

## 1. Purpose of the RFP

The purpose of this Request for Proposal (“RFP”) is to invite qualified bidders to prepare and submit proposals to deploy a supercomputer called AWARE at the University of California, San Diego (“UCSD” or “UC San Diego” or “University”), in accordance with the requirements set forth in this RFP.

## 2. Background

The Center for Western Weather and Water Extremes (CW3E), which is at UCSD’s Scripps Institution of Oceanography, plans to acquire a new supercomputer called AWARE, which stands for Advanced Warning for Atmospheric Rivers Environment. AWARE will be installed and operated at UCSD’s San Diego Supercomputer Center (SDSC) and will be used for operational weather forecasting along the West Coast of the US. Currently that forecasting is done on the Comet supercomputer, which will be shut down on April 1, 2024 and be removed from the SDSC data center to make space for AWARE.

Because of funding constraints, AWARE will be deployed in phases. The initial deployment will require delivery no later than **August 1, 2024** with a budget not to exceed \$2M including a 5-y warranty. A local cache of common components that are customer replaceable should be provided, along with allowance for advanced shipment of failed parts that are not in the local cache.

Additional deployments that will be integrated with and grow the system are expected annually thereafter with budgets of \$1M to \$2M. We expect that these additional deployments will be provided by the same vendor as the initial system, but that is not guaranteed nor is certainty of funding of the additional deployments.

## 3. Minimum Requirements

- Bidder must have extensive and proven experience in the field of high-performance computing.
- Bidder must possess all trade, professional, or business licenses as may be required to complete the work and meet the requirements specified by this RFP.
- Bidder must be able to demonstrate the capability of providing the required products/services by possessing adequate available resources, including personnel, facilities, systems, organization structure, operation controls, quality control and other related factors.
- Bidder must demonstrate successful experience in providing the products and services specified in this RFP as a primary supplier. Bidders are expected to provide customer contact information for their five largest clients for projects of similar size/scope.
- If selected as an apparent awardee, Bidder must provide audited financial statements for the past three fiscal years (or equivalent data) to establish the bidder’s financial capability to complete this project.

## 4. RFP Timeline, Contract Term and Point of Contact

### Schedule of Events

Anticipated Action	Anticipated Action Date
Release of Electronic RFP	December 13, 2023
Deadline for Supplier Q&A via CalUsource Discussion Forum	December 22, 2023 @ 5 pm (PST)
University's Response to Supplier Q&A	January 8, 2024
Deadline for RFP Response	<b>January 12, 2024 @ 5 pm (PST)</b>
Evaluation of proposals	January 16 – January 19, 2024

The University reserves the right to modify the above schedule of events and make changes to other provisions in this RFP. It is the Bidder's responsibility to read the entire document and any addendums and to comply with all requirements listed herein.

### Exhibits

In addition to this document, the following exhibits contain the requirements along with terms and conditions for this RFP:

- [Required Supplier Information](#)
- [UC Terms and Conditions of Purchase](#)
- [Appendix DS](#)

Any contract awarded pursuant to this RFP will be in writing and incorporate the RFP requirements and specifications, as well the contents of the Supplier's Proposal as accepted by the University.

### Single Point of Contact

The University RFP Administrator is the sole point of contact regarding all procurement and contractual matters relating to the requirements described in this RFP; and is the only office authorized to change, modify, clarify, etc., the specifications, terms and conditions of this RFP and any agreement(s) awarded as a result of this RFP. All questions and requests for clarification concerning this RFP should be entered into the [CalUsource Discussion Forum](#) by the question's deadline indicated in the Schedule of Events.

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## 5. Technical Specifications

To support operational weather forecasting, the system needs to be highly reliable, so the system components should be chosen accordingly.

The compute processors in the initial configuration will all be CPUs. Moreover, the existing storage used for Comet will be repurposed for AWARE, so the initial acquisition will be entirely for the compute system, apart from new network cards and cables to connect the storage to the compute system.

