

FAQs - Transformative Expandable Supercomputing & AI Infrastructure

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We do not have a full solution to this opportunity, but we have a software-defined data overlay that transforms a normal network into a high-performance, deterministic data fabric (predictable low latency, higher throughput). Would you consider a partial solution that addresses the distributed network for AI infrastructure?

A partial solution will not be considered.

For purposes of demonstrating compliance with the requirement to capture and remove at least 98% of IT-equipment-generated heat through water cooling, what equipment and measurement boundary will the Government use? Specifically, will the calculation include compute nodes, storage systems, network switches, power supplies, management nodes, and other equipment within the delivered system boundary, and will compliance be measured under a defined sustained-load condition?

The calculation includes all parts of the delivered system. LINPAK is used to provide a load for testing.

Does the requirement for “400 Gbps generation technologies or superior” establish a minimum speed for each compute-node endpoint, each fabric switch port, each rack’s aggregate injection bandwidth, or the backbone fabric generally?

400 Gbps technology is determined by server node injection and switch fabric port bandwidth. Communications between compute nodes should occur using a physical layer transport that is at least 400 Gbps.

Would endpoints operating below 400 Gbps qualify if connected through a nonblocking 400 Gbps or faster fabric?

No.

What quantitative standard will the Government use to determine whether the system supports “linear scaling” without degraded parallel-workload performance?

A network architecture that supports efficient, low-latