Plus Gold certified.
- k) **Case and Dimensions**
 - i) The SFF external case must not exceed 13.5 litres.
- l) **Compatibility**
 - i) All devices in this category must be Windows 10 Professional compatible.
- m) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.3 Category 2.1D – Windows 7 Professional Compatible (SFF and Tower)

- a) **Processor and Chip Set**
 - i) Intel 6th generation Core i5-6500 or AMD Pro A12-9800
 - ii) Intel Q270 chip set or Intel C236 chip set or AMD AM4 packaging
 - iii) All processors and chipset must include Intel VT-d and VT-x or AMD-v virtualisation.
 - iv) All processors and chipsets must include either Intel AMT or DMTF DASH.
 - v) Intel i7 or AMD Ryzen 7 processors will not be accepted and will be evaluated as non-compliant.
- b) **RAM**
 - i) 8.0 GB DDR4 2133 MHz.

- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.

- c) **Graphics**
 - i) Intel UHD Graphics 530 GPU or AMD Radeon R7

- d) **Internal Solid State Device (SSD)**
 - i) The SSD must be a minimum capacity of 256 GB.
 - ii) The SSD must be an M.2 device or SATA vers. 3.0 connected.

- e) **Audio**
 - i) The device must have a two channel high definition audio controller.
 - ii) The device must include a built-in speaker for the recreation of Windows generated sound events.

- f) **Communications**
 - i) The device must offer an optional, internal, wireless M.2 based 802.11 a/g/n/ac and Bluetooth 4.0 combination adapter with integrated if requested.
 - ii) The device must have an internal Ethernet 10/100/1000 network adapter.

- g) **External Ports and Internal Expansion**

The device must physically have the following expansion after configuration specified herein:

 - i) Six full sized USB 3.0 type A or type C. Two ports must appear on the case front.
 - ii) One full sized RJ-45
 - iii) Two full-sized digital video ports, one of which must be DisplayPort vers. 1.2.
 - iv) Audio line in and audio line out or UAJ port. This must appear on the case front.
 - v) Two internal SATA vers. 3.0 storage connectors
 - vi) One internal PCIe x16 vers. 3.0 expansion slot
 - vii) One internal PCIe x1 expansion slot
 - viii) One internal 2.5 inch drive bay

- h) **Keyboard**
 - i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.

- i) **Security and BIOS**

The system must include the following hardware security devices and services:

Medium Security

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0.
 - ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
 - iii) Absolute Data & Device Security (not-enabled)
 - iv) The case must include a Kensington lock slot or equivalent.
- j) **Power Supply**
- i) Internal power supply must be 80Plus Bronze certified.
- k) **Case and Dimensions**
- i) The SFF external case must not exceed 13.5 litres.
 - ii) A tower case iteration must be made available if requested that contains the identical internal components of the category 2.1 SFF specified herein as well as one vacant 5 ¼ inch drive bay that will accommodate a removable drive carrier.
- l) **Compatibility**
- i) All devices in this category must be natively Windows 7 Professional and Windows 10 Professional compatible.
- m) **Autopilot**
- i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.4 Category 3.0D – Tower Form Factor Desktop – Windows 10

- a) **Processor and Chip Set**
- i) Intel 8th generation Core i5-8500 or AMD Ryzen 5 Pro 1600
 - ii) Intel Q370 chip set or Intel C246 chipset or AMD B350 chipset
 - iii) All processors and chipset must include Intel VT-d and VT-x or AMD-v virtualization.
 - iv) All processors and chipsets must include either Intel AMT or DMTF DASH.
 - v) Processor upgrades to either the Intel Core i7-8700 or AMD Ryzen Pro 7 1800X must be made available if requested.
- b) **RAM**
- i) 16.0 GB DDR4 2400 MHz.

- ii) All RAM, default and optional must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO 9001 certification applies to both the RAM chip manufacturer and the DIMM assembly manufacturer.
- c) **Graphics**
- i) Intel UHD Graphics 630 GPU or AMD Radeon R7 430 Graphics
 - ii) Discrete PCIe 16x video controller upgrades must be made available if requested. At a minimum the controller must:
 - (A) have a PCIe 3.0 bus interface;
 - (B) have a minimum of 2.0 GB. dedicated video RAM;
 - (C) offer a minimum of two DisplayPort vers. 1.2 outputs;
 - (D) capable of a 900 MHz. core clock rate
 - (E) support DirectX 12.0.
 - iii) Optional discrete video controllers must be supported by the power supply as bid.
- d) **Internal Solid State Device (SSD)**
- i) The SSD must be a minimum capacity of 256 GB.
 - ii) The SSD must an M.2 PCI Express and utilize the NVMe (Non-Volatile Memory Express) interface.
- e) **Audio**
- i) The device must have a two channel high definition audio controller.
 - ii) The device must include a built-in speaker for the recreation of Windows generated sound events.
- f) **Communications**
- i) The device must offer an optional, internal, wireless 802.11 a/g/n/ac and Bluetooth 4.0 combination adapter with integrated if requested.
 - ii) The device must have an internal Ethernet 10/100/1000 network adapter.
- g) **External Ports and Internal Expansion**
- The device must physically have the following expansion after configuration specified herein:
- i) Six full sized USB type A or type C with USB 3.1 protocol. Two ports must appear on the case front.
 - ii) One full sized RJ-45
 - iii) Two full-sized DisplayPort vers. 1.2 video ports (for default controller)
 - iv) Audio line in/microphone port and audio line out or UAJ port. These must appear on the case front.

- v) One internal M.2 expansion slot
 - vi) Two internal SATA vers. 3.0 storage connectors
 - vii) One internal PCIe x16 vers. 3.0 expansion slot
 - viii) One internal PCIe x1 expansion slot
 - ix) One internal 2 ½ inch drive bay
 - x) One external, front facing 5 ¼ drive bay.
- h) **Keyboard**
- i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.

i) **Security and BIOS**

The following are two distinct streams of security delineated as Advanced and Medium. Depending on their level of compliance offerors may bid their proposed products in either stream. Both security streams will co-exist in the categories previously defined. It will be at the clients' discretion to choose which stream is appropriate for the business needs and will specify that stream prior to an RVD.

Accordingly the system must include the following hardware security devices and services:

Medium Security

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System or motherboard OEM (Original Equipment Manufacturer) created and supplied BIOS/UEFI security features and related security utilities or management suite that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader));

Advanced Security

- vi) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- vii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- viii) Absolute Data & Device Security (not-enabled)
- ix) The case must include a Kensington lock slot or equivalent.

- x) System unit OEM created and supplied BIOS/UEFI security features and related security utilities that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - b. System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;
 - c. System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- xi) System unit OEM must have available an image verification utility which must:
 - a. Verify the security and quality of the image prior to or following deployment;
 - b. Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - c. Identify issues and anomalies and recommend remediation;
 - d. Operate under Microsoft Windows 10 Pro;
 - e. Be authored and approved by the device OEM;
 - f. Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.
- xii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - a. Must mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.
 - b. Must adhere to and include the principals and be currently an active participant in the development of at the least three of the following related international secure supply chain standards, initiatives and best practices:
 - 1) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)
 - 2) ISO 28000 – Supply Chain Resiliency

- 3) ISO – 15408 – Common Criteria
- 4) NIST 800-161 – Supply Chain Risk Management
- 5) NIST Cybersecurity Framework
- 6) TAPA – Transported Asset Protection Association
- 7) ISO 27036-1 Information technology – Security techniques
- xiii) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not accepted.
- j) **Power Supply**
 - i) Internal power supply must be 80Plus Gold certified.
- k) **Case and Dimensions**
 - i) The case must have one vacant drive bay that will accommodate a removable drive carrier.
- l) **Compatibility**
 - i) All devices in this category must be Windows 10 Professional compatible.
- m) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

Category 4.0D – High Performance 3D Simulation Desktop Computer

- n) **Processor and Chip Set**
 - i) The default configuration must have a minimum Intel Core i7 7820X processor or AMD Ryzen Threadripper 1920X processor
 - ii) The chip set must be the Intel X299 or AMD X399.
 - iii) The processor must operate at the CPU manufacturer's specified megahertz frequency or rated speed, and return these results when queried with the CPU identification utility.
 - iv) Processor specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through over-clocking or other means that depart from the manufacturer's published "reference design" standard.
 - v) Processor upgrades and downgrades must be made available if requested. See Annex B, LoD for specifics.
- o) **RAM**

- i) 32 GB of quad channel DDR4 2666 MHz RAM
- ii) All RAM modules must be constructed of the same metal as found on the motherboard RAM module sockets. There must not be dissimilar metals (i.e. gold plated RAM module connectors and tin motherboard sockets).
- iii) All RAM must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO certification applies to the RAM module manufacturing process.
- iv) The device must be expandable to a minimum of 64 GB of RAM.
- p) **Internal Solid State Disk (SSD) and controller**
 - i) The SSD must a 512 GB M.2 PCI Express utilize the NVMe (Non-Volatile Memory Express) interface.
- q) **Graphics**
 - i) The video controller must be based on either the Nvidia GTX 1080 or AMD Radeon Vega 64
 - ii) Video card specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through over-clocking or other means that depart from the manufacturer's published "reference design" standard.
 - iii) (SLI or mGPU (Multi GPU) capable graphics card with the following attributes at a minimum:
 - (A) 8.0GB of dedicated GDDR5 SDRAM; and
 - (B) Support DirecX 12.0
 - iv) Must provide 4 full-sized digital ports comprised of either DisplayPort 1.4 or HDMI 2.0b.
 - v) Video controller upgrades and downgrades must be made available if requested. See Annex B, LoD for specifics.
- r) **Audio**
 - i) The device must have a two channel high definition audio adapter.
- s) **Communications**
 - i) The device must have an internal Ethernet 10/100/1000 network adapter.
- t) **Security and BIOS**

The must include the following hardware security devices and services:

Medium Security

 - i) TPM (Trusted Platform Module) vers. 2.0.
 - ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.

- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System or motherboard OEM (Original Equipment Manufacturer) created and supplied BIOS/UEFI security features and related security utilities or management suite that allow for the set-up and/or management of:
 - b. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader));

u) **External Ports and Internal Expansion**

The device must physically have the following expansion after configuration:

- i) Six full sized USB type A or type C with USB 3.1 protocol. Two ports must appear on the case front.
- ii) One full sized RJ-45
- iii) Two full-sized (or mini with dongles converting of full size) digital video ports, comprised of either HDMI 2.0 or DisplayPort 1.4.
- iv) Audio UAJ port. This must appear on the case front.
- v) Two internal M.2 expansion slots
- vi) Four internal SATA vers. 3.0 storage connectors.
- vii) Five internal PCIe 3.0 expansion slots, two of which must be PCIe x16 vers. 3.0, mGPU (Multi GPU) or SLI capable expansion slots,
- viii) Four internal 2 ½ inch or 3 ½ inch drive bays.

v) **Power Supply (PSU)**

- i) The PSU must supply a minimum 850 watts if 80 Plus Gold certified or 690 watts if 80Plus Platinum certified.
- ii) The power supply must meet the 80Plus Gold or Platinum certification.
- iii) The PSU must supply sufficient power cabling for two SLI or mGPU video controllers and for each vacant drive bay specified in this annex.
- iv) The power supply must adequately power a fully populated device (i.e. all drive bays populated with HDD media, the maximum RAM expansion and 2 SLI or mGPU video controllers as specified in this annex) in a non-overclocked state.
- v) PSU downgrades must be made available if requested. See Annex B, LoD for specifics

w) **Case/Chassis**

- i) The case must be a tower form factor case of no less than 13 inches tall.
- ii) The case must include individual cooling tunnels for the external heat ventilation of CPU, GPU and PSU or the system must have a water cooled CPU heat ventilation and appropriate case/chassis cooling fans.

- iii) The case must include a Kensington lock slot or equivalent.
- x) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.5 Category 5.0D – Single Processor Engineering Workstation

- a) **Processor and Chip Set**
 - i) Intel Xeon W2145
 - ii) The processor must operate at the CPU manufacturer's specified megahertz frequency or rated speed, and return these results when queried with the CPU identification utility.
 - iii) Processor specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through overclocking or other means that depart from the manufacturer's published "reference design" standard.
 - iv) The chip set must be the Intel C422.
 - v) Processor upgrades must be made available if requested. Please see RFSO Appendix B LoD for specific models.
 - vi) The NMSO holder is welcome to propose equivalent platforms based on AMD processors during the life of the NMSO. The contract authority reserves the right to determine equivalency at that time.
- b) **RAM**
 - i) 32 GB DDR4 2666 MHz RAM populated RDIMM(s).
 - ii) All RAM must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO certification applies to the RAM module manufacturing process.
 - iii) All memory upgrades or their equivalents must be accessible for at least 3 years after device purchase.
 - iv) The device must be expandable to a minimum of 256 GB of RAM. For Intel X-series processor the minimum expandability must be 128 GB. RAM.
- c) **Internal Solid State Disk (SSD) and controller**
 - i) The SSD must a 512 GB M.2 PCI Express 3.0x4 and utilize the NVMe (Non-Volatile Memory Express) interface.
 - ii) Storage upgrades must be made available if requested. Please see RFSO Appendix B LoD for specific models.
- d) **Video**

Video card specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through over-clocking or other means that depart from the manufacturer's published "reference design" standard.

