

ANNEX A – STATEMENT OF REQUIREMENT

Overview

The Science and Engineering Directorate (SED) of the Canada Border Services Agency (CBSA) has a requirement for a powerful computing instrument to perform analytics and machine learning tasks concurrently .

Background

The Advanced Analytics section currently performs analytics work using software, tools and libraries such as R, Python, Tensorflow. The current system is operated by 4 users : 2 users modeling with limited subset of the data and 2 others working on data preparation . The server does not have any graphics processing capabilities which is greatly limiting our machine learning computation. The new customized server will allow CBSA to meet their deadlines, minimize downtime and accommodate additional users.



TECHNICAL MANDATORY SPECIFICATIONS

Requirement #	Category	Mandatory Features	Will be removed in the final resulting contract				
			Met	Not met	Cross reference to proposal (tab#, document name, page #, section #, etc.) All reference must be highlighted and underlined in the documentation	Evaluation Method Note to Bidders: The initial evaluation will be done by verifying against the bidder's technical bid only.	Evaluation Guide
M1	Global requirements	<ul style="list-style-type: none"> The system must be new and unused. Hardware or parts that have been refurbished or are certified as “equal to new quality” are not acceptable. The system must be a single node. The system must be of a form factor of at least 3U. The system must be of a form factor of at most 6U. System must be able to operate as a standalone (without any connection to the internet or other external resources). 				Confirm in documentation provided	PASS: Meet all of M1 requirements FAIL: Do not meet all of M1 requirements



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M2	Hardware requirements	<ul style="list-style-type: none"> The system must have a minimum of 2 GPUs. The system must have a minimum of 1 Central Processing Unit(CPU). The system must support (power, space) a minimum of 6 GPUs. The system must have at minimum of 8 storage drives installed. The system must have a minimum of 4 network ports. All network ports must be RJ45. The system must be VMWARE compatible. 				Confirm in documentation provided	PASS: Meet all of M2 requirements FAIL: Do not meet all of M2 requirements
M3	CPU(s) requirements	<ul style="list-style-type: none"> The system's CPU(s) must have a total minimum of 48 CPU cores. The system's CPU(s) must have a minimum base clock speed of 2.5 GHz. The system's CPU(s) must have a total minimum of 96 PCI-E lanes. The system's CPU(s) must have a minimum of 1.3 MB L3 cache per core. 				Confirm in documentation provided	PASS: Meet all of M3 requirements FAIL: Do no meet all of M3 requirements



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M4	Memory requirements	<ul style="list-style-type: none"> The RAM must be ECC. The RAM must have a minimum clock speed of 2666MHz. The system must have a minimum of 4TBs of RAM. 				Confirm in documentation provided	PASS: Meet all of M4 requirements FAIL: Do not meet all of M4 requirements
M5	GPU requirements	<ul style="list-style-type: none"> The system's GPUs must have 32GBs of RAM each. The system must have multi-GPU scaling technology. The system's GPU must be CUDA compatible 				Confirm in documentation provided	PASS: Meet all of M5 requirements FAIL: Do not meet all of M5 requirements



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M6	Storage requirements	<ul style="list-style-type: none"> The storage drives must be at a minimum of 2TB each. The system must support various RAID modes. The storage bays and drives must be hot-swappable. 				Confirm in documentation provided	PASS: Meet all of the M6 requirements FAIL: Do not meet all of the M6 requirements
M7	Server communication port requirements	<ul style="list-style-type: none"> The system must have a minimum of 4 USB 3.0 ports. The system must have one Management port. 				Confirm in documentation provided	PASS: Meet all of the M7 requirements FAIL: Do not meet all of the M7 requirements
M8	Power Supply requirements	<ul style="list-style-type: none"> Server must have a dual and redundant power supply (2+1 power supplies). Each power supply must have a minimum of 1600 Watts or higher. Power supply must have a minimum <u>platinum rating</u> (Platinum or Titanium). 				Confirm in documentation provided	PASS: Meet all of the M8 requirements FAIL: Do not meet all of the M8 requirements



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M9	Manuals	<ul style="list-style-type: none"> Bidder will provide full and detailed user manual document(s) in English and, if available, in French. This documentation must include all publications pertaining to technical specifications, installation requirements and for the operation and maintenance of all components of the system. 				Confirm in documentation provided	PASS: Meet M9 requirement FAIL: Do not meet M9 requirement



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M10	Additional Purchase	<ul style="list-style-type: none"> The Bidder must provide Canada the option to purchase 2 additional units with 3 years of warranty that Canada may purchase at any time prior of contract expiry date. 				Confirm in documentation provided	Pass: Bidder provided the firm price for optional unit under the financial bid submission form Fail : Bidder Didn't provide the pricing



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M11	Delivery Instructions	<ul style="list-style-type: none"> The Bidder must supply all associated materials required in order to complete installation, integration and configuration of the deliverables at the site. This must include but not be limited to, power connectors, cables, and any other accessories. 				Confirm in documentation provided	PASS: Meet M11 requirement FAIL: Do not meet M11 requirement