



SHARED SERVICES CANADA

Invitation to Qualify

for the HPC Weather Cloud Challenge Demonstration

Invitation to Qualify No.	HPC21-001	Date	September 8 th , 2021
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Issuing Office	Shared Services Canada 180 Kent Street, 13 th Floor Ottawa, Ontario K1P 0B5		
Contracting Authority (The Contracting Authority is SSC's representative for all questions and comments about this document.)	Name	Costas Kafenzakis	
	Telephone No.	613 462-2070	
	Email Address	Costas.kafenzakis@canada.ca	
	Postal Address	K1P 0B5	
Closing Date and Time	September 8 th , 2021 to October 20 th , 2021, 14:00		
Time Zone	Eastern Standard Time (EST)		
Destination of Goods/Services	Not applicable – Pre-Qualification Process Only		
Email Address for Submitting your Response by the Closing Date	ssc.pvrdocprojects-arprojetscd.spc@canada.ca		

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1. General Information

1.1 Introduction

- a) **Phase 1 of the HPC Weather Cloud Challenge Demonstration:** This Invitation to Qualify (ITQ) is the first phase by Shared Services Canada (SSC) for the HPC Weather Cloud Challenge Demonstration (the “Project”). Suppliers are invited to pre-qualify in accordance with the terms and conditions of this ITQ in order to become “Qualified Respondents” for any later phases of the procurement process. Only Qualified Respondents will be permitted to bid on any subsequent solicitation issued as part of the procurement process.
- b) **Further Evaluation of Qualified Respondents:** Even though certain suppliers may be pre-qualified by Canada as a result of this ITQ, Canada reserves the right to re-evaluate any aspect of the qualification of any Qualified Respondent at any time during the procurement process.
- c) **ITQ is not a Bid Solicitation:** This ITQ process is not a solicitation of bids or tenders. No contract will be awarded as a result of the activities during the ITQ phase. Canada reserves the right to cancel any of the preliminary requirements included as part of the Project at any time during the ITQ phase or any other phase of the procurement process. Given that the ITQ process may be partially or completely cancelled by Canada, Respondents and Qualified Respondents may withdraw from the procurement process at any time.

1.2 Overview of the Project

- a) **Overview of Project:** The Government of Canada has continually integrated cloud based services into their everyday work, Environment and Climate Change Canada (ECCC) is exploring existing options to engage and test the feasibility of cloud based solutions for High Performance Computing (HPC) environment for weather.

In order to evaluate the utility of HPC Weather cloud resources in an HPC environment for ECCC, ECCC would like to give the opportunity to qualified Respondents to demonstrate (1) the capability of their cloud based HPC environment and (2) how ECCC’s R&D workflow could be efficiently migrated/adapted to the cloud paradigm, via a 90-180 minute (subject to change) information exchange session with a technical representative from the Respondent’s organization to explore options on how to best proceed given that this is a new paradigm for ECCC. Following this discussion, the following two tasks will need to be completed at no charge to Canada:

1. Demonstrate that ECCC’s modeling suites can be executed effectively at scale:
 - a) Complete the technical exercise as described in the README-ITQ.md file at: <https://github.com/ECCC-ASTD-MRD/gem/blob/benchmarks/README-ITQ.md>
 - ii. Any modifications to code, scripts, etc... must be documented and shared back with Canada

- iii. Insofar as possible, ECCC would like to witness/collaborate virtually with respondents during some runs to observe and gain hands-on experience
 - b. Document how the environment to run the code was built/established and include the time required to initiate and destroy the necessary resources (virtual machines, containers, file systems, etc).
 - c. Include workflow to ship data back to ECCC and account for this in the cost estimates (see next item).
 - i. Data must be shipped back to <ftp://depot.cmc.ec.gc.ca/upload/mrb/ITQ> where an account will be given to you at our initial discussion.
 - ii. It is not necessary to ship the entire result set back to the location, but simply the listing of the run (list_gy) and a stub that documents the volume of data (RUNMOD directory) and the time at which it was available. This data will not be accessible by other Respondents, if any.
 - d. Document the expected costs to Canada if deployed as a regular Government customer, with any costing assumptions being made. This is to better inform Canada with respect to our budgeting processes and assumptions.
 - i. Please provide a Rough Order of Magnitude (ROM) in reference to the solution described in the point above. The price of the solution indicated on the ROM will be indicative only, and will not be binding, nor will it be used as an evaluation document at any time during or after the ITQ process is complete. The ROM may be used by Canada for budgetary purposes and the assessment of the viability of the solution. Costing assumptions can be provided as well.
2. Demonstrate how ECCC's R&D workflow could be efficiently migrated/adapted to the cloud paradigm.