- i) Mid-range professional workstation graphics card
 - (A) A discrete PCI-Express 16x video controller based on a Nvidia Quadro P1000 or an AMD Radeon Pro WX 4100, both with a minimum of 4.0 GB of GDDR5 video RAM.
- ii) Device must support two video controllers through PCIe G3 x16 expansions slots
- iii) Various video controllers must be made available if requested. Please see RF50 Annex B LoD for specific models.

e) **Audio**

- i) The device must have a two channel high definition audio adapter.

f) **Integrated 10/100/1000 Base TX Ethernet adapter with remote wake up and PXE support**

- i) The device must have an internal Ethernet 10/100/1000 network adapter.

g) **Security and BIOS**

The must include the following hardware security devices and services:

Advanced Security

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System unit OEM created and supplied BIOS/UEFI security features and related security utilities that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - b. System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;

- c. System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- vi) System unit OEM must have available an image verification utility which must:
 - a. Verify the security and quality of the image prior to or following deployment;
 - b. Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - c. Identify issues and anomalies and recommend remediation;
 - d. Operate under Microsoft Windows 10 Pro;
 - e. Be authored and approved by the device OEM;
 - f. Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.
- vii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - c. Must mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.
 - d. Must adhere to and include the principals and be currently an active participant in the development of at the least three of the following related international secure supply chain standards, initiatives and best practices:
 - 8) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)
 - 9) ISO 28000 – Supply Chain Resiliency
 - 10) ISO – 15408 – Common Criteria
 - 11) NIST 800-161 – Supply Chain Risk Management
 - 12) NIST Cybersecurity Framework
 - 13) TAPA – Transported Asset Protection Association
 - 14) ISO 27036-1 Information technology – Security techniques
- viii) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not accepted.

h) External Ports and Internal Expansion

The device must physically have the following interfaces before configuration:

- i) Ten full sized USB ports, two ports must appear on the case front.
 - ii) Two PS/2 ports
 - iii) One full sized RJ-45
 - iv) Two full-sized digital video ports (or mini with dongles converting of full size)
 - v) Audio UAJ port. This must appear on the case front.
 - vi) Two internal M.2 expansion slots
 - vii) Six internal SATA vers. 3.0 storage connectors
 - viii) Five PCIe 3.0 expansion slots, two of which must be PCIe 3.0 16x.
 - ix) Four internal 2 ½ inch or 3 ½ inch drive bays
 - x) Two external, front facing drive bays.
- i) **Power Supply (PSU)**
- i) The power supply must supply a minimum 425 watts.
 - ii) The power supply must meet the 80Plus Gold certification.
 - iii) The configuration must run on 110-125 volts AC @ 60 Hz.
 - iv) Various PSUs must be made available if requested. Please see RFSO Annex B LoD for specific models.
- j) **Case/Chassis**
- i) The case must include a Kensington lock slot or equivalent.
- k) **Autopilot**
- i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.6 Category 6.0D – Dual Processor Engineering Workstation

- a) **Processor and Chip Set**
- i) Intel Xeon Silver 4114
 - ii) The processor must operate at the CPU manufacturer's specified megahertz frequency or rated speed, and return these results when queried with the CPU identification utility.
 - iii) Processor specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through overclocking or other means that depart from the manufacturer's published "reference design" standard.
 - iv) The chip set must be the Intel C621.

- v) Processor upgrades must be made available if requested. Please see RFSO Appendix B LoD for specific models.
 - vi) The NMSO holder is welcome to propose equivalent platforms based on AMD processors during the life of the NMSO. The contract authority reserves the right to determine equivalency at that time.
- b) **RAM**
- i) 32 GB DDR4 2666 MHz RAM populated RDIMM(s).
 - ii) All RAM must be manufactured by an ISO (International Standards Organization) 9001 certified manufacturer. The ISO certification applies to the RAM module manufacturing process.
 - iii) All memory upgrades or their equivalents must be accessible for at least 3 years after device purchase.
 - iv) The device must be expandable to a minimum of 384 GB of RAM.
- c) **Internal Solid State Disk (SSD) and controller**
- i) The SSD must a 512 GB M.2 PCI Express 3.0x4 and utilize the NVMe (Non-Volatile Memory Express) interface.
 - ii) Storage upgrades must be made available if requested. Please see RFSO Appendix B LoD for specific models.
- d) **Video**
- Video card specifications, features and values must be identical to the manufacturer's published "reference design" standard. Specifications and values may not be achieved through over-clocking or other means that depart from the manufacturer's published "reference design" standard.
- i) Mid-range professional workstation graphics card
 - (A) A discrete PCI-Express 16x video controller based on a Nvidia Quadro P1000 or an AMD Radeon Pro WX 4100, both with a minimum of 4.0 GB of GDDR5 video RAM.
 - ii) Device must support two video controllers through PCIe G3 x16 expansions slots
 - iii) Various video controllers must be made available if requested. Please see RFSO Annex B LoD for specific models.
- e) **Audio**
- i) The device must have a two channel high definition audio adapter.
- f) **Integrated 10/100/1000 Base TX Ethernet adapter with remote wake up and PXE support**
- i) The device must have an internal Ethernet 10/100/1000 network adapter.
- g) **Security and BIOS**
- Advanced Security**

- i) Integrated embedded FIPS 140-2 compliant and TCG certified TPM (Trusted Platform Module) vers. 2.0. allowable in tamper-proof discrete iterations only.
- ii) All devices must have a NIST SP 800-147 compliant, secure UEFI.
- iii) Absolute Data & Device Security (not-enabled)
- iv) The case must include a Kensington lock slot or equivalent.
- v) System unit OEM created and supplied BIOS/UEFI security features and related security utilities that allow for the set-up and/or management of:
 - a. Pre-boot and multi-factor authentication set up (if two levels of authentication are deployed (e.g. boot password with PKI reader)).
 - b. System unit OEM must have in place a process for verifying the authenticity and integrity of BIOS updates and a mechanism for ensuring that the BIOS is protected from modification outside of that secure update process. The update mechanism shall ensure that the BIOS update image has been digitally signed and that the digital signature can be verified using a key in the RTU (Root of Trust) before updating. The system unit must be designed to permit only IT administrative (prohibiting individual users) control over updates by counter-signing with an IT administration controlled key. The secure update BIOS update process described herein must conform to the ISO/IEC 19678:2015 standard;
 - c. System unit must be able to detect and provide notification when the system BIOS has been corrupted and must recover from a backup firmware image stored in a separate storage location from the primary system BIOS (e.g., a second, internal NVRAM, a hidden partition on the SSD or OEM provided and authorised USB key).
- vi) System unit OEM must have available an image verification utility which must:
 - a. Verify the security and quality of the image prior to or following deployment;
 - b. Verify the authenticity and OEM authorised source of installed device drivers, firmware, patches and BIOS;
 - c. Identify issues and anomalies and recommend remediation;
 - d. Operate under Microsoft Windows 10 Pro;
 - e. Be authored and approved by the device OEM;
 - f. Be free of charge and be exclusively available from the OEMs' support web site or have the same utility available from the Microsoft App store.
- vii) System unit OEM must have a mature and comprehensive Supply Chain Integrity (SCI) process in place. This process must involve the mitigation of the infiltration of fraudulent or counterfeit components as well as the mitigation of the introduction of hardware-based threat vectors during the manufacturing process and throughout the subsequent supply chain and delivery channel up to final delivery. This OEM conducted process must:
 - a. Must mitigate the risk of maliciously tainted and counterfeited products throughout the product life cycle, which encompasses the following phases: design, sourcing, build, fulfilment and distribution.

- b. Must adhere to and include the principals and be currently an active participant in the development of at the least three of the following related international secure supply chain standards, initiatives and best practices:

- 15) ISO/IEC 20243:2015 - Open Trusted Technology Provider Standard (O-TTPS)

- 16) ISO 28000 – Supply Chain Resiliency

- 17) ISO – 15408 – Common Criteria

- 18) NIST 800-161 – Supply Chain Risk Management

- 19) NIST Cybersecurity Framework

- 20) TAPA – Transported Asset Protection Association

- 21) ISO 27036-1 Information technology – Security techniques

- viii) All bidders aspiring to the Advanced Security level (item v (b), v (c), vi, vii (a) and (b)) must submit proof in the form of currently existing technical manuals, technical documentation, OEM written white papers, corporate attestations, client briefing papers or corporate mission statements. Proof in the form of marketing presentations or personal correspondence will be not accepted.

- h) **External Ports and Internal Expansion**

The device must physically have the following interfaces before configuration:

- i) Ten full sized USB ports. Two ports must appear on the case front.
- ii) Two PS/2 ports
- iii) One full sized RJ-45
- iv) Two full-sized digital video ports or mini digital ports to be supplied with dongles converting to full-size
- v) Audio UAJ port. This must appear on the case front.
- vi) Two internal M.2 expansion slots
- vii) Six internal SATA vers. 3.0 storage connectors
- viii) Five internal PCIe 3.0 expansion slots, two of which must be PCIe 16x 3.0.
- ix) Four internal 2 ½ inch or 3 ½ inch drive bays
- x) One external, front facing bays.

- i) **Power Supply (PSU)**

- i) The power supply must supply a minimum 900 watts.
- ii) The power supply must meet the 80Plus Gold certification.
- iii) The configuration must run on 110-125 volts AC @ 60 Hz.

- j) **Case/Chassis**

- i) The case must be a tower form factor case of no less than 13 inches tall.
- ii) The case must include a Kensington lock slot or equivalent.
- k) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.7 Category 1.0T – Stateless Thin Client

- a) **Processor and Chip Set**
 - i) The Thin client must be a minimum 2.0 GHz. Dual-core Processor or 1.44 GHz. Quad-core processor
- b) **Memory – Flash / RAM**
 - i) The thin client must include a minimum combination of 2GB. Flash and 2GB. of RAM.
- c) **Operating System and Protocol**
 - i) The Stateless Thin Client must come with a Thin OS or a Linux Kernel and support the following protocols:
 - (A) ICA
 - (B) Citrix HDX
 - (C) RDP/RDS
 - (D) PCoIP
 - (E) VMWare Blast
 - ii) The thin client OEM must have a server and/or cloud based management console appropriate to the device bid which must:
 - (A) Create, clone and network “push” images, issue patches and updates;
 - (B) Manage user and/or device permissions and policies;
 - (C) Manage system health, asset tracking, monitor activity, device configuration;
 - (D) Be common Criteria EAL2 or CC Protection Profile certified;
 - (E) Must be licensed to support an unlimited amount of devices
- d) **Video Controller**
 - i) The video graphics controller must support a dual 1080P displays.
- e) **Ports**
 - i) Two digital display ports

- ii) 10/100/1000 Base-T Gigabit Ethernet
- iii) Three USB ports , one of which must be version 3.0
- iv) Audio in/out or UAJ port
- f) **Keyboard and Mouse**
 - i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.
 - ii) The mouse must be 3 button with scroll function
- g) **Security**
 - i) The zero client must have a built in Kensington (or equivalent) security slot.
- h) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.8 Category 1.1T – Secure Stateless Thin Client with Fibre

- a) **Processor and Chip Set**
 - i) The Thin client must be a minimum 2.4 GHz. Dual-core Processor or 1.44 GHz. Quad-core processor
- b) **Memory – Flash / RAM**
 - i) The thin client must include a minimum combination of 2GB. Flash and 2GB. of RAM.
- c) **Operating System and Protocol**
 - i) The Stateless Thin Client must come with a Thin OS or a Linux Kernel and support the following protocols:
 - (A) ICA
 - (B) Citrix HDX
 - (C) RDP/RDS
 - (D) PCoIP
 - (E) VMWare Blast
 - ii) The thin client OEM must have a server and/or cloud based management console appropriate to the device bid which must:
 - (A) Create, clone and network “push” images, issue patches and updates;
 - (B) Manage user and/or device permissions and policies;

- (C) Manage system health, asset tracking, monitor activity, device configuration;
 - (D) Be common Criteria EAL2 or CC Protection Profile certified;
 - (E) Must be licensed to support an unlimited amount of devices
- d) **Video Controller**
- i) The video graphics controller must support a dual 1080P displays.
- e) **Ports**
- i) Two digital display ports
 - ii) Gigabit Fiber NIC (ST, SC or LT connector)
 - iii) Three USB ports , one of which must be version 3.0
 - iv) Audio in/out or UAJ port
- f) **Keyboard and Mouse**
- i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.
 - ii) The mouse must be 3 button with scroll function
- g) **Security**
- i) The zero client must have a built in Kensington (or equivalent) security slot
- h) **Autopilot**
- i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.9 Category 2.0T – Windows 10 IoT Thin Client

- a) **Processor and Chip Set**
- i) The Thin client must include a minimum Quad core 1.5 GHz. processor
- b) **Memory – Flash / RAM**
- i) The thin client must include a minimum combination of 32.0GB. Flash and 4GB. of RAM.
- c) **Operating System and Protocol**
- i) The Thin Client's operating system must be Windows 10 IoT and support the following protocols:
 - (A) ICA
 - (B) Citrix HDX
 - (C) RDP/RDS

- (D) PCoIP
- (E) VMWare Blast
- ii) The thin client OEM must have a server and/or cloud based management console appropriate to the device bid which must:
 - (A) Create, clone and network “push” images, issue patches and updates;
 - (B) Manage user and/or device permissions and policies;
 - (C) Manage system health, asset tracking, monitor activity, device configuration;
 - (D) Be common Criteria EAL2 or CC Protection Profile certified;
 - (E) Must be licensed to support an unlimited amount of devices
- d) **Video Controller**
 - i) The video graphics controller must support a dual 1080P displays.
- e) **Ports**
 - i) Two digital display ports
 - ii) 10/100/1000 Base-T Gigabit Ethernet
 - iii) Three USB ports , one of which must be version 3.0
 - iv) Audio in/out or UAJ port
- f) **Keyboard and Mouse**
 - i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.
 - ii) The mouse must be 3 button with scroll function
- g) **Security**
 - i) The zero client must have a built in Kensington (or equivalent) security slot
- h) **Autopilot**
 - i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

6.10 Category 2.1T – Secure Windows 10 IoT Thin Client with Fibre

- a) **Processor and Chip Set**
 - i) The Thin client must include a minimum Quad core1.5 GHz. processor
- b) **Memory – Flash / RAM**

- i) The thin client must include a minimum combination of 32.0GB. Flash and 4GB. of RAM.
- c) **Operating System and Protocol**
 - i) The Thin Client's operating system must be Windows 10 IoT and support the following protocols:
 - (A) ICA
 - (B) Citrix HDX
 - (C) RDP/RDS
 - (D) PCoIP
 - (E) VMWare Blast
 - ii) The thin client OEM must have a server and/or cloud based management console appropriate to the device bid which must:
 - (A) Create, clone and network "push" images, issue patches and updates;
 - (B) Manage user and/or device permissions and policies;
 - (C) Manage system health, asset tracking, monitor activity, device configuration;
 - (D) Be common Criteria EAL2;
 - (E) Must be licensed to support an unlimited amount of devices
- d) **Video Controller**
 - i) The video graphics controller must support a dual 1080P displays.
- e) **Ports**
 - i) Two digital display ports
 - ii) Gigabit Fiber NIC (ST, SC, LT connector)
 - iii) Three USB ports , one of which must be version 3.0
 - iv) Audio in/out or UAJ port
- f) **Keyboard and Mouse**
 - i) The keyboard must be available in; English layout and bilingual layout (Microsoft CF) with control keys in English and French, TBITS-5 Multi-lingual layout and English layout.
 - ii) The mouse must be 3 button with scroll function
- g) **Security**
 - i) The zero client must have a built in Kensington (or equivalent) security slot.
- h) **Autopilot**

- i) The case must All devices must be compatible with Microsoft AutoPilot for operating system imaging and onboarding

ANNEX A: TECHNICAL SPECIFICATIONS – MONITORS

7. Introduction

This document addresses the requirements which apply to the following monitors:

- a. Monitor 1.0M - 24 inch Wide Monitor 1920x1080 resolution (FHD)
- b. Monitor 2.0M - 24 inch Wide monitor 2560x1440 resolution (WQHD)
- c. Monitor 3.0M - 27 inch Wide monitor 2560x1440 resolution (WQHD)
- d. Monitor 4.0M - 27 inch Wide monitor 3840x2160 resolution (4K UHD)
- e. Monitor 5.0M - 32 inch Wide monitor 2560x1440 resolution (WQHD)
- f. Monitor 6.0M - 34 inch Wide Curved Monitor 3440x1440 resolution (WQHD)

8. Configurations

Monitors must meet or exceed the technical specifications outlined in this Annex.

