14 September 2022

To: Interested Parties

Subject: **Request for Information No. LLNL-HPC-007**

Attachment: (1) RFI Technical Considerations

The Lawrence Livermore National Laboratory (LLNL) is managed by Lawrence Livermore National Security, LLC (LLNS) and operates under LLNS procurement policies and procedures consistent with the Prime Contract between LLNS and the United States Government, represented by the Department of Energy National Nuclear Security Administration (DOE / NNSA).

LLNS is interested in receiving information that may serve, in part, for information and planning purposes to enhance LLNL’s QuDIT user facilities with state-of-the-art quantum simulation hardware, which LLNS may solicit / acquire under a future Request for Proposal. One of the standing goals of QuDIT is to make an open platform that is accessible to researchers studying quantum simulations of physical systems of interest to the LLNL mission. The primary purpose of this RFI is to explore the capability and availability of superconducting quantum processors. LLNS invites interested parties to provide information on quantum processor capability and availability including qubit type and number, connectivity, fidelities, included hardware, rough-order-of-magnitude (ROM) pricing, intellectual property considerations, and delivery lead times.

Please refer to Attachment (1) for RFI Technical Considerations.

This RFI is: (1) subject to the notices and information stated in Other RFI Considerations, which follow this letter; and (ii) is available and accessible at the RFI website located at
*https://hpc.llnl.gov/rfi-quantum-computing*.

 Sincerely,

 Gary M. Ward

 Contract Analyst

**OTHER RFI CONSIDERATIONS**

**RFI DUE DATE**

RFI responses are due on or before 12-31-22.

**RFI SUBMITTAL**

RFI respondents will submit responses via email on or before the RFI due date to the LLNS Contract Analyst at ward31@llnl.gov

As an alternative to email submittal, RFI respondent may establish a secure means such as Microsoft dropbox, Google drive, or other mechanism that enables RFI respondent to provide the LLNS Contract Analyst a secure link / password, and allows the LLNS Contract Analyst to download the RFI response. If RFI respondent prefers this method, RFI respondent will notify the LLNS Contract Analyst of the secure link / password at least five days prior to the RFI due date.

**RFI QUESTIONS**

LLNS will respond to questions submitted in writing to the LLNS Contract Analyst on or before 12-15-22. Questions submitted after this date may not be answered. Questions may be submitted by email to the LLNS Contract Analyst ( ward31@llnl.gov ). Answers to questions that are germane to the interpretation of the RFI will be posted to the RFI website, the location of which is identified in RFI transmittal letter. Answers to questions that are specific to an interested party’s proprietary technology will not be posted to the RFI website, as such answers will only be shared (i.e., limited distribution) with the interested party that submitted the questions. It will be LLNS’ sole right and discretion to determine which questions and answers qualify for website distribution or for limited distribution.

**RFI RESPONDENTS**

LLNS is interested in receiving information from: (i) original equipment manufacturers (OEMs); (ii) sources of supply to OEMs; and (iii) sources of research & development (R&D) that contribute / lead to current and next generation technology.

RFI respondents may include, but are not limited, to: (i) large / established firms commonly recognized within the high performance computing (HPC) marketplace; (ii) small / emerging / startup firms known within the HPC marketplace or perhaps unknown and operating in stealth mode; (iii) universities / educational institutions engaged with R&D; and (iv) domestic or international entities.

**RFI INSTRUCTIONS**

RFI responses should:

* include a cover letter identifying respondent’s primary personnel (name / contact information) associated with the response
* fully address LLNS’ topics / questions identified in Attachment (1) from an order and content perspective
* describe respondent’s capabilities and product roadmaps
* describe respondent’s past performance (i.e., relevant items and service provided to customers)
* indicate if respondent has a facility clearance approved by either the Department of Energy of the Department of Defense, and if respondent has cleared personnel
* include resumes of key personnel
* be clear and concise to the extent practical
* be accompanied by a duly executed LLNS-issued Non-Disclosure Agreement (NDA) if the response will include proprietary information (*refer to Proprietary Information & NDA Instructions below*)

**PROPRIETARY INFORMATION & NDA INSTRUCTIONS**

RFI respondent should contact Matt Leininger ( leininger4@llnl.gov ) not later than 11-15-22 to obtain / execute an LLNS-issued NDA if / when a response will include proprietary information. RFI respondent should include a copy of the duly executed LLNS-issued NDA along with its RFI response.

In the event that LLNS receives a response marked proprietary but without a duly executed LLNS-issued NDA, then LLNS will treat all commercial, financial or technical information that is properly marked (in a response to this RFI) as proprietary information. Proper marking requires that each page containing commercial, financial or technical information be marked “Proprietary” or its equivalent. LLNS will use its best efforts to (1) maintain such proprietary information in confidence, giving it the same degree of care, but no less than a reasonable degree of care, as LLNS exercises with its own proprietary information to prevent its unauthorized disclosure; and (2) only disclose such proprietary information to its employees, agents, consultants, subcontractors, and Government personnel who have a need to know related to this RFI and are bound by an obligation of confidentiality.

**RFI ONLY**

This RFI is issued solely for information and planning purposes – it does not constitute a Request for Proposal (RFP) nor a promise to issue an RFP in the future. This RFI does not commit LLNS to subcontract for any supply or service whatsoever. Further, LLNS is not at this time seeking proposals and will not accept unsolicited proposals. Respondents are advised that LLNS will not pay for any costs incurred in responding to this RFI; all costs associated with responding to this RFI will be solely at the respondent’s expense. Not responding to this RFI does not preclude participation in any future RFP, if any is issued.

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