This task is exploratory in nature and not pre-defined. Canada requests your input and expertise regarding opportunities and challenges in migrating or adapting our existing workflow to the cloud.

ECCC's R&D workflow consists of software development (writing, testing, debugging and optimizing code), execution of interactive processes and large multi node modeling/analysis systems in batch mode, controlled by a job sequencer. Large volumes of data need to be stored online and accessible to our community for interactive visualization and analysis. The whole toolchain is Linux based and depends on Open Source and in-house software.

- a. Provide guidance as to how to efficiently migrate, adapt and test this workflow on your infrastructure and services.
- b. Provide a virtual workstation class desktop environment suitable for the described workflow under Linux (preferably Ubuntu 18.04) for ECCC to experiment.
- c. Document the expected costs to Canada if deployed as a regular Government customer, with any costing assumptions being made. This is to better inform Canada with respect to our budgeting processes and assumptions.

b) **Scope of Anticipated ITQ:**

- i) **Potential Client Users:** This ITQ is being issued by SSC. It is intended that Qualified Respondents list would be used by SSC to provide Environment and Climate Change Canada the ability to collaborate on the Project. 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.
- ii) SSC is currently reviewing the potentialities of an HPC Weather Cloud Solution. SSC would like to reinforce that this solicitation is to gauge the feasibility of an HPC

Weather Cloud solution and therefore has no plan to procure such solution at this time. As this is a new area for ECCC, the parameters of this exercise may evolve throughout the process based on feedback, experiences and technology.

Note: This testing is in no way a commitment by ECCC or the Government of Canada to acquire, now or in the future, cloud resources from you as a Respondent. Information gathered from these tests will be used to inform ECCC with respect to its plans for a future HPC environment that may or may not include a cloud-based component. Participation does not guarantee future business from the Government of Canada and likewise, lack of participation does not preclude future business from the Government of Canada.

1.3 Overview of Anticipated ITQ Process

This ITQ is the first phase in the Project. Although the procurement process remains subject to change (and even to cancellation, in accordance with SSC's Standard Instructions), Canada currently anticipates that the procurement process will be conducted in the following phases:

- a) **ITQ Phase:** This ITQ will be used to qualify Respondents to participate in any subsequent phases of the procurement process.
- b) **Demonstration:** Following the ITQ phase, the qualified respondents will participate in a demonstration activity to display their HPC Weather Cloud solution. The qualified respondents will be expected complete the activities as described in section 1.2
- c) **Request for Information (RFI) Phase:** An RFI process with the Qualified Respondents may occur at any stage of the process before the solicitation is issued. The objective of an RFI phase is to obtain feedback from Qualified Respondents on Canada's preliminary requirements for the Project. Further details regarding any RFI phase will be provided to those Respondents who qualify as a result of this ITQ phase.

2. Instructions for Respondents

2.1 Standard Instructions, Clauses and Conditions

- a) SSC's Standard Instructions for Procurement Documents No. 1.4 ("**SSC's Standard Instructions**") are incorporated by reference into and form part of the ITQ as though they were expressly set out here in full. If there is a conflict between the provisions of SSC's Standard Instructions and this document, this document prevails. SSC's Standard Instructions can be found as attachments following the ITQ document. Both the English and French versions will be attached.
- b) All other instructions, clauses and conditions identified in this document or any of its attachments 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. These instructions, clauses and conditions are incorporated by reference and they form part of this document as though they were expressly set out here in full.
- c) If there is a conflict between the provisions of this document and any documents that are incorporated into it by reference as set out above, this document prevails.
- d) With respect to SSC's Standard Instructions:
 - i) There will not be a conference for interested suppliers.
 - ii) There will not be a site visit.
- e) By submitting a response, the Respondent is confirming that it agrees to be bound by all the instructions, clauses and conditions of the ITQ.

2.2 Questions and Comments

Questions and comments about this ITQ can be submitted in accordance with the Section of SSC's Standard Instructions entitled "**Questions and Communications**" up until the deadline specified in those Standard Instructions (i.e., 10 calendar days before the closing date).

If Canada does not respond by the date and times indicated, Canada will extend the closing date by the same duration as the delay(s).