8.1 Monitor 1.0M – 24 inch Wide monitor 1920 x 1080 resolution (FHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or AMVA (Advanced Multi Domain Vertical Alignment) panel technology or PLS (Plane to Line Switching) technology.
- iii) 23.6" diagonally, 16:9 aspect ratio
- iv) Native resolution of 1920x1080 @ 60 Hz., 1000:1 contrast ratio (non-dynamic), 250 cd/m² (candela per square meter) brightness, 7ms Response time (Grey to Grey), Flicker Free Screen, 92% sRGB Color Compliance
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2 and HDMI 1.4.
- vii) *If a DVI port is proposed, then a DVI to HDMI dongle must be included.
- viii) Integrated, internal USB hub (minimum one "up" and two "down")
- ix) Pedestal base capable of swivel, pivot and height adjustment (minimum 4.0 inches height adjustment),
- x) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- xi) Full length DisplayPort cable (1.8m)
- xii) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xiii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu

- xiv) Integrated Power Supply
- xv) ISO 9241-307 (Class 1) certified pixel error rate
- xvi) Mandatory Certifications: ICES-003, FCC Class B, EPEAT Gold, TCO Display 07.

8.2 Monitor 2.0M – 24 inch Wide monitor 2560 x 1440 resolution (FHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or AMVA (Advanced Multi Domain Vertical Alignment) panel technology or PLS (Plane to Line Switching) technology.
- iii) 23.8" diagonally, 16:9 aspect ratio
- iv) Native resolution of 2560 x 1440 @ 60Hz., 1000:1 contrast ratio (non-dynamic), 250 cd/m² (candela per square meter) brightness, 5ms Response time (Grey to Grey), Flicker Free Screen, 94% sRGB Color Compliance or 72% NTSC.
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2 & HDMI 1.4 ports
- vii) Integrated, internal USB hub (minimum one "up" and two "down")
- viii) Pedestal base capable of swivel, pivot and height adjustment (minimum 4.0 inches height adjustment),
- ix) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- x) Full length DisplayPort cable (1.8m)
- xi) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu
- xiii) Integrated Power Supply
- xiv) ISO 9241-307 (Class 1) certified pixel error rate
- xv) Mandatory Certifications: ICES-003, FCC Class B, EPEAT Gold, TCO Display 07

8.3 Monitor 3.0M – 27 inch Wide monitor 2560 x 1440 resolution (WQHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or AMVA (Advanced Multi Domain Vertical Alignment) panel technology or PLS (Plane to Line Switching) technology.
- iii) 26.9" diagonally, 16:9 aspect ratio

- iv) Native resolution of 2560 x 1440 @ 60Hz., 1000:1 contrast ratio (non-dynamic), 250 cd/m² (candela per square meter) brightness, 6ms Response time (Grey to Grey) 98% sRGB Color Compliance, Flicker Free Screen
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2, HDMI 1.4
- vii) Integrated, internal USB hub (minimum one "up" and two "down")
- viii) Pedestal base capable of swivel, pivot and height adjustment(minimum 4.0 inches height adjustment),
- ix) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- x) Full length DisplayPort cable (1.8m)
- xi) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu
- xiii) Integrated Power Supply
- xiv) ISO 9241-307 (Class 1) certified pixel error rate
- xv) Mandatory Certifications: ICES-003, FCC Class B, EPEAT Gold, TCO Display 07

8.4 Monitor 4.0M – 27 inch Wide monitor 3840 x 2160 resolution (4K UHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or AMVA (Advanced Multi Domain Vertical Alignment) panel technology or PLS (Plane to Line Switching) technology.
- iii) 26.9" diagonally, 16:9 aspect ratio
- iv) Native resolution of 2560 x 1440 @ 60Hz., 1000:1 contrast ratio (non-dynamic), 250 cd/m² (candela per square meter) brightness, 6ms Response time (Grey to Grey) 98% sRGB Color Compliance, Flicker Free Screen
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2, HDMI 1.4
- vii) Integrated, internal USB hub (minimum one "up" and two "down")
- viii) Pedestal base capable of swivel, pivot and height adjustment(minimum 4.0 inches height adjustment),
- ix) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- x) Full length DisplayPort cable (1.8m)

- xi) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu
- xiii) Integrated Power Supply
- xiv) ISO 9241-307 (Class 1) certified pixel error rate
- xv) Mandatory Certifications: ICES-003, FCC Class B, EPEAT Gold, TCO Display 07

8.5 Monitor 5.0M – 32 inch Wide monitor with 2560 x 1440 resolution (WQHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or AMVA (Advanced Multi Domain Vertical Alignment) or (MVA) panel technology OR PLS (Plane to Line Switching) technology.
- iii) 31.5" diagonally, 16:9 aspect ratio
- iv) Native resolution of 2560x1440 at 60Hz., 1000:1 contrast ratio (non-dynamic), 250 cd/m² (candela per square meter) brightness, 6ms Response time (Grey to Grey), 99% sRGB, Compliance, Flicker Free Screen
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2, HDMI 1.4
- vii) Integrated, internal USB hub (USB x 1 upstream, USB 3.0 x 2, USB 2.0 x 2 downstream)
- viii) Pedestal base capable of swivel, pivot and height adjustment (minimum 4.0 inches height adjustment),
- ix) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- x) Full length DisplayPort, HDMI or USB cable (all a minimum of 1.8 meters)
- xi) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu
- xiii) Integrated or external Power Supply
- xiv) ISO 9241-307 (Class 1) certified pixel error rate
- xv) Mandatory Certifications: ICES-003, FCC Class B. EPEAT 2018 Bronze Level

8.6 Monitor 6.0M – 32 inch Wide Curved monitor 3440 x 1440 resolution (WQHD)

- i) LED (Light Emitting Diode) back-lighting technology (either edge-lit or RGB back-lit)
- ii) IPS (In-Plane Switching) or MVA (Multi Domain Vertical Alignment) panel technology or PLS (Plane to Line Switching) or VA (Vertical Alignment) technology.
- iii) 34" diagonally with a 1900R curvature, 21:9 aspect ratio
- iv) Native resolution of 3440x1440 at 60Hz., 1000:1 contrast ratio (non-dynamic), 300 cd/m² (candela per square meter) brightness, 5ms Response time (Grey to Grey), 95% sRGB Color Compliance, Flicker Free Screen
- v) 178 vertical/178 degree horizontal viewing angle (measured at >10:1 contrast ratio)
- vi) DisplayPort 1.2, HDMI 1.4, USB-C (PD), Audio out (or in/out combination ports),
- vii) Integrated, internal USB 3.0 hub (USB-C x 1 upstream, USB3.0 x 2 downstream)
- viii) Pedestal base.
- ix) Kensington lock cut out or similar theft prevention device, VESA mount (100x100mm)
- x) Full length DisplayPort, HDMI (1.8m) & USB-C cable (1.0m)
- xi) microprocessor based and come with controls that produce an on-screen menu (in both English and French or in non-language specific symbols) that control brightness, contrast, colour temperature and phase
- xii) Automatically correct size, position and phase. This must be achieved automatically without user intervention and must be presented through the use of an auto adjust button mounted on the front bezel or an on-screen menu
- xiii) ISO 9241-307 (Class 1) certified pixel error rate
- xiv) Mandatory Certifications: ICES-003, FCC Class B. EPEAT 2018 Bronze Level

ANNEX B – LIST OF PRODUCTS

See List of Products on the Online Ordering System.

ANNEX C – CALL-UP LIMITATIONS

This describes the Call-up Limitations of each Category and how they are established. Within each Category, with the exception of Category 7.0N, a System will be ranked based on its evaluated price. A System's ranking determines what its Call-up Limitation is and what volume discounts can apply to different Call-up values. A summary table appears in an Appendix to this Annex

1. Evaluated Prices

- a) **Evaluated Price Ranking:** Call-up Limitations are determined by each system's Evaluated Price. A System's Evaluated Price will fluctuate during the Standing Offer Period for a given Category and the Evaluated Price must be determined at the time of each Call-up to determine the applicable Call-up Limitation.
- b) **Evaluated Price:** Evaluated Prices are calculated as follows:
 - i) **Systems in Categories 1.0D, 2.0D, 2.1D, 3.0D, 4.0D, 5.0D, 6.0D:** Evaluated Prices = $[(\text{Default System price}) \times (100\% - \text{Benchmark Discount}) \times 85\%] + [(\text{System Upgrade prices}) \times 5\%] + [(\text{System Component prices}) \times 10\%]$
 - ii) **Systems in Categories 1.0N, 3.0N, 4.0N, 5.0N, 6.0N, 11.0N, 12.0N and 13.0N:** Evaluated Prices = $[(\text{Default System price}) \times (100\% - \text{Benchmark Discount}) \times 85\%] + [(\text{System Upgrade prices}) \times 10\%] + [(\text{System Component prices}) \times 5\%]$
 - iii) **Systems in Categories 2.0N, and 8.0N, 9.0N, and 10.0N:** Evaluated Prices = $[(\text{Default System price} + \text{Screen Upgrade price}) \times (100\% - \text{Benchmark Discount}) \times 90\%] + [(\text{System Upgrade prices}) \times 5\%] + [(\text{System Component prices}) \times 5\%]$
 - iv) **Benchmark Discounts:** The Benchmark Discount percentages as calculated in Annex I are indicated on the Benchmark Testing Report section of the Online Ordering System.

<http://canada.nstl.com/SipssWebSites/Report/>

2. Rankings

- a) Rank 1: The System with the Lowest Evaluated Price in the Category and any System with an Evaluated Price within 3% of the Lowest Evaluated Price.
- b) Rank 2: Any System with an Evaluated Price within 10% of the Lowest Evaluated Price in the Category.
- c) Rank 3: Any System with an Evaluated Price more than 10% higher than the Lowest Evaluated Price but within 10% of the Mean Evaluated Price of the Category.
- d) Rank 4: Any system with an Evaluated price more than 10% higher than the Mean Evaluated Price of the Category.
- e) Mean Evaluated Price: Each Category's Mean Evaluated Price is calculated using all Systems for all Offerors in the Category.
- f) Only one System in a Category: If there is only a single Offeror in a Category, their System(s) will be given a Ranking of Rank 2.
- g) All systems in Category 7.0N will be assigned Rank 1.

3. Category Call-up Limitations

- a) All limitations are inclusive of GST, QST, HST and any applicable Provincial Disposal Fees and volume discount.
- b) **Call-ups made directly by Identified Users for Components and Unevaluated Options:** Call-ups that include only Components (i.e., equipment that may be purchased without a System), and Unevaluated Options have a Call-up Limitation of the lesser of \$25,000.00 or the associated System's Call-up Limitation.
- c) **Call-ups made directly by the SSC Standing Offer Authority for Components:** Call-ups that include only Components (i.e., equipment that may be purchased without a System) have a Call-up Limitation of \$150,000.00. When Call-ups for Systems include Components, the value of the Components must not exceed \$150,000.00.
- d) **Call-ups made directly by the SSC Standing Offer Authority for Unevaluated Options:** Call-ups that include Unevaluated Options (i.e. equipment that may be purchased without a System) have a Call-up Limitation of \$50,000. When Call-ups for Systems include Unevaluated Options, the value of the Unevaluated Options must not exceed \$50,000.00.
- e) **Total Component Cost:** A System's Components will only be available for purchase without a system if its Total Component Cost (TCC) falls within the evaluated price range, as detailed below:
 - i) The TCC will consist of the sum of the ceiling unit prices for supplying all mandatory Components specified in Annex "B". The TCC will be determined per Component Grouping (i.e. "A", "B", "C" ...).
 - ii) In order to qualify the set of System Components, the TCC must be no greater than the mean (calculated using the "AVERAGE" function in Microsoft Excel 2000 SR-1) plus one standard deviation (calculated using the "STDEVP" function in Microsoft Excel 2000 SR-1) of the total TCC of the Systems/Groupings in the Category.
 - iii) The lowest TCC of the Systems/Groupings in each Category will NOT be used for purposes of calculating the mean plus one standard deviation.
 - iv) This evaluation will coincide with the schedule detailed in the article entitled "Product Substitution and Price Revision".
- f) **Call-ups made directly by Identified Users for Systems:**
 - i) **Ranks 1 to 4:** A Call-up limitation of \$25,000.00.
- g) **Call-ups made directly the SSC Standing Offer Authority for:**
 - i) **Rank 1:** A Call-up limitation of \$400,000.00
 - ii) **Rank 2:** A Call-up limitation of \$200,000.00
 - iii) **Rank 3:** A Call-up limitation of \$150,000.00
 - iv) **Rank 4:** A Call-up limitation of \$100,000.00

4. Volume Discounts

- a) Provided the Offeror agrees to the volume discounts below at the time of order, the SSC Standing Offer Authority may issue Call-ups, up to the described Call-up limitations.