A list of the key components currently envisioned for the initial system follows, and a tentative network diagram is in Figure 1.

**CPUs.** These could be from either AMD or Intel depending upon the price/performance for running WRF, which is the primary code used for forecasting. Based upon briefings that we have received, the viable options appear to be:

- Genoa, GenoaX, or Bergamo if from AMD **-OR-**
- Emerald Rapids with or without HBM if from Intel

If both AMD and Intel systems are deemed competitive, two alternative systems may be proposed: one with AMD processors and one with Intel processors.

**Memory.**

- At least 2 GB of RAM or HBM per CPU core

**Node-local storage.**

- No node-local storage other than that for hosting the operating system

**System management nodes and associated hardware.**

- 2 login nodes (each with single HDR IB Card, 10 or 25 Gbps Ethernet, 1 Gbps lights-out)
- 2 service nodes (each with 10 or 25 Gbps Ethernet, 1 Gbps lights-out)
- 2 data mover nodes (each with single HDR IB Card, 1 Gbps lights-out)
- 1 management rack

**Software.**

- Bright Cluster Manager for system management

**Networking.**

- 2 independent rails of Mellanox HDR InfiniBand with connections to each compute node
- 2 40-port HDR managed switches in each compute node rack
- 2 40-port HDR managed switches for interconnect in management rack
- 44 single-port HDR network cards plus corresponding 20-meter IB cables for retrofit of existing storage
- 10 or 25 Gbps Ethernet management network including switch
- 1 Gbps Ethernet lights-out management network including switch

**Liquid cooling.**

- A Cooling Distribution Unit (CDU) within each compute node rack **-OR-**
- A standalone CDU for multiple compute node racks
- Cold plates and associated hardware for liquid cooling of the CPUs and potentially the memory

Two alternative systems may be proposed: one with in-rack CDUs and one with a standalone CDU.