2.3 Submission of Only One Response

- a) A Respondent can be an individual, a sole proprietorship, a corporation, a partnership, or a joint venture.
- b) Each Respondent (including related entities) will be permitted to qualify only once. If a Respondent or any related entities participate in more than one response (participating means being part of the Respondent, not being a subcontractor), Canada will provide those Respondents with 5 working days to identify the single response to be considered by Canada. Failure to meet this deadline may result in all the affected responses being disqualified or in Canada choosing, in its discretion, which of the responses to evaluate.
- c) For the purposes of this Article, regardless of the jurisdiction where any of the entities concerned is incorporated or otherwise formed as a matter of law (whether that entity is an individual, corporation, partnership, etc.) an entity will be considered to be "related" to a Respondent if:

- i) they are the same legal entity as the Respondent (i.e., the same natural person, corporation, partnership, limited liability partnership, etc.);
 - ii) the entity and the Respondent are “related persons” or “affiliated persons” according to the Canada *Income Tax Act*;
 - iii) the entity and the Respondent have now or in the two years before the ITQ closing had a fiduciary relationship with one another (either as a result of an agency arrangement or any other form of fiduciary relationship); or
 - iv) the entity and the Respondent 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.
- d) Any individual, sole proprietorship, corporation, or partnership that is a Respondent as part of a joint venture cannot submit another response on its own or as part of another joint venture.

Example 1: Supplier A does not itself have all the experience required by the ITQ. However, Supplier B has the experience that Supplier A lacks. If Supplier A and Supplier B decide to team up to submit a response together as a joint venture, both entities are together considered the Respondent. Neither Supplier A nor Supplier B can team up with another supplier to submit a separate response, because each is already part of a Respondent.

Example 2: Supplier X is a Respondent. Supplier X’s subsidiary, Supplier Y, decides to team up with Supplier Z to submit a response as a joint venture. Suppliers Y and Z, as well as Supplier X, will all be asked to determine which one of the two responses will be considered by Canada. Both responses cannot be submitted, because Supplier Y is related to Supplier X as an affiliate.

- e) By submitting a response, the Respondent is certifying that it does not consider itself to be related to any other Respondent.

3. Preparing and Submitting a Response

3.1 General Instructions

SSC’s Standard Instructions include instructions with respect to responses, which apply in addition to those described in this document.

3.2 Language for Future Communications

Each Respondent is requested to identify, in its Response Submission Form, which of Canada’s two official languages it chooses to use for future communications with Canada regarding this ITQ and any subsequent phases of the procurement process.

3.3 Content of Response

A complete response to this ITQ consists of all of the following:

- a) **Response Submission Form (Requested at ITQ Closing):** Respondents are requested to include the Response Submission Form with their responses. It provides a common form in which Respondents can provide information required for evaluation, such as a contact name, the Respondent’s Procurement Business Number, the language for future communications with Canada about this procurement process, etc. Using the form to provide this information is not mandatory, but it is recommended. If Canada determines that the information requested by the Response Submission Form is incomplete or requires correction, Canada will provide the Respondent with an opportunity to provide the additional information or make the correction. Providing the information when requested during the evaluation period is mandatory.
- b) **Specific Responses to the Qualification Requirements at Annex A (Mandatory at ITQ Closing):** The response must include all the information required by Annex A.
- c) **Certifications (Requested at ITQ Closing):**
 - i) By submitting a response, the Respondent is automatically providing the certifications identified below as required. The content of each certification is set out in SSC’s Standard Instructions in the section entitled “**Deemed Certifications from Each Bidder**”:

System is “Off-the-Shelf”	Not required
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- ii) If the table below indicates that a certification is required, the Respondent is required to provide the following certifications described in SSC’s Standard Instructions. Although all these certifications are requested at ITQ closing, if Canada determines that any certification is missing, incomplete or requires correction, Canada will provide the Respondent with an opportunity to provide the required information. Providing the certification when requested during the evaluation period is mandatory.

Federal Contractors Program for Employment Equity Certification	Required – please provide the information in the Response Submission Form
Former Public Servants Certification	Required – please provide the information in the Response Submission Form
Original Equipment Manufacturer (OEM) Certification Form	Not required

Software Publisher Certification Form	Not required
Software Publisher Authorization Form	Not required
Regulatory Certifications set out in Regulatory Forms A, B, C and D of SSC's Standard Instructions	Not required

Respondents should note that certain certifications that are not required at the ITQ stage may be required at a later stage of the procurement process.

3.4 Electronic Submission of Response

- a) **Email Submission of Response:** Subject to Subsection (j), Respondents must submit their responses by email in accordance with this Section by the date and time of closing to the email address identified on the cover page of this document as the "Email Address for Response Submission".
- b) **Format of Email Attachments:** The approved formats for email attachments are any combination of:
 - i) PDF attachments; and
 - ii) documents that can be opened with either Microsoft Word or Microsoft Excel.