- b) When a volume discount applies to a Call-up, the discount is applied to the current NMSO prices (meaning the NMSO price published on the Online Ordering System on the day of the Call-up). If there is discrepancy with the NMSO price submitted by the Offeror and the price published on the Online Ordering System, the price approved by the Standing Offer Authority at the time the price was submitted and approved will be used.
- c) When a volume discount applies to a Call-up which includes Systems and Components/Unevaluated Options, the entire order will be subject to a mandatory discount equal to the highest volume discount that would apply to the System for the value of the Call-up. For example, if the order is for \$120K of Rank 2 systems, and it includes \$40K of Components and \$20K of Unevaluated Options for a total Call-up value of \$180K, the entire order would be discounted by 15%.
- d) The applicable GST, QST, HST and any applicable Provincial Disposal Fee must be added after the discount has been applied.
- e) The SSC Standing Offer Authority will require, before issuing any such Call-up, a written confirmation from the Offeror agreeing to honor the discount. If an Authorized Agent will be involved in the performance of the Work, an Authorized Agent Certification will be required. Sample certifications are included as an appendix to this annex.
- f) **Components only:**
 - i) A Call-up valued up to \$25,000.00 at current NMSO prices will not be subject to any volume discount.
 - ii) A Call-up valued between \$25,000.01 and \$50,000.00 at current NMSO prices is subject to a volume discount of at least 5%.
 - iii) A Call-up valued between \$50,000.01 and \$100,000.00 at current NMSO prices is subject to a volume discount of at least 10%.
 - iv) A Call-up valued between \$100,000.01 and \$150,000.00 at current NMSO prices is subject to a volume discount of at least 15%. The total value of the Call-up cannot exceed \$150,000.00.
 - v) Components included on a Call-up for Systems, cannot exceed \$150,000.00
- g) **Unevaluated Options only:**
 - i) A Call-up valued up to \$25,000.00 at current NMSO prices will not be subject to any volume discount.
 - ii) A Call-up valued between \$25,000.01 and \$50,000.00 at current NMSO prices is subject to a volume discount of at least 5%. The total value of the Call-up cannot exceed \$50,000.00.
 - iii) Unevaluated Options included on a Call-up for Systems, cannot exceed \$50,000.00
- h) **Systems:**
 - i) **Rank 1:**
 - (A) A Call-up valued up to \$100,000.00 at current NMSO prices will not be subject to any volume discount.

- (B) A Call-up valued between \$100,000.01 and \$150,000.00 at current NMSO prices is subject to a volume discount of at least 5%.
 - (C) A Call-up valued between \$150,000.01 and \$200,000.00 at current NMSO prices is subject to a volume discount of at least 10%.
 - (D) A Call-up valued over \$200,000.01 at current NMSO prices is subject to a volume discount of at least 15%. The total value of the Call-up cannot exceed \$400,000.00.
- ii) **Rank 2:**
- (A) A Call-up valued up to \$50,000.00 at current NMSO prices will not be subject to any volume discount.
 - (B) A Call-up valued between \$50,000.01 and \$100,000.00 at current NMSO prices is subject to a volume discount of at least 5%.
 - (C) A Call-up valued between \$100,000.01 and \$150,000.00 at current NMSO prices is subject to a volume discount of at least 10%.
 - (D) A Call-up valued over \$150,000.01 at current NMSO prices is subject to a volume discount of at least 15%. The total value of the Call-up cannot exceed \$200,000.00.
- iii) **Rank 3:**
- (A) A Call-up valued up to \$25,000.00 at current NMSO prices will not be subject to any volume discount.
 - (B) A Call-up valued between \$25,000.01 and \$50,000.00 at current NMSO prices is subject to a volume discount of at least 5%.
 - (C) A Call-up valued between \$50,000.01 and \$100,000.00 at current NMSO prices is subject to a volume discount of at least 10%.
 - (D) A Call-up valued over \$100,000.01 at current NMSO prices is subject to a volume discount of at least 15%. The total value of the Call-up cannot exceed \$150,000.00.
- iv) **Rank 4:**
- (A) A Call-up valued up to \$10,000.00 at current NMSO prices will not be subject to any volume discount.
 - (B) A Call-up valued between \$10,000.01 and \$25,000.00 at current NMSO prices is subject to a volume discount of at least 5%.
 - (C) A Call-up valued between \$25,000.01 and \$50,000.00 at current NMSO prices is subject to a volume discount of at least 10%.
 - (D) A Call-up valued over \$50,000.01 at current NMSO prices is subject to a volume discount of at least 15%. The total value of the Call-up cannot exceed \$100,000.00.

5. Multiple Category Call-up Limitations

- a) Contemporaneous requirements for multiple Categories of Products from the same Offeror will be placed on one Call-up.
- b) The SSC Standing Offer Authority is limited to ordering up to each System's Call-up limitation as described in the "Individual Category Call-up Limitations". The entire order will be subject to a mandatory discount equal to the highest volume discount that would apply as if each of the Products been purchased separately. For example, if the order is for \$120K of Rank 1 systems (5%), \$20K of Rank 2 systems (0%) and \$120K of Rank 3 systems (15%), the entire order would be discounted by 15%.

6. Non-Standing Offer Items

- a) At the discretion of the SSC Standing Offer Authority, the Identified User may incorporate, within the Call-up Limitations indicated above, up to a total of \$5,000.00 of non-Standing Offer items (i.e., peripherals and components but not Systems) on any Call-up. All non-Standing Offer items must be provided at a price in accordance with the Offeror's current published price list less any applicable government discounts. Canada reserves the right to approve or reject any non-Standing Offer item at any time.
- b) The SSC Standing Offer Authority reserves the right to add up to \$25,000.00 of Non-Standing Offer items to any Call-up. All Non-Standing Offer items must be provided at a price in accordance with the Offeror's current published price list less any applicable government discounts. Canada reserves the right to approve or reject any non-Standing Offer item at any time.

APPENDIX C-1 – CALL-UP LIMITATIONS TABLE

Product	Rank*	Identified User's (Client) Call-up Limitation**	SSC's Call-up Limitation
Systems	1	\$25,000.00	\$400,000.00
	2	\$25,000.00	\$200,000.00
	3	\$25,000.00	\$150,000.00
	4	\$25,000.00	\$100,000.00
Components	-	\$25,000.00	\$150,000.00
Unevaluated Options	-	\$25,000.00	\$50,000.00
Non-NMSO products	-	\$0.00	\$25,000.00

All **Call-up Limitations** include GST/QST/HST and any Provincial Disposal Fee. The GST/HST are applied to the current NMSO prices (as published on the Online Ordering System, IT Pro, on the day of the Call-up) AFTER applying any applicable volume discount and applicable provincial disposal surcharges.

Product	Rank	Call-up Volume Discount Percentage		
		5%	10%	15%
Systems	1	\$100,000.01-\$150,000.00	\$150,000.01-\$200,000.00	\$200,000.01-\$400,000.00
	2	\$50,000.01-\$100,000.00	\$100,000.01-\$150,000.00	\$150,000.01-\$200,000.00
	3	\$25,000.00-\$50,000.00	\$50,000.01-\$100,000.00	\$100,000.01-\$150,000.00
	4	\$10,000.01-\$25,000.00	\$25,000.01-\$50,000.00	\$50,000.01-\$100,000.00
Components	-	\$25,000.01-\$50,000.00	\$50,000.01-\$100,000.00	\$100,000.01-\$150,000.00
Unevaluated Options	-	\$25,000.01-\$50,000.00	N/A	N/A

*All **Call-up Volume Discounts** are calculated using the current NMSO published prices, excluding GST/QST/HST and any Provincial Disposal Fees.

APPENDIX C-2 – SAMPLE CERTIFICATION FORMS

CALL-UP PRICING DISCOUNT CERTIFICATION

By signing below the NMSO Offeror hereby agrees that the prices charged by the NMSO Offeror or NMSO Reseller (acting in its capacity as the NMSO Offeror's agent) for Call-up number _____ will be the NMSO Prices less ___% on the date of the Call-up.

This price reduction is to be applied to all NMSO items (Default System, Upgrades, and Components) in accordance with Annex C of your NMSO.

NMSO **Offeror** Authorized Signing Authority

Date

AUTHORIZED RESELLER CERTIFICATION (CALL-UP)

The NMSO Offeror, _____ (the "NMSO Offeror"), hereby certifies that:

_____ (the "NMSO Reseller") has been designated as its agent under the NMSO and continues to be its authorized agent for the purposes of receiving and fulfilling Call-ups and receiving payments under this NMSO.

By signing below, the NMSO Offeror and the NMSO Reseller both confirm that the call-up will be executed by the NMSO Reseller.

By signing below, the NMSO Offeror hereby agrees and acknowledges that:

1. The NMSO Offeror's authorization of the NMSO Reseller to act as its agent in respect of this NMSO (including the performance of this Call-up) does not amend, diminish, or modify any of the responsibilities of the Offeror under the NMSO or the contracts awarded under this NMSO (including those awarded to the NMSO Offeror through its agent, the NMSO Reseller).
2. It is the responsibility of the NMSO Offeror to ensure that the NMSO Reseller conforms to the terms and conditions of the NMSO. If the NMSO Reseller fails to fulfill the obligations of this call-up, the NMSO Offeror will, upon written notification from the SSC Contracting Authority, complete and fulfill those obligations directly at no additional cost to Canada.
3. In accordance with the provisions of the NMSO, if at any time during the performance of this call-up, the NMSO Offeror terminates its agency relationship with the NMSO Reseller, it will advise Canada and will fulfill the obligations under the contract directly. Notwithstanding such a notice, any amounts paid by Canada to the NMSO Reseller in good faith will be deemed to have been received by the NMSO Offeror.

NMSO **Offeror** Authorized Signing Authority

Date

NMSO **Reseller** Authorized Signing Authority

Date

ANNEX D – RVD PROCESS

1. Call-ups made by SSC Standing Offer Authority Using Request for Volume Discount Process:

- a) **Use of RVD Process:** For requirements that exceed the Call-up Limitations, SSC will issue a Request for Volume Discount (“RVD”). In addition to these requirements, SSC may, in its discretion, issue a Request for Volume Discount for any requirement. The Request for Volume Discount process allows Offerors to confirm to SSC their best and final offer in respect of a specific requirement for one or more Identified Users.
- b) **Recipients of RVDs:** The RVD will be sent by SSC to all Offerors who hold a Standing Offer in the relevant Category(ies) and are listed in the selected Category(ies) at the date and time the RVD is issued (or to those Offerors that meet all the applicable security requirements). Where an RVD includes Products from multiple Categories of this NMSO, the RVD will be sent to Offerors who hold Standing Offers in any of the relevant Categories. Eligible Offerors will be determined on the date the RVD is issued by verifying the Online Ordering System website. The specifications (taken as a whole) in any given RVD will be sufficiently generic that a minimum of 50% of the Offerors in each of the relevant Category(ies) are able to submit an RVD Response. SSC may also, in its discretion, consider alternative procurement strategies.
- c) **Technical Authority:** SSC will act as the Technical Authority during the RVD process and for all Call-ups resulting from RVDs.

2. Subject-Matter of RVDs:

- a) RVDs may be issued for Products that are listed on the Standing Offers. Non-Standing Offer products (peripherals, components, processor upgrades, but not systems) may be included in an RVD with the approval of the Technical Authority.
- b) Each RVD issued by SSC will specify:
 - i) The time and date by which any interested Offeror must respond to the RVD to be considered for any resulting Call-up. SSC will generally provide Offerors with 5 FGWDs from the date it issues the RVD to provide their RVD response. This period may be reduced (e.g. for urgent requirements) or extended (e.g. for more complex requirements), at the discretion of the Standing Offer Authority;
 - ii) Any special security requirements, if they differ from those set out in the Resulting Contract Clauses;
 - iii) The applicable NMSO Category(ies);
 - iv) The required items in each Category;
 - v) The required quantities for immediate delivery (every RVD will specify some quantities for immediate delivery unless otherwise indicated);
 - vi) The optional quantities for delivery at a later date at Canada’s option. Optional quantities for Identified Users will generally be limited to 100% of the quantity specified for immediate delivery. Unless otherwise noted in the RVD, SSC must exercise the option to purchase the optional quantities within 12 months. Longer-term RVDs with higher optional quantities will be considered only where SSC determines that an

Identified User has demonstrated a requirement to purchase additional quantities over a longer period;

- (A) Options to purchase the additional quantities – Client Specific Options, may be exercised through a maximum of 3 amendments/IT Pro Orders per Identified User to the RVD Contract Authority at any time within 12 months of the RVD Contract award date unless otherwise agreed to by the Contractor and the Contracting. Client Specific Options may be exercised through SSC IT Pro Orders if requested by the client.
 - (B) Options to purchase additional quantities – SSC IT Pro Inventory Options, may be exercised through SSC IT Pro Orders at any time within 12 months, unless otherwise agreed to by the Contractor and the Contracting Authority, of the RVD Contract award date.
 - (1) Quantities ordered under SSC IT Pro Inventory Options will be delivered within the best effort delivery time identified in the RVD Solicitation. Canada may confirm the Contractor's ability to meet the best effort delivery times prior to placing an order for optional quantities.
 - vii) Canada reserves the right to add new delivery and invoicing locations when exercising the optional quantities;
 - viii) The Contractor agrees not to supply any additional quantities under any Call-up made directly by an Identified User (i.e. additional quantities may only be specified in Call-ups made by the SSC Contracting Authority);
 - ix) If different from the standard delivery time required by the Resulting Contract Clauses, the required delivery date. From time to time, SSC may reduce the standard delivery period set out in the Article entitled "Delivery" in the Resulting Contract Clauses by specifying a shorter delivery period in the RVD;
 - x) Delivery location(s);
 - xi) Whether installation is required;
 - xii) Any desirable features (described below) and whether the basis of selection will be "lowest price" or "best value". The definition of best value, if applicable, will be included in the RVD; and
 - xiii) Any requirements that differ from the NMSO Default System configuration for the selected Category(ies), including any Other Related Options.
- c) **Cancellation of RVD:** SSC may cancel an RVD solicitation at any time and may later re-issue the same or a similar RVD.
- d) **Requirements for the Set-aside Program for Aboriginal Businesses:**
- In respect of a contract for goods, on which a supplier is making a proposal which involves subcontracting, the supplier must certify in its bid that at least thirty-three percent of the value of the work performed under the contract will be performed by an Aboriginal business. Value of the work performed is considered to be the total value of the contract less any materials directly purchased by the contractor for the performance of the contract. Therefore, the supplier must notify and, where applicable, bind the subcontractor in writing with respect to the requirements that the Aboriginal Set-Aside Program (the Program) may impose on the subcontractor or subcontractors.