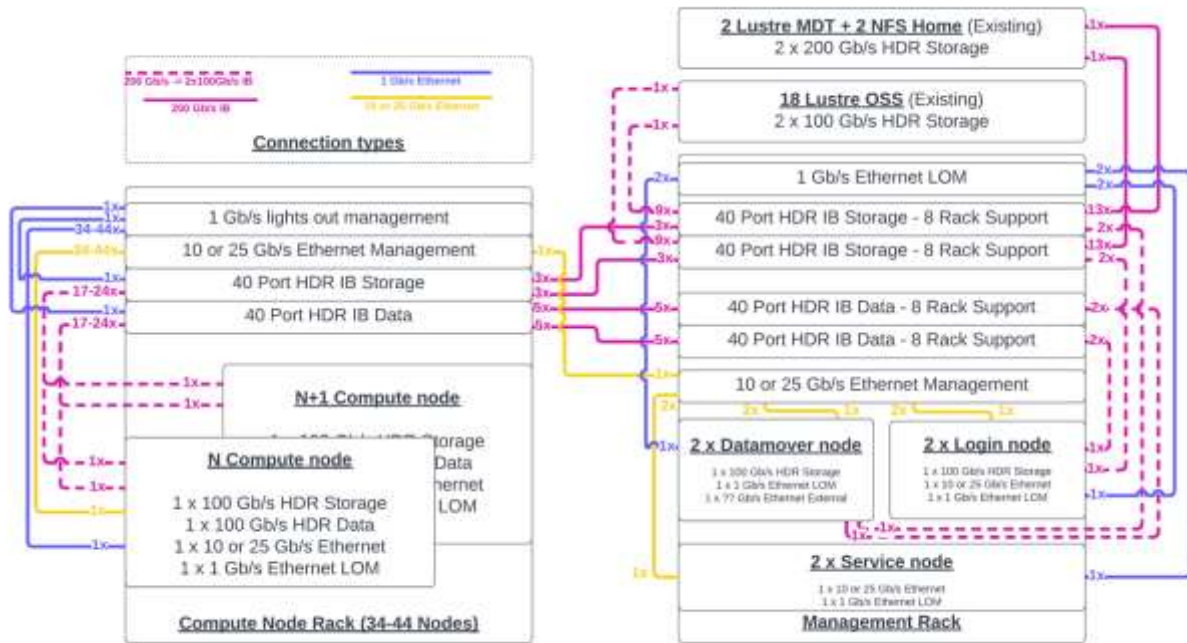


Figure 1. Tentative network diagram

## 6. Evaluation Criteria

### Evaluation and Award: Best Value Methodology

Responsive Proposals will be evaluated using a **Best Value method**. Best Value means the most advantageous balance of system capability, technical solution, experience with high-performance computing, and services and support, as defined by the University. University evaluators will determine the Proposal's value by scoring the Proposals based on a uniform set of weighted evaluation criteria. Each Proposal's Best Value Score will be the average of all evaluators' total scores awarded for the Proposal. The Proposal with the Best Value Score will be considered the most responsive proposal.

### Right to Cancel/Modify

The University reserves the right to change any aspect of, terminate, or delay this RFP, the RFP process and/or the program outlined within this RFP at any time. Notice shall be provided in a timely manner thereafter. The University may award the contract without further discussion or may enter into negotiations with the apparent RFP winner. Should the apparent RFP winner fail to accept the award, the University may determine that that Bidder has abandoned its Proposal. The University may then enter into negotiations with the responsible Bidder whose proposal has the second Best Value Score. If that Bidder fails to accept the award, the University may determine that that Bidder has abandoned its Proposal and enter into negotiations with the responsible Bidder whose proposal has the third Best Value Score and so on to each successive responsible Best Value Bidder until an award is made and accepted.

### Right to Make No Award

The University reserves the right to reject all Proposals and to make no award. Unless stated otherwise in this RFP, the University reserves the right to make multiple awards or to award items separately or in the aggregate as the interests of University may appear.

## Contract Form

Any contract awarded pursuant to this RFP will be in writing and incorporate the RFP requirements and specifications, as well the contents of the Bidder's Proposal as accepted by the University.

## 7. Additional Terms

### Insurance

If selected for award, the awardee shall deliver the PDF version of the Certificate of Insurance to UC's Buyer, by email with the following text in the Subject field: CERTIFICATE OF INSURANCE – [Supplier name].

### Invoicing method

UC San Diego has partnered with Transcepta Global Network for invoice automation. Participation is free and registration and connection only takes a few minutes. Transcepta accepts invoices in the following ways: email, virtual printer, cXML, and EDI. For more information on Transcepta refer to <https://ipps.ucsd.edu/supplier-resources/goods-services/payee-management/transcepta.html>

### Payment Method and Terms

As a UC San Diego supplier you have the opportunity to receive payment via our preferred payment option, Virtual Credit Card. Virtual Credit Card is a card-less Visa credit card product. Credit card number and credentials are emailed to your selected Accounts Receivable contact. Terms are net 10 days. Standard credit card processing fees apply. For more information on this payment method refer to <https://ipps.ucsd.edu/supplier-resources/goods-services/payments/virtual-card.html>

## 8. Response Instructions

1. Register for a supplier account through CalUsource at [www.calusource.net](http://www.calusource.net).
2. Log in and locate the RFP event on CalUsource. Review and accept all mandatory guidelines in order to access the RFP in its entirety, including all attachments.
3. Review all requirements carefully and determine your ability to comply.
4. Submit requests for clarification in writing regarding the RFP through the CalUsource Discussion Forum by the indicated deadline (search for the speech bubble icon in the upper right-hand corner). UC's responses will be released to all prospective bidders on or around the indicated Q&A response date.
5. Provide required completed forms and responses when prompted under the Questionnaire section.
6. Attach any additional files that are relevant to your bid response under Supplier Attachments. UC may elect not to review material outside of what is explicitly requested in the solicitation.
7. Click the submit button to submit your proposal in CalUsource by the indicated response timeline.