Respondents that submit attachments in other formats do so at their own risk.
- c) **Email Size:** Respondents should ensure that they submit their response in multiple emails if any single email, including attachments, will exceed 15 MB. Except as expressly provided below, only emails that are received at the Email Address for Response Submission by the closing date and time will be considered part of the response.
- d) **Email Title:** Respondents are requested to include the ITQ No. identified on the cover page of this document in the "subject" line of each email forming part of the response.
- e) **Time of Receipt:** All emails received at the Email Address for Response Submission showing a "received" time before the response closing date and time will be considered timely. In the case of a dispute regarding the time at which an email arrived at SSC, the time at which the response is received by SSC will be determined:
 - i) by the delivery time stamp received by the Respondent if the Respondent has turned on Delivery Status Notification for the sent email in accordance with RFC 1891 established by the Internet Engineering Steering Group (SMTP Service Extension for Delivery Status Notification); or
 - ii) in accordance with the date and time stamp on the SMTP headers showing the time of first arrival on a server used to provide the Government of Canada with email services, if the Respondent has not turned on Delivery Status Notification for the sent email.
- f) **Availability of Contracting Authority:** During the two hours leading up to the closing date and time, an SSC representative will monitor the Email Address for Response Submission and will be available by telephone at the Contracting Authority's telephone number shown on the cover page of this document (although the SSC representative may not be the Contracting Authority). If the Respondent is experiencing difficulties transmitting the email to the Email Address for Response Submission, the Respondent should contact SSC immediately at the Contracting Authority's coordinates provided on the cover page of this document.

- g) **Email Acknowledgement of Receipt by SSC:** On the closing date, an SSC representative will send an email acknowledging receipt of each response (and each email forming part of that response, if multiple emails are received) that was received by the closing date and time at SSC's Email Address for Response Submission.
- h) **Delayed Email Bids:** SSC will accept an email response received in the first 24 hours after the closing date and time only if the Respondent can demonstrate that any delay in delivering the email to the SSC Email Address for Response Submission is due to Canada's systems. Responses received by email more than 24 hours after the closing date and time will not be accepted under any circumstances. As a result, Respondents who have tried to submit a response, but have not received an email acknowledging receipt from SSC shortly thereafter should contact the Contracting Authority so that they can determine whether or not the response arrived at the SSC Email Address for Response Submission on time.
- i) **Responsibility for Technical Problems:** Canada will not be responsible for:
 - i) any technical problems experienced by the Respondent in submitting its response, including emails that fail to arrive because they exceed the maximum email size of 15 MB or that are rejected or quarantined because they contain malware or other code that is screened out by SSC's security services; or
 - ii) any technical problems that prevent SSC from opening the attachments to the email(s). For example, if an attachment is corrupted or otherwise cannot be opened or cannot be read, it will be evaluated accordingly. Respondents will not be permitted to submit substitute attachments to replace any that are corrupt or empty or submitted in an unapproved format.

4. Process for Evaluating Responses

4.1 Evaluation of Respondent Qualifications

Canada will evaluate whether each response satisfies all the mandatory requirements described in this ITQ (including information that this ITQ indicates is required, but the ITQ specifically states that it may be submitted upon request after the closing date). The provisions of SSC's Standard Instructions that relate to evaluation also apply. A response must comply with all the requirements of the ITQ in order to be declared compliant.

4.2 Basis of Qualification

- a) Each Respondent whose response meets all the requirements of this ITQ will become a Qualified Respondent.
- b) Canada reserves the right to re-evaluate the qualification of any Qualified Respondent at any time. For example, if a particular security clearance is a requirement of this ITQ and the Respondent's security clearance changes or lapses, so that the Respondent no longer meets the requirements of this ITQ, Canada may disqualify that Qualified Respondent. Similarly, if new information comes to the attention of Canada that calls into question any of the Qualified Respondent's qualifications under this ITQ, Canada may re-evaluate that Qualified Respondent. If Canada re-evaluates the qualification of any Qualified Respondent, Canada may request further information and, if the Qualified Respondent fails to provide it within 5 working days (or a longer period provided by the Contracting Authority), Canada may disqualify the Qualified Respondent.
- c) Unsuccessful Respondents will not be given another opportunity to participate or be re-evaluated for this ITQ, unless Canada determines in its sole discretion to conduct a second qualification round.
- d) All Respondents will be notified in writing regarding whether or not they have qualified.