The supplier's contract with a subcontractor must also, where applicable, include a provision in which the subcontractor agrees to provide the supplier with information, substantiating its compliance with the Program, and authorize the supplier to have an audit performed by Canada to examine the subcontractor's records to verify the information provided. Failure by the supplier to exact or enforce such a provision will be deemed to be a breach of contract and subject to the civil consequences referred to in this document.

If or when an RVD solicitation is identified as a set-aside, as part of its bid, the supplier must complete the Certification of Requirements for the Set-Aside Program for Aboriginal Business (certification) stating that it:

meets the requirements for the Program and will continue to do so throughout the duration of the contract;

- i) will, upon request, provide evidence that it meets the eligibility criteria;
- ii) is willing to be audited regarding the certification; and
- iii) acknowledges that if it is found NOT to meet the eligibility criteria, the supplier shall be subject to one or more of the civil consequences set out in the certification and the contract.

3. RVD Response Requirement:

- a) Only responses to RVDs that meet all the following requirements will be considered by SSC for a Call-up:
 - i) The Products proposed for delivery in the RVD Response must be identical to the Offeror's Default System(s) and/or Upgrades and/or Components and/or Unevaluated Options (as applicable) that have been approved and authorized for supply under this NMSO, as identified on the Online Ordering System website at the time the RVD was issued by SSC, unless:
 - (A) It is otherwise expressly stated in the RVD;
 - (B) The specifications listed in the RVD exceed the specifications in this NMSO; or
 - (C) For certain Products (as defined in (iii), below), the proposed Product exceeds the specifications of the currently listed NMSO Product.
 - ii) Proposed systems must be approved and authorized for supply under this NMSO. For greater certainty, Systems that have been the subject of requests for substitutions may not be proposed for delivery in response to an RVD, even if approved, unless they are listed on the Online Ordering System website at the time the RVD is issued by SSC.
 - iii) SSC will only consider Products allowable under the provisions of (i) (C) for: Optical Drives, Memory, Storage, Mice, Keyboards, Processors, Graphics Card, Docking Stations etc.;
 - iv) If the RVD requests enhancement(s) to the minimum Default System specifications for any Category, the Offeror must offer either the requested enhancement or the Offeror's existing approved and listed Default System specifications in that Category, whichever is greater;
 - v) For proposed Products that are not listed in the NMSO, the RVD Response must include technical specification sheets or the specific URL address for the technical

specifications demonstrating that the offered Product meets the requirements of the RVD and the NMSO;

- vi) If the RVD response is being submitted by, or any portion of the Work will be performed by, an Authorized Reseller on behalf of the Offeror, the RVD response must include a completed Authorized Reseller Certification;
- vii) All quoted prices must be in Canadian dollars;
- viii) The quote prices of NMSO items must have an applied discount of greater than 15% of the current ceiling prices listed for that same item on the Online Ordering System website;
- ix) Where the response includes more than one Product in a single Category, the RVD response must also include an individual price and the make and model number of each line item requested in the RVD and must clearly identify which System the Offeror will supply if issued the Call-up; and
- x) All prices should be unit prices and include all discounts off the NMSO ceiling prices, rather than bundled discounts. Where SSC believes that any unit price does not correspond to the extended pricing, SSC will use the unit prices to determine the correct extended pricing and notify the Offeror. Where multiple items have been priced on a bundled basis, SSC may request that the Offeror break down the pricing; in those cases, the Offeror's total price for the items, once broken down into separate prices, must equal the originally submitted price for the bundle.
- xi) If the RVD requests Autopilot and/or OEM service-level compatibility, the Offeror must offer the requested service
 - (A) Autopilot compatibly at the hardware level;
 - (B) Windows Hello For Business compatible including an IR Camera. (applicable IR device is included at clients' request);
 - (C) If requested, hardware IDs (hashes) must be submitted to M365 tenants or must be available from the OEM to the client in a CSV format (as per the client's choice);
 - (D) Windows 10 image pre-load must involve Microsoft's "Gold" or "Signature Edition" (no pre-installed "bloatware") and must include the update version that is not earlier than N-2 at the release of the RVD solicitation;
 - (E) Windows Update for Business Compatible (Drivers, Firmware & BIOS/UEFI updates for the device delivered exclusively from WUfB (only if mutually agreed to by the bidders and RVD client prior to RVD closing))
 - (F) Pre-provisioned deployment services (formerly known as White Glove) if requested by the client;
 - (G) Asset tag affixed prior to shipping; and
 - (H) Single box delivery (all peripherals included) to home-based user.

Offerors will be required to comment on the applicable OEM compatibility with WUfB during the RVD if it has been requested by the client. Those who feel they cannot deliver this service reliably must advise the RVD contracting authority during the RVD Solicitation Period. In the event an incorrect update damages the device, the NMSO

holder will be responsible for repair and/or replacement (as per your agreement with Microsoft). The WUfb will be exclusively applicable to devices that are AP compatible and under NMSO warranty.

4. Selection of Offeror for RVD Call-up

- a) **Basis of Selection:** An Offeror may be selected for an RVD Call-up on the basis of “lowest price” or “best value”.
- i) If the basis of selection is lowest price, Canada will calculate the aggregate cost of all items (both the firm deliverables and optional quantities) listed in the RVD. The responsive RVD response with the lowest aggregate cost will be recommended for award of a contract.
 - ii) If the basis of selection is best value, Canada will calculate the aggregate cost of all items (both the initial and optional quantities) listed in the RVD after applying the applicable reduction percentages from the RVD Discounts and/or Desirable Features.
 - (A) **Benchmark Discounts:** The Benchmark Discount percentages that may be applied are those indicated on the Benchmark Testing Report section of the Online Ordering System at the date and time of RVD issuance. The Benchmark Discount percentages will be applied to the price of the NMSO System(s) only. The Benchmark Discount percentages will be included in an Annex to the RVD.
 - (B) **Desirable Features:** Where approved by the SSC Technical Authority, an RVD may specify desirable features that will be taken into account in selecting the Offeror for the Call- up. Desirable features will be associated with a percentage by which the quoted price for the RVD will be notionally reduced to reflect the added value to Canada represented by those features. When the Product quoted in response to an RVD includes the desirable feature(s) specified in the RVD, then the corresponding percentage (e.g., 2%) will be deducted from the price of the mandatory (plus any optional) quantities of the applicable Products. A maximum of 5% for any single item will apply, along with a maximum overall reduction to an Offeror’s quoted price of 10%.
 - (C) **Example:** If an RVD is issued for Systems and another Product and uses the best value basis of selection with Benchmark Discounts for the System and a Desirable Feature on the other Product, the **Best and Final Offer Price (BFOP)** will be calculated as follows:
$$\text{BFOP} = \text{System Unit Price} \times \text{Quantity} \times (100\% - \text{Applicable RVD Discount } \%) + \text{Product 2 Unit Price} \times \text{Quantity} \times (100\% - \text{Applicable Desirable Features Discount})$$
 - (D) SSC will apply the price reduction to the quoted price(s) and Offerors are not required to do so in their RVD responses. These price reductions will be used only for the purposes of selecting an Offeror for Call-up and will not affect the price chargeable if a Call-up is issued.
 - (E) The responsive RVD response with the lowest BFOP will be recommended for award of a contract.
- b) **Multiple Categories:** When a RVD is issued for multiple Categories:

- i) If all Offerors active in each category covered by the RVD are identical, evaluation will be done on the requirement as a whole. If requested by the Identified User, and described in the RVD, evaluation will be done on a per Category basis.
- ii) If all Offerors active in each category covered by the RVD are different, evaluation will be done on a per Category basis. Where approved by the SSC Technical Authority, a desirable feature discount may be applied to the price offered by Offeror/Authorized Reseller submitting a response to multiple Categories. Any RVD where this applies will explain how the desirable feature discount will be applied.
- c) **Multiple Responses:** If an Offeror submits multiple responses to an RVD offering to supply the same System (e.g., the Offeror has more than one of its Authorized Resellers submit responses as its agent), and the Offeror wishes to withdraw one of those responses, the SSC Standing Offer Authority reserves the right to require that all of the Offeror's responses offering the same System be withdrawn.
- d) **Withdrawal of RVD Response by Offeror:** An Offeror may withdraw its response to an RVD at any time, in which case SSC will no longer consider that Offeror's response, but may continue to consider all other responses.
- e) **Socio-economic considerations:** The selection of an Offeror for Call-up using an RVD process will not be based on socio-economic considerations; however, desirable features may include Product qualities or supplier commitments that are more consistent with Canada's commitments to Green Procurement and Sustainable Development and Canada's commitments to Accessibility and Assistive Information Communication Technology.
- f) **Only one response:** If only one response that meets the RVD requirements is received, Canada may request that the Offeror submit price support in the form of one or more of the following:
 - i) A current published price list and the percentage discount available to Canada;
 - ii) Paid invoices for like goods or services (like quality and quantity) sold to other customers;
 - iii) A price certification from the Offeror; and
 - iv) If Canada determines that the prices being offered do not represent good value to Canada, Canada reserves the right to reject the response or negotiate with that Offeror.
- g) **Demonstration or Compatibility Testing:** SSC may require that the Offeror demonstrate through testing (including compatibility testing) that any items that it proposes to deliver in response to a RVD meet the RVD specifications. Canada is not obligated to test any or all Products offered.
- h) **Multiple Call-ups Resulting from RVD Process:** If specified in the RVD, the total requirement may be split between two or more Offerors.
- i) **Negotiation:** Further negotiations may be conducted before issuing a Call-up resulting from an RVD. Any negotiations will be conducted by the Contacting Authority specified in the RVD. The Contracting Authority may also require a certification before issuing a contract, confirming that the pricing satisfies the requirement described in Article 2.19 of the Resulting Contract Clauses.

5. RVD Contract

- a) **Terms and Conditions:** The RVD Contract consists of the Resulting Contract Clauses set out in the NMSO, plus any additional terms and conditions identified in the RVD.
- b) **Option to Include Implementation Services:** For RVDs, SSC reserves the right to request an up- front fixed price for implementation. The definition of implementation may be defined during SSC and client engagement.
- c) **Expansion (options that were not considered at the time of solicitation):** RVDs under this Standing Offer will be conducted to satisfy a requirement for one or more Systems. Over the course of any contract awarded as a result of this RVD, the required computing capacity may expand; compatibility and proprietary issues may arise with respect to any expansion once the System(s) is/are put in place. Therefore, Offerors are advised that Canada may negotiate with the resulting Contractor for these computing expansion requirements by way of amendments to any contract awarded as a result of an RVD, as long as:
 - i) contract amendments expanding the computing capacity of the RVD Product(s) will be made only within the System warranty period for the System put in place as a result of this RVD;
 - ii) the general scope of the Work will remain unchanged; any computing expansion must clearly be an expansion of the System(s) purchased (and not a replacement or a completely new System in order to circumvent the Call-up terms and conditions) and it must be for use by the same Identified User (unless the Identified User under the Contract has been amended since award, so that the System is now being used by another Identified User);
 - iii) the final contract value will be no more than double the value of the total value of any Contract (including the exercised options) resulting from this RVD;
 - iv) no more than 3 amendments to the contract can be made for computing expansion requirements (although additional amendments may be made for other reasons); and
 - v) any amendment expanding the computing capacity of the System(s) purchased under this RVD must come through the SSC Standing Offer Authority for review and approval.
 - vi) pricing for equipment purchased through an RVD Call-up Amendment to expand the capacity of the System will not exceed 20% above the RVD price proposed for that equipment. Where an item is quoted in both the Mandatory and Option quantity sections of the RVD, the RVD Option pricing will be used for comparison purposes. For all other items: in order to qualify for capacity expansion a similar discount must be offered.
- b) **Non-Standing Offer Items:** SSC reserves the right to add up to \$25,000.00 of Non-Standing Offer items (which were not specified in the RVD document) to any Call-up resulting from a RVD. These items must be provided at a price in accordance with the Offeror's current published price list less any applicable government discounts; a minimum 10% discount must be offered, otherwise the Non-Standing Offer items will not be included in the Call-up.

6. Notification of RVD Results

- a) All Offeror/Authorized Resellers who respond to an RVD will be notified in writing of the outcome of the RVD process. The notice will include the following information:
 - i) RVD Number (e.g., RVD # 2BHX12345);

- ii) Offeror(s) selected for Call-up (e.g., XYZ Inc.);
 - iii) Value of Call-up (e.g., \$177,004.33, GST/HST/QST/EHF Included); and
 - iv) Number of RVD responses received by SSC (e.g., 5); and
 - v) Best and Final Offer Price of the Offeror to whom the notification is being sent and the Best and Final Offer Price of the Offeror selected for Call-up.
- b) Unless required to do so by a court or other body of competent jurisdiction, Canada will not disclose the unit prices quoted by an Offeror in response to an RVD. Nor will Canada identify in the notification of RVD results the specific quantities of items subject to the Call-up.

APPENDIX D-1 – SAMPLE SSC IT PRO ORDER FORM

Shared Services Canada IT Procurement

Date: 08/04/2016
Order#: 304

Additional Information:

<p>Invoice Options</p> <p>By submitting this order, I certify that the necessary approvals have been obtained and request SSC to acquire and provide the goods and/or services described herein. Pursuant to Section 32(1) of the Financial Administration Act, funds are available</p> <p>Name of Requestor: Name of Section 32 Authority: Client Ref #1 if applicable (Cmt, Req, 9200, etc) Please confirm funding year Do you require multiple shipping addresses? (Minimum 10) Please enter an Alternate Contact, including Telephone number:</p>	<p>Invoices to be submitted by email only</p> <p>Y</p> <p>Y</p> <p>Donna Pulsen Jessica Pearson R0000123 FY16/17 only</p> <p>No</p> <p>Rachel Zane 613-789-1234</p>
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Bill To: (Customer ID#24)

Ship To:

Harvey.Spector@canada.ca
Harvey Spector
Shared Services Canada
99 Metcalfe St.
Ottawa, ON K1A 0H0
Canada
613-789-4567
solinda.phan@canada.ca

Mike.Ross@canada.ca
Mike Ross
Shared Services Canada
99 Metcalfe St.
Ottawa, ON K1A 0H0
Canada
613-789-6543

Payment Method:

Shipping Method:

Pay by Invoice

Delivery included or to be charged at cost

Product Code	Description	Qty	Price	Total
D-INV-1.0D-34115	<p>1.0D Dell Optiplex 9020 i5-4590 [Operating System: Windows 7 Pro - 64 Bit] [RAM: Base; no selection] [Monitor: Base; no selection] [External Keyboard: Base; no selection] [Mouse: Base; no selection] [Optical Drive: Base; no selection] [Asset Tagging: Base; no selection] [Warranty: Base; 3 Year NMSO Warranty]</p>	1	\$666.67	\$666.67

Subtotal: \$666.67
 Tax (13%): \$86.67
 Shipping & Handling: \$0.00
Grand Total: \$753.34

ANNEX E – REQUEST FOR PRODUCTION SUBSTITUTION / PRICE REVISION FORM

This Annex is for use by SSC and Offeror's ONLY.

ANNEX F – AUTHORIZED RESELLERS AND SERVICE OUTLETS

See List of Authorized Resellers page on the Online Ordering System.

ANNEX G - STANDING OFFER ACTIVITY REPORT

Offeror	Quarter	Order Type	Department	Department - Long	Call-up	Order Date	Category	Systems	Subtotal	Total	Reseller	Group
1	2	3	4	5	6	7	8	9	10	11	12	13

ANNEX H – BENCHMARK PROCEDURES AND SET-UP INSTRUCTIONS

1. Standing Offer Benchmarking Testing

NMSO Systems are subject to functional and performance evaluation in accordance with this Annex.

2. NMSO Benchmark Testing

- c) **Set-up Instructions:** Refer to the appendix of this annex.
- d) **Benchmarking hours:** The hours of operation for benchmark testing will be 08:00 a.m. to 02:00 p.m. Monday to Friday local time at the benchmark site, with the exception of any local Federal Government and Provincial holidays.
- e) **Late System:** For the initial NMSO Benchmark testing, systems not delivered by the deadline for testing will not be listed on the online ordering system and will be unable to accept Call-ups for 4 refresh periods from the date the Standing Offer is issued.
- f) **Same System:** The System(s) supplied for the benchmark testing must be identical to the Offeror's proposed system. Systems improperly configured will be assessed an Administrative Fault.
- g) **Set-up:** It is the Offeror's responsibility to install, set up and test the System(s) at the benchmark site before the commencement of the benchmark test to verify the mandatory requirements and performance of the System(s) proposed. Systems improperly set up will be assessed an Administrative Fault.
- h) **Test period:** The Systems provided are required for a period of up to 60 working days. Offeror(s) may be requested in writing to extend this period. Offers from any Offerors who do not agree to the extension will be removed from consideration.
- i) **Fees:** The Offeror is responsible for paying any applicable fees to INTERTEK TESTING SERVICES NA LTD. All costs associated with the benchmark, except for Canada's monitoring and site costs, will be at the Offeror's expense, regardless of whether its Product passes testing or not. Those testing fees are as follows:
 - i) **Desktop Features:** \$750.00 + \$97.50 (HST) = \$847.50 total
 - ii) **Mobile Features and Battery:** \$1100.00 + \$143.00 (HST) = \$1243.00 total
 - iii) **Administrative Fee:** \$100.00 + \$13.00 (HST) = \$113.00 total
- j) **Offeror's representatives:** The Offeror's technical staff will be required to install and demonstrate the Systems before the testing, but the Offeror will not be permitted to be present during testing unless requested otherwise. Only one marketing representative will be allowed during set up.
- k) **Substitutions:** The Offeror will be notified by SSC when a proposed substitution has been accepted for benchmark testing. The System supplied for benchmark testing must be identical to the System specified in the Offeror's substitution request.

3. RVD Benchmark Testing

- a) SSC may also require that, in conjunction with an RVD, the selected Offeror demonstrate through testing (including compatibility testing, where existing equipment has been specified

in the RVD, with which the offered Products must be compatible) that any items that it proposes to deliver in response to an RVD meet the RVD specifications. Canada is not obligated to benchmark any or all Products proposed.

- b) **Notification:** If a demonstration or compatibility sub-test is requested by SSC and/or the Identified User to verify System functionality and/or compatibility following an RVD process, the SSC Contracting Officer will notify the Offeror. The System(s) specified in the notice must be provided within 10 working days of the notice being issued.
- c) **Late Systems:** Systems not delivered by the deadline for testing will be assessed an Administrative Fault.
- d) **Same System:** The System(s) supplied for the benchmark testing must be identical to the Offeror's System proposed in the RVD.

4. Benchmarking Testing Process

The following apply to all benchmark tests:

- a) **Administrative Fault:** If any System(s) delivered to the benchmark site late, is not identical to the Offeror's proposed system or is not configured as specified in the written benchmark invitation letter issued by the specified SSC Standing Offer Authority, the Offeror will be required to rectify the discrepancy within 48 hours of written notification. This fault will be considered an Administrative Fault. A maximum of two (2) Administrative Faults per System will be allowed. If the System(s), or its replacement, exhibits a third Administrative Fault, or if the Offeror fails to meet the 48-hour deadline, the System will be declared non-compliant and eliminated.
- b) **Technical Fault:** If the system does not function in accordance with the Technical Requirements, the Offeror will be required to repair the System within 48 hours of notification. This fault will be considered a Technical Fault. A maximum of three (3) Technical Faults will be allowed per System. Failure by the Offeror to repair the System within 48 hours of notification of a Technical Fault will result in the System being declared non-compliant. If the System, or its replacement, exhibits a fourth Technical Fault, the System will be declared non-compliant and eliminated.
- c) **Software or BIOS/NVRAM Embedded Threats Fault:** Any System found to contain any threats or exploits (including but not exclusive of Malware, Viruses, Spyware, keyboard loggers or Rootkits) on the System's hard disk or the system BIOS or associated NVRAM areas or any of the supporting media, requested or otherwise, will be declared non-compliant and eliminated.
- d) **Bus Speed Fault:** Any System found with any bus speed exceeding the motherboard/chip set manufacturer's design specification will be declared non-compliant and eliminated
- e) **Notification of Fault:** Notification of a Technical or Administrative Fault will be made to the Offeror's designated representative by telephone and a written confirmation sent by email. The 48-hour clock will start after sender's email confirmation of receipt. At the request of the Offeror(s), the SSC Technical Authority (unless specified otherwise) will demonstrate to the Offeror any fault found during the evaluation.
- f) **Component Replacement:**
 - i) Replacement of components (i.e. video controllers, hard drive controllers, motherboards, monitors, etc.) is allowed to facilitate a repair. These replaced components must be of the same manufacturer and model number as the component being replaced. The revision of a component may change (e.g. video BIOS version,

motherboard BIOS version, SCSI controller model revision, video driver version). The Offeror is permitted to change a specific component once during testing. If that component is integrated on the motherboard and a replacement of the entire motherboard is required to facilitate a repair, then two changes of the motherboard are allowed (once each per problem component for a maximum of two Technical Faults).

- ii) If a BIOS revision (video or motherboard or SCSI) is necessary to facilitate a repair, the new BIOS revision must be a released, production version that is currently shipping. Only one motherboard BIOS revision and/or one video BIOS revision and/or one SCSI BIOS revision per System is allowed during testing. If a video or SCSI BIOS change is performed to facilitate a repair, a corresponding Technical Fault will be assessed on the video or SCSI component as a whole. A BIOS revision will be allowed only for the purposes of solving an incompatibility. No BIOS modifications will be allowed to bring a System from a non-compliant state to a compliant state.
- iii) Only one network interface card (NIC) change will be allowed without fault during testing. As this is not a mandatory requirement in the base configuration a Technical Fault will not be assessed on the first replacement. Should the replacement NIC cause further problems, a Technical Fault will be assessed.
- g) **Testing for Accessibility and Support for Adaptive Technologies:** During the evaluation of the products to ensure they meet the specifications in this procurement, SSC's Accessibility Specialist, Accessibility, Accommodation and Adaptive Computer Technology (AAACT) team will conduct testing using common adaptive technologies such as Dragon, JAWS and SuperNova to determine which products best support these technologies. The results will be made available to GC employees who will be purchasing the equipment. While no evaluation points will be awarded based on the SSC-AAACT testing, the intent is that when GC employees require products to meet specific accessibility needs, they will be provided with a list of products that will meet their needs out of the box. This will reduce the time it takes to accommodate employees who use adaptive technology.

ANNEX I - BENCHMARK RATINGS ANALYSIS – MOBILE DEVICES

1.1 OVERALL SCORE METHODOLOGY

(a) The overall score for each system is determined by calculating the weighted individual Performance, Features, Usability and Problem ratings. The weights applied to the three basic components are listed below:

i. Hardware Features	65%
ii. Environmental Stewardship and Ethical Supply Chain	10%
iii. Accessibility and Support for Assistive Technologies	15%
iv. TCO value-Add	10%

(b) **Formula:** [Sum (Score x Individual Weight)].

(c) **RVD Discount:** (System's Own Overall Score – Lowest Overall Score) x 5.

1.2 HARDWARE FEATURES SCORING METHODOLOGY

(a) Intertek compiles and verifies the list of features provided for each system. Specifications, such as the speed of memory required, are provided by the vendors. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.

(b) **Formula:** Features Score = [Sum of the weighted elements / Sum of the weights]x10

Weight Item

DEVICE MANUFACTURER

0	Manufacturer
0	Model Name
0	Release date

MOBILE DEVICE TYPE

0	Clamshell Notebook
0	Detachable keyboard (w/kickstand) 2-in-1
0	Detachable display 2-in-1
0	Convertible 360° hinged 2-in-1
0	Standard Slate Tablet
0	Clamshell Mobile 15 inch Workstation
0	Clamshell Mobile 17 inch Workstation
0	Convertible 2-in-1 Mobile Workstation
0	Ruggedised Clamshell Notebook
0	Ruggedised Detachable Screen 2-in-1
0	Ruggedised Slate Tablet

MICROPROCESSOR AND CHIPSET

0	CPU Manufacturer
0	Processor Model Name (specify)
0	Intel Generation (number and marketing name (i.e. "Whisky Lake"))
0	AMD Generation (number and marketing name (i.e. "Picasso"))
72	Successive generation from original generation requested (12 points for each, cumulative, max 6)

- 0 Number of cores (per CPU)
- 0 If not SoC name chipset
- 0 Intel Stable Image Platform Program (SIPP) compliant (chip set + CPU)
- 0 AMD Commercial Stable Image Platform (CSIP) compliant (chip set + CPU)
- 0 Intel VPro capable
- 0 AMD platforms support DMTF DASH
- 10 CPU with AI instruction set (e.g. Ice Lake and future CPU)
- 0 Device is Intel Project Athena certified

OPERATING SYSTEM COMPATIBILITY

- 0 Microsoft Windows 10 Pro
- 0 Linux certified/compatible. Name version
- 0 Apple iOS
- 0 Android Knox

BIOS/UEFI, SECURITY AND AUTHENTICATION

- 0 TPM 2.0 enabled
- 0 TPM 1.2 back grade available
- 0 TPM is FIPS 140-2 Certified, TCG Certified
- 10 TPM is discrete
- 0 TPM is firmware based
- 0 UEFI/BIOS is NIST (National Institute of Technology) SP 800-147 compliant
- 0 UEFI supports CSM "legacy" BIOS mode (Win 7)
- 7 Persistent BIOS/UEFI integrity checking
- 7 UEFI data protected layer
- 10 Self-healing BIOS
- 10 FIPS 140-2 Level 3 Certified dedicated security processor with secure storage providing hardware isolation for biometric and smartcard authentication
- 0 Internal FIPS 201 certified SmartCard with UEFI/BIOS authentication
- 0 NFC enabled Contactless SmartCard reader as standard
- 0 Biometric fingerprint reader (swipe)
- 0 Biometric Fingerprint Touch (stationary)
- 4 Encrypted proximity detection (e.g. using personal Bluetooth device) which enables device locking/unlocking
- 5 Glance Software Presence Detection bundled with IR camera equipped device – immediately locks device when user eye contact is lost.
- 10 IR Camera supporting Windows Hello authentication as standard
- 0 IR Camera supporting Windows Hello authentication as optional
- 10 Display with electronic privacy filter (reduced viewing angle enabled through keyboard) available as option
- 5 IR cameras support Glance software for visual
- 0 Device available with all wireless controllers removed prior to delivery
- 0 Cable lock slot standard (name type)
- 5 Absolute Data & Device Security (Computrace) Persistence module (theft recovery)(pre-provisioned)
- 10 OEM conforms to NMSO Advanced Security Supply Chain Criteria

MEMORY

- 0 Amount of RAM Installed/Bid for Benchmark with device (GB)
- 20 RAM is N+1 (speed) above base specification (4 points for each subsequent speed increase, max 5)
- 0 Maximum System RAM without swapping out installed memory
- 0 Total Maximum System RAM supported (GB)
- 0 If soldered on unit - max supported from factory.