4.3 ITQ Phase Second Qualification Round

- a) Canada reserves the right, in its sole discretion, to conduct a second qualification round among the unsuccessful Respondents if, in Canada's opinion, the first qualification round results in an insufficient number of Qualified Respondents.
- b) If Canada determines that unsuccessful Respondents will be given a second opportunity to qualify, Canada will provide written information to all unsuccessful Respondents on the same day regarding the reasons they were unsuccessful during the first qualification round.
- c) Any Respondent who does not qualify as a result of any second qualification round conducted by Canada will not be given another opportunity to participate or be re-evaluated for any subsequent phases.

ANNEX A – QUALIFICATION REQUIREMENTS

Qualified Respondents must meet at least one of the two Requirements (R1 and R2) in order to be considered for this ITQ process:

Mandatory Requirement Number	Mandatory Requirement	Respondent Response
R1	Be a qualified Cloud Service Provider who has been awarded a Framework Agreement on the Government of Canada Cloud Services Procurement Vehicle (32099)	<p>Please provide proof of being awarded a Framework Agreement on the Government of Canada Cloud Services Procurement Vehicle (32099)</p> <p>Proof of being awarded a Framework Agreement on the Government of Canada Cloud Services Procurement Vehicle (32099):</p>
R2	<p>2.1 Be a TOP500 listed vendor from the link below (as of June 2021)</p> <p>AND</p> <p>2.2 Offer a publicly available Cloud Service.</p> <p>https://www.top500.org/lists/top500/2021/06/</p> <p>Note: Vendors who meet R2 are required to have proof of both 2.1 and 2.2 The top500 link above is related to 2.1 and not 2.2.</p>	<p>Please provide a weblink to where you are qualified within the link provided.</p> <p>Web Link:</p> <p>Please also provide the name of the publicly available Cloud Service you provide.</p> <p>Name of Publicly Available Cloud Service:</p>

FORM 1 – RESPONSE SUBMISSION FORM

Invitation to Qualify No. [Insert No.] Response Submission Form			
Respondent's full legal name <i>In the case of a joint venture, please identify all members.</i>			
Authorized Representative of Respondent for evaluation purposes (e.g., clarifications)	Name		
	Title		
	Address		
	Telephone #		
	Fax #		
	Email		
Respondent's Procurement Business Number (PBN) <i>Please see SSC's Standard Instructions. Please make sure that your PBN matches the legal name under which you have submitted your response. If it does not, the Respondent will be determined based on the legal name provided, not based on the PBN, and the Respondent will be required to submit the PBN that matches the legal name of the Respondent.</i>			
Former Public Servants <i>Please see the Section of SSC's Standard Instructions entitled "Former Public Servants" for more information.</i> <i>If you are submitting a response as a joint venture, please provide this information for each member of the joint venture.</i>	Is the Respondent a Former Public Servant in receipt of a pension as defined in SSC's Standard Instructions? If yes, provide the information required by the Section in SSC's Standard Instructions entitled "Former Public Servant"	Yes	
		No	
	Is the Respondent a Former Public Servant who received a lump sum payment under the terms of the work force adjustment directive? If yes, provide the information required by the Section in SSC's Standard Instructions entitled "Former Public Servant"	Yes	
		No	
Requested language for future communications regarding this procurement process – <i>please indicate either French or English</i>			
Requested Canadian province or territory for applicable laws			
On behalf of the Respondent, by signing below, I confirm that I have read the entire ITQ, including the documents incorporated by reference into the ITQ, and I certify and agree that: 1. The Respondent considers itself and its products able to meet all the mandatory requirements described in the ITQ; 2. All the information provided in the response is complete, true and accurate; and 3. The Respondent agrees to be bound by all the terms and conditions of this ITQ, including the documents incorporated by reference into it.			
Signature of Authorized Representative of Respondent			

<p>Do you meet R1: Your organisation is a qualified Cloud Service Provider who has been awarded a Framework Agreement on the Government of Canada Cloud Services Procurement Vehicle (32099) as of time of publication of this ITQ</p>	<p>Your Response:</p>
<p>Do you meet R2:</p> <p>R2.1 Your organisation is a TOP500 vendor (as of June 2021 or later)</p> <p>(https://www.top500.org/lists/top500/2021/06/)</p> <p>AND</p> <p>R2.2 Offer a publicly available Cloud Service</p>	<p>Your Response:</p>
<p>Do you as the respondent recognize that providing the work listed within this ITQ document or that would result from subsequent discussions with ECCC and SSC will not lead to any compensation?</p>	<p>Your Response:</p>