8 RAM upgrade is installable by GoC departmental IT staff with OEM permission

STORAGE

- 0 Capacity in GB. (unformatted)
- 20 Storage is removable by GoC departmental IT staff with OEM permission
- 10 SSD is connected using PCIe bus with NVMe offered as standard
- 0 Number of vacant drive bays and type (M.2 or 2.5 inch)(workstations)
- 0 Maximum length of M.2 drive(s) accommodated (2242, 2260 or 2280)(workstations)
- 15 SSD heater optional (ruggedised)

VIDEO DISPLAY AND CONTROLLER

- 0 Diagonal Screen Size (Inches)
- 0 Video Chipset Brand/Model (non-workstation)
- 0 Native resolution
- 12 Standard resolution is higher than minimum FHD specified - state resolution
- 10 Higher resolution available as option – state resolution
- 0 Capacitive 10 point touch screen standard
- 10 Discrete GPU chipset standard (make and model)
- 0 Discrete PCI-Express 16x GPU chipset available as option (make and model)
- 10 Intel Iris Plus graphics or AMD Vega equivalent
- 0 Display is IPS technology
- 15 Display is OLED
- 10 Display is above 400 nits
- 10 Display is anti-reflective
- 10 display is anti-glare
- 0 Daylight readable - number of nits and related technology (ruggedised)
- 20 Standard display conforms to MIL-STD 3009 for outdoor brightness (ruggedised)
- 0 Maximum (External) Non-Virtual Dual Monitor Resolution Supported through digital video ports and/or USB-C port (if applicable)
- 8 4K (QHD) external resolution (single port) capable
- 0 Video (external) I/O type (choose any that apply) full-sized DisplayPort, full-sized HDMI, mini-DisplayPort, mini-HDMI, USB-C, VGA-DB15 port
- 0 Dual monitor support without port replicator (individually connected)
- 10 Optional, detachable LED projector module

PORTS/COMMUNICATION

- 0 Full-size RJ-45 Ethernet port (integrated or dongle)
- 0 802.11 b/g/n/ac capable
- 10 WiFi 6.0 (WiFi 802.11ax)
- 0 Bluetooth 5.0
- 10 Internal LTE available
- 10 Dedicated GPS (not dependent on LTE connection)
- 0 Integrated web camera on top of display
- 0 Integrated microphone in display
- 0 Duplex noise reducing microphone support for VoIP calls
- 0 Number of full size USB ports on device (regardless of type)
- 0 Of that number of full-size USB 2.0 (type A)
- 0 Of that number of full-size USB 3.0 (type A)
- 0 Of that number of full-size USB 3.1 (type A)
- 0 Of that number of full-size USB 3.1 (type C) (non-Thunderbolt)
- 0 Of that number one is used to power notebook (ie. USB-C)
- 10 Of that number USB-C with Thunderbolt 3 (maximum 1 count)
- 0 Of that number of "always on" charging ports and type
- 10 USB-C with USB 4.0 protocol (maximum 1 count)

- 8 RS-232 serial available as standard (ruggedized)
- 4 RS-232 serial available as option (ruggedized)
- 0 Card reader standard - state types supported (e.g. SD)

AUDIO

- 0 Combination audio in/microphone jack
- 0 Stereo Speakers
- 0 High definition audio (out)
- 5 User facing stereo speakers
- 5 Universal Audio Jack has CITA (Cellular Telephone Industries Association) support

POWER SUPPLY/BATTERY

- 0 Watt/hour battery rating
- 8 Battery is removable by GoC departmental IT staff with OEM permission
- 8 Second attachable battery concurrent with primary battery available as option
- 0 Quick charge time capability available as option (assuming elevated PSU and internal charge controller)
- 5 System Aggregator Module (SAM) power policy controller

POINTING DEVICE/KEYBOARD

- 10 Illuminated keyboard backlighting offered as standard
- 10 Bilingual CF layout available with English and French control keys
- 0 French layout in lieu of bilingual
- 10 Pen/stylus included
- 5 Spill resistant keyboard
- 5 Dual pointing device (glide pad and track stick)
- 5 Glass TrackPad
- 0 Number of programmable auxiliary buttons. (ruggedised)
- 5 Separate VoIP controls
- 10 Separate, integrated numeric keyboard

PORT REPLICATOR/DOCKING STATION

- 0 Type of downstream connection to device (USB-C, Thunderbolt 3, Surface Connect)
- 0 Number of USB Type A ports
- 5 USB 3.1 gen 2 support (5 for each port, type A or type C)
- 0 Number of USB Type C ports (non-Thunderbolt, non USB 4.0)
- 0 Number of USB-C Thunderbolt 3
- 5 Number of USB-C with USB 4.0 protocol (5 for each port)
- 0 Number of DisplayPort
- 5 DisplayPort 1.4 support (5 for each port)
- 0 Number of HDMI
- 0 Maximum single monitor resolution
- 0 Maximum dual monitor resolution
- 0 Maximum triple monitor resolution
- 0 RJ-45 Gigabit Ethernet
- 0 Audio in and out
- 0 USB-C port replicator requires DisplayLink software agent
- 0 Docking station generates its own MAC address (yes/no)
- 10 MAC address override or MAC address pass through capable
- 0 Maximum wattage supplied to device
- 10 Supports fast charging (80% within one hour)
- 0 Type of lock slot

PORTABILITY

- 0 Height (thickness) of unit (inches)
- 0 Width of unit (millimeters)
- 0 Depth of unit (millimeters)
- 0 Weight of device not including AC adapter (lbs)
- 8 Weight of device (without AC adapter) is less than specified minimum (1 point for each 2 oz. to max 1 lb)
- 0 Traveling Weight (lbs) – including device and AC Adapter

1.3 ENVIRONMENTAL AND ETHICAL SUPPLY CHAIN

- (a) Intertek compiles and verifies the list of environmental attributes provided for each system. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.
- (b) **Formula:** Features Score = [Sum of the weighted elements / Sum of the weights]×10

Weight Item

- 40 EPEAT 2019 Gold
- 20 EPEAT 2019 Silver
- 0 EPEAT 2019 Bronze
- 0 Energy Star Certified
- 20 Bulk packaging available
- 20 TCO Development Certified Notebooks 5 for ethical supply chain
- 20 TCO Development Certified Tablets 3 for ethical supply chain

1.4 ACCESSIBILITY AND SUPPORT FOR ASSISTIVE TECHNOLOGIES

Intertek compiles and verifies the list of accessibility features provided for each system. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.

- (a) **Formula:** Features Score = [Sum of the weighted elements / Sum of the weights]×10

Weight Item

- 30 Vendor provides a Voluntary Product Accessibility Template (VPAT) for Section 508 Revised and/or a VPAT for EN 301 549 (any version) for this product line
- 30 Vendor provides a VPAT for EN 301 549 (2018) for this product line (Points are in addition to the above)
- 8 Discrete video controller GPU or embedded Iris Plus GPU upgrades necessary for applications such as Dolphin SuperNova.
- 4 Same GPU as above available as an option
- 5 Long range, “far-field” noise cancelling, quad (4) array microphones compliant to Microsoft Speech Specification 2.0 supporting Wake-on-Voice and Digital Assistants.
- 8 High definition audio controllers – minimum 6 channel, 24-bit resolution with sample rates up to 192 kHz for enhanced audio playback through headsets.

- 5 Beam forming dual array far field microphone
- 5 3rd party manufactured high fidelity internal stereo speakers (e.g. Bang & Olufsen, JBL, Dynaudio, Beats Audio, Harman Kardon, Dolby, Altec Lansing, Bose, etc.) for situations where headsets are not feasible. Minimum 4 speakers.
- 10 Higher resolution display (2560x1440 or greater) available as option which mitigate the pixilation when using screen magnifiers.
- 20 Higher resolution display (2560x1440 or greater) available as standard.
- 10 Touch screen display as standard
- 5 Touch screen available on high res screen upgrade (if available)
- 5 Glance software Smart Pointer bundled with IR camera equipped device – cursor follows eye movement.
- 10 Light weight devices which dramatically reduce the heft of a normal notebook (less than or equal to 2.5 lbs.)
- 10 Windows Hello facial recognition IR camera as standard for easier user authentication.
- 10 Discrete numeric keypads for users
- 5 Simplified Dvorak keyboard layout available on device's native keyboard
- 10 Keyboard provides the following keys without pressing a modifier key (eg. FN):
Home, End, Insert, Page Up, Page Down and Left, Right, Up, Down Arrows
- 5 Keyboard provides extra space between F4 and F5 as well as between F8 and F9

1.5 VALUE ADDED FEATURES (ATTRIBUTABLE TO REDUCING THE TOTAL COST OF OWNERSHIP (TCO))

- (a) Intertek compiles and verifies the list of features provided for each system. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.
- (b) **Formula:** Features Score = [Sum of the weighted elements / Sum of the weights]x10

ADDITIONAL OPTIONAL WARRANTIES AND DIAGNOSTICS

Weight Item

- 10 Elevated accidental warranty available as option
- 0 Storage device retention available
- 20 Full device retention warranty if drive retention not possible (included in price)
- 0 Advanced replacement warranty available

PRE-DELIVERY DEPLOYMENT SERVICES AVAILABLE

Weight Item

- 0 UEFI/BIOS configuration
- 0 Device available with all wireless controllers removed prior to delivery
- 0 Device feature management (enable/disable)
- 20 SCCM driver packs (catalogues) have checksum verification through OEM web site
- 10 Autopilot compliant
- 0 Image collaboration, verification, duplication
- 20 OEM written image verification utility
- 0 Base image verification, duplication
- 0 Asset tagging with matching electronic waybill summary
- 0 Bar code asset tagging with matching electronic waybill summary
- 0 UEFI/BIOS populated asset tag with matching electronic waybill summary
- 0 Staggered delivery to specific, multiple addresses
- 0 Staggered delivery following RVD with warranty commencing on delivery

DURABILITY

- 10 Display backing is not plastic based (e.g. titanium, magnesium alloy or carbon fibre)
- 10 Oleophobic display Coating
- 10 Device is MIL-STD 810G "Business" Ruggedised
- 15 If business ruggedised number of test/procedures when operating (5 points for each, max 3)
- 20 Device is MIL-STD 810G Fully Ruggedised
- 10 Device is MIL-STD 461 Electromagnetic (EMI)
- 10 Device is IP 65 Ingress
- 10 Detachable keyboard is MIL-STD 810G Fully Ruggedised
- 5 Detachable keyboard is IP65 Ingress certified
- 20 Fan-less design

ANNEX I - BENCHMARK RATINGS ANALYSIS – DESKTOPS

1.1 OVERALL SCORE METHODOLOGY

The overall score for each system is determined by calculating the weighted individual Performance, Features, Usability and Problem ratings. The weights applied to the three basic components are listed below:

- v. Hardware Features 60%
- vi. Environmental Stewardship 30%
- vii. TCO Value Added Features 10%

(d) **Formula:** [Sum (Score X Individual Weight)].

(e) **RVD Discount:** (System's Own Overall Score – Lowest Overall Score) X 5.

1.2 HARDWARE FEATURES SCORING METHODOLOGY

(a) Intertek compiles and verifies the list of features provided for each system. Specifications, such as the speed of memory required, are provided by the vendors. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.

(b) **Formula:** Features Score = [Sum of the weighted elements / Sum of the weights]x10
Weight Item

MANUFACTURER

- 0 Manufacturer
- 0 Model Name
- 0 Release date

DESKTOP TYPE

- 0 Ultra Small Form Factor
- 0 Small Form Factor – Windows 10
- 0 Small Form Factor Desktop - Windows 10
- 0 Small Form Factor Desktop Windows 7 and Windows 10 (with tower chassis upgrade)
- 0 Tower – Windows 10
- 0 3D Workstation
- 0 Single Xeon Workstation
- 0 Dual Xeon Workstation

MICROPROCESSOR AND CHIPSET

- 0 CPU Manufacturer
- 0 Processor Model Name (specify)
- 0 Chipset make and model
- 10 Platform (CPU and chip set) is N+1 generation
- 20 Platform (CPU and chip set) is N+2 generation
- 30 Platform (CPU and chip set) is N+3 generation
- 0 Number of cores (per CPU)

0 CPU and Chipset support VPro

OPERATING SYSTEM COMPATIBILITY

0 Microsoft Windows 7 Pro and Windows 10 Pro
0 Microsoft Windows 10 Pro Only
0 Linux compatible with driver support. Name version.

BIOS/UEFI AND SECURITY

0 TPM 2.0 enabled
0 TPM 1.2 back-grade available
0 TPM is FIPS 140-2 and TCG Certified
0 UEFI/BIOS is NIST (National Institute of Technology) SP 800-147 compliant
0 UEFI supports CSM "legacy" BIOS mode (Win 7)
7 Persistent BIOS/UEFI integrity checking
7 BIOS/UEFI automatic repair/recovery
10 Embedded UEFI/BIOS secure data isolation
10 FIPS 140-2 Level 3 Certified dedicated security processor with secure storage
providing hardware isolation for authentication
10 Admin password cannot be reset via MB jumper
0 Kensington or Noble lock slot
15 Absolute Data & Device Security (Computrace) Persistence module for theft
recovery
10 BIOS and WMI controlled case lock standard
5 BIOS controlled case lock available as option at time of purchase
5 Case mounted clip to secure peripheral cables (e.g. mouse, keyboard)
0 Case with padlock rings
5 Case with dust filter available as option

MOTHERBOARD

0 Motherboard Manufacturer/Model

MEMORY

0 Amount of RAM Bid/Installed with device (GB)
4 RAM is N+1 (speed) above base specification
0 RAM type (e.g. DDR2, DDR3, DDR4, UDIMM, ECC) and speed
0 Total RAM supported

STORAGE

0 Primary drive type (HDD SATA, SDD SATA, M.2)
10 SSD is M.2 with NVMe support
0 Storage Capacity formatted (GB)

VIDEO CONTROLLER AND PORTS

0 GPU make & model
0 Video is integrated into CPU (SoC)

- 5 Ability to support 3 independent and simultaneous displays (what port)
- 0 Maximum single resolution (DisplayPort)
- 0 Maximum dual resolution (DisplayPort)
- 0 Maximum triple resolution (DisplayPort)
- 0 Discrete video controller/adaptor manufacturer & model (workstation)
- 0 Amount of dedicated video memory installed for discrete controller (MB)
(workstation)
- 10 SLI or mGPU (Multi GPU) support
- 10 DirectX 12.0 support

COMMUNICATIONS

- 0 10/100/1000 Gbps. Ethernet IPv6
- 4 Optional M.2 Dual Band 802.11 ac/Bluetooth 4.x adapter
- 5 Near Field Communication (NFC) as standard
- 5 Near Field Communication (NFC) optional
- 5 CTIA audio headset support

EXTERNAL PORTS AND INTERNAL EXPANSION USB

- 0 Number of full size USB Ports on device
- 0 Of that number of full-size USB 2.0 (type A)
- 0 Of that number of full-size USB 3.0 (type A)
- 0 Of that number of full-size USB 3.1 (type A)
- 0 Of that number of USB-C
- 6 USB-C with USB 3.1 and DisplayPort protocol (state number)
- 6 USB-C with Thunderbolt 3 (6 points for each – state number)
- 0 Of that number of charging ports and type
- Ethernet
- 0 1000-T Ethernet with RJ-45 adapter
- RAM
- 0 Maximum System RAM without swapping out installed memory
- 0 Number of vacant RAM slots (after configuration)
- 0 Total number of RAM slots
- PCIe
- 0 Vacant PCI Express 4x slots (Gen 3.0)
- 0 Vacant PCI Express 8x slots (Gen 3.0)
- 0 Vacant PCI Express 16x slots (wired) (Gen 3.0)
- Storage
- 0 Number of M.2 ports before configuration
- 4 Number of vacant M.2 after configuration (4 points for each)
- 0 Number of SATA ports
- 0 Number of vacant 2.5" vacant drive bays (or greater)
- 0 Number of vacant 3.5" vacant drive bays (or greater)
- 0 Dedicated bay for optical drive (does not include vacant 5 ¼")
- 7 Optional internal, front-facing SD Card reader
- Video
- 0 Dual DisplayPort vers. 1.2
- 0 Other video ports (HDMI, USB-C w/DP, DVI, VGA) standard and number
- 0 USB-C with DisplayPort
- 6 Slot for optional card reader (e.g. SD)
- 0 Second 16x PCI express slot controller (workstation)
- 5 Chassis has option for additional port (with MB header) 5 points for each. (USFF
only)
- 0 Name optional ports
- Audio
- 5 Frontal audio port(s) are high definition 4 channel
- 10 Frontal audio port(s) are high definition 8 channel

	Case and Chassis
0	Internal speaker for Windows generated sound events
10	Tool-less Cover Removal (no vacant screw holes covered or otherwise)
0	Power supply output rating (Watts)
10	Rack mounting kit available as option (must maintain ICES and CSA certifications)
10	Desktops are "business" MIL-STD ruggedised (USFF only)(minimum 10 tests)
7	Power-on through keyboard
10	PCIe expansion slot on USFF
5	Tool-less access to RAM, SSD

1.3 ENVIRONMENTAL AND ETHICAL SUPPLY CHAIN

(a) Intertek compiles and verifies the list of environmental attributes provided for each system. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.

(b) Formula: Features Score = [Sum of the weighted elements / Sum of the weights]x10
Weight Item

0	EPEAT 2006 Gold
30	EPEAT 2006 Gold or 2018 Bronze for category 4.0D
0	EPEAT 2018 Bronze
10	EPEAT 2018 Silver
30	EPEAT 2018 Gold
0	Energy Star Certified
0	Power supply is 80Plus Gold
20	Power supply is 80Plus Platinum
20	CGSB standard compatible bulk packaging available
40	TCO Development Certified Desktop 5 for ethical supply chain

1.4 VALUE ADDED FEATURES (ATTRIBUTABLE TO REDUCING THE TOTAL COST OF OWNERSHIP (TCO))

(a) Intertek compiles and verifies the list of features provided for each system. The presence of a weighted item results in a score being assigned, while its absence would procure a 0. The features score is a weighted average of scores for individual items. The weights assigned to each item are listed below. The weighted average is then multiplied by 10 to rescale from 0 to 10.

(b) Formula: Features Score = [Sum of the weighted elements / Sum of the weights]x10

ADDITIONAL OPTIONAL WARRANTIES AND DIAGNOSTICS

Weight Item

10	Elevated accidental warranty available
0	Storage device retention available if the device is not serviceable
20	External LED to telegraph fault status
20	OEM written diagnostics
20	CPU and chipset support either Intel AMT or DMTF DASH

PRE-DELIVERY DEPLOYMENT SERVICES AVAILABLE

Weight Item

0	UEFI/BIOS configuration
0	Device feature management (enable/disable)
20	SCCM driver packs (catalogues) have checksum verification through OEM web site
0	Image collaboration, verification, duplication
0	Base image verification, duplication
0	Asset tagging with matching electronic waybill summary
0	Bar code asset tagging with matching electronic waybill summary
0	UEFI/BIOS populated asset tag with matching electronic waybill summary
0	Staggered delivery to specific, multiple addresses
0	Staggered delivery with warranty commencing on delivery
0	CGSB certified bulk packaging

ANNEX J - SUPPLY CHAIN INTEGRITY PROCESS

1. Condition of Standing Offer Award

In order to be awarded a Standing Offer, the Offeror must complete the Supply Chain Security Information (SCSI) assessment process and not be disqualified.

1.1 Definitions

The following words and expressions used with respect to Supply Chain Integrity assessment have the following meanings:

- (a) **“Product”** means any hardware that operates at the data link layer of the Open Systems Interconnection Model OSI Model (Layer 2) and above; any software; and any Workplace Technology Devices;
- (b) **“Workplace Technology Device”** means any desktop, mobile workstation (such as a laptop or tablet), smart phone, or phone, as well as any peripheral item or accessory such as a monitor, keyboard, computer mouse, audio device or external or internal storage device such as a USB flash drive, memory card, external hard drive or writable CDs and DVDs or other media;
- (c) **“Product Manufacturer”** means the entity that assembles the component parts to manufacture the final Product;
- (d) **“Software Publisher”** means the owner of the copyright of the software, who has the right to license (and authorize others to license/sub-license) its software products;
- (e) **“Canada’s Data”** means any data originating from the Work, any data received in contribution to the Work or any data that is generated as a result of the delivery of security, configuration, operations, administration and management services, together with any data that would be transported or stored by the contractor or any subcontractor as a result of performing the Work under any resulting contract; and
- (f) **“Work”** means all the activities, services, goods, equipment, matters and things required to be done, delivered or performed by the contractor under any resulting contract.

1.2 Offer Submission Requirements (Mandatory at Solicitation Closing)

Offerors must submit with their offers, by the closing date, the following:

- (A) **Ownership Information** for the Offeror and each of the Original Equipment Manufacturers (OEMs) selected by the Offeror and subcontractors including:
 - (1) Provide their Dunn & Bradstreet number, or:
 - (l) Investors/Shareholders Information:
 - (i) For privately owned companies, the Offeror must provide a list of all its shareholders. If the company is a subsidiary, this information must be provided for all parent corporations.
 - (ii) For publicly traded companies, the Offeror must provide a list of those shareholders who hold at least 1% of the voting shares;

- (iii) Further information about other shareholders must be provided if requested by Canada;
 - (II) C-Suite
 - (III) Board of Directors
- (2) Corporate Website link
- (B) **IT Product List:** Offerors must identify the Products over which Canada's Data would be transmitted and/or on which Canada's Data would be stored, or that would be used and/or installed by the Offeror or any of its subcontractors to perform any part of the Work, together with the following information regarding each Product:
 - (1) **OEM:** identify the name of the Original Equipment Manufacturer.
 - (2) **Product Code:** Enter the OEM's code for the product.
 - (3) **Product Family or Product Model Name/Number:** identify the advertised family or name/number of the Product assigned to it by the OEM;
 - (4) **Product Website Link:** A URL to the product family on the vendor's website, or a URL to the vendor's specific model and version.

Vulnerability Information: If the company participates in the Common Vulnerability Enumeration (CVE) disclosure process, provide the 5 most recent CVE identifiers in a semi-colon (;) separated list. If the company has alternative methods to report security vulnerabilities to customers, the 5 more recent advisories / bulletins from the vendor, related to the Model / Version in question, must be provided. Submitting the information set out above is mandatory. Canada requests that Offerors provide the IT Product List information by using the SCSI Submission Form, but the form in which the information is submitted is not itself mandatory. Canada also requests that, on each page, Offerors indicate their legal name and insert a page number as well as the total number of pages. Canada further requests that Offerors insert a separate row in the SCSI Submission Form for each Product. Finally, Canada requests that Offerors not repeat multiple iterations of the same Product (e.g., if the serial number and/or the color is the only difference between two Products, they will be treated as the same Product for the purposes of SCSI).

2. Assessment of Supply Chain Security Information:

- a) Canada will assess whether, in its opinion, the Supply Chain Security Information creates the possibility that the Offeror's solution could compromise or be used to compromise the security of Canada's equipment, firmware, software, systems or information.

In conducting its assessment:

- i) Canada may request from the Offeror any additional information that Canada requires to conduct a complete security assessment of the Supply Chain Security Information. The Offeror will have 2 FGWD (or a longer period if specified in writing by the Contracting Authority) to provide the necessary information to Canada. Failure to meet this deadline will result in the bid submission being disqualified.
- ii) Canada may use any government resources or consultants to conduct the assessment and may contact third parties to obtain further information. Canada may use any information, whether it is included in the offer submission or comes from another source, that Canada considers advisable to conduct a comprehensive assessment of the Supply Chain Security Information.
- b) If, in Canada's opinion, there is a possibility that any aspect of the Supply Chain Security Information, if used by Canada, could compromise or be used to compromise the security of Canada's equipment, firmware, software, systems or information:
- i) Canada will notify the Offeror in writing (sent by email) and identify which aspect(s) of the Supply Chain Security Information is subject to concern(s) or cannot be assessed (for example, proposed future releases of products cannot be assessed). Any further information that Canada might be able to provide to the Offeror regarding its concerns will be determined based on the nature of the concerns. In some situations, for reasons of national security, it may not be possible for Canada to provide further information to the Offeror; therefore, in some circumstances, the Offeror will not know the underlying reasons for Canada's concerns with respect to a product, subcontractor or other aspect of the Offeror's Supply Chain Security Information.
- ii) The notice will provide the Offeror with a minimum of 3 opportunities to submit revised SCSI in order to address Canada's concerns. The first revised SCSI must be submitted within the **10 calendar days** following the day on which Canada's written notification is sent to the Offeror (or a longer period specified in writing by the Contracting Authority). If concerns are identified by Canada regarding the first revised SCSI submitted after offer closing, the second revised SCSI must be submitted within **5 calendar days** (or a longer period specified in writing by the Contracting Authority). If concerns are identified by Canada regarding the second revised SCSI submitted after offer closing, the third revised SCSI must be submitted within **3 calendar days** (or a longer period specified in writing by the Contracting Authority). **With respect to the revised SCSI submitted each time, the Offeror must indicate in its response whether the revision affects any aspect of its technical offer or certifications. The Offeror will not be permitted to change any price in its offer, but will be permitted to withdraw its offer if it does not wish to honour the pricing as a result of required revisions to the SCSI.** Each time the Offeror submits revised SCSI within the allotted time, Canada will perform a further assessment of the revised SCSI and the following will apply:
- (1) If, in Canada's opinion, there is a possibility that any aspect of the Offeror's revised SCSI could compromise or be used to compromise the security of Canada's equipment, firmware, software, systems or information, the Offeror will be provided with the same type of notice described under paragraph (a) above. If,

in Canada's opinion, the third post-offer-closing revised SCSI submission still raises concerns, any further opportunities to revise the SCSI will be entirely at the discretion of Canada and the offer may be disqualified by Canada at any time.

- (2) If the offer is not disqualified as a result of the assessment of the SCSI (as revised in accordance with the process set out above), after receiving the final revised SCSI, Canada will assess the impact of the collective revisions on the technical offer and certifications to determine whether they affect:
 - (I) the Offeror's compliance with the mandatory requirements of the solicitation;
 - (II) the Offeror's score under the rated requirements of the solicitation, if any; or
 - (III) the Offeror's ranking vis-à-vis other Offerors in accordance with the evaluation process described in the solicitation.
 - (3) If Canada determines that the Offeror remains compliant and that its ranking vis-à-vis other Offerors has been unaffected by the revisions to the SCSI submitted after offer closing in accordance with the process described above, the Contracting Authority will recommend the top-ranked offer for contract award, subject to the provisions of the offer solicitation.
 - (4) If Canada determines that, as a result of the revisions to the SCSI submitted after offer closing in accordance with the process described above, the Offeror is either no longer compliant or is no longer the top-ranked Offeror, Canada will proceed to consider the next-ranked offer for award, subject again to the provisions of the solicitation relating to the assessment of the SCSI submitted at offer closing, and to the assessment of any revised SCSI submitted after offer closing in accordance with the above provisions.
- c) By participating in this process, the Offeror acknowledges that the nature of information technology is such that new vulnerabilities, including security vulnerabilities, are constantly being identified. As a result:
- i) satisfactory assessment does not mean that the same or similar SCSI will be assessed in the same way for future requirements; and during the performance of any contract resulting from this offer solicitation, if Canada has concerns regarding certain products, designs or subcontractors originally included in the SCSI, the terms and conditions of that contract will govern the process for addressing those concerns.
- d) By submitting its SCSI, and in consideration of the opportunity to participate in this process, the Offeror agrees to the terms of the following non-disclosure agreement (the "Non-Disclosure Agreement"):
- i) The Offeror agrees to keep confidential and store in a secure location any information it receives from Canada regarding Canada's assessment of the Offeror's Supply Chain Security Information (the "**Sensitive Information**") including, but not limited to, which aspect of the Supply Chain Security Information is subject to concern, and the reasons for Canada's concerns.
 - ii) Sensitive Information includes, but is not limited to, any documents, instructions, guidelines, data, material, advice or any other information whether received orally, in printed form or otherwise, and regardless of whether or not that information is labeled as classified, confidential, proprietary or sensitive.
 - iii) The Offeror agrees that it will not reproduce, copy, divulge, release or disclose, in whole or in part, in whatever way or form any Sensitive Information to any person

other than a person employed by the Offeror who has a need to know the information as well as a security clearance commensurate with the level of Sensitive Information being accessed, without first receiving the written consent of the Contracting Authority.

- iv) The Offeror agrees to notify the Contracting Authority immediately if any person, other than those permitted by this Sub-article, accesses the Sensitive Information at any time.
- v) All Sensitive Information will remain the property of Canada and must be returned to the Contracting Authority or destroyed, at the option of the Contracting Authority, if requested by the Contracting Authority, within 30 days following that request.

This Non-Disclosure Agreement remains in force indefinitely. If the Offeror wishes to be discharged from its obligations with respect to any records that include the Sensitive Information, the Offeror may return all the records to an appropriate representative of Canada together with a reference to this Non-Disclosure Agreement. In that case, all Sensitive Information known to the Offeror and its personnel (i.e., Sensitive Information that is known, but not limited to writing) would remain subject to this Non-Disclosure Agreement, but there would be no further obligations with respect to the secure storage of the records containing that Sensitive Information (unless the Offeror created new records containing the Sensitive Information). Canada may require that the Offeror provide written confirmation that all hard and soft copies of records that include Sensitive Information have been returned to Canada.

ANNEX K – NMSO EXPIRY DATES

Mobile Devices		Desktops	
Category	Expiry Date	Category	Expiry Date
1.0N	April 1 2024	1.0D	April 1 2025
2.0N	April 1 2024	2.0D	April 1 2025
3.0N	April 1 2024	2.1D	April 1 2025
4.0N	April 1 2024	3.0D	April 1 2025
5.0N	April 1 2024	4.0D	April 1 2025
6.0N	April 1 2024	5.0D	April 1 2025
7.0N	April 1 2024	6.0D	April 1 2025
8.0N	April 1 2024	1.0T	April 1 2025
9.0N	April 1 2024	1.1T	April 1 2025
10.0N	April 1 2024	2.0T	April 1 2025
11.0N	April 1 2024	2.1T	April 1 2025
12.0N	April 1 2024		
13.0N	April 1 2024		
14.0N	Oct 1 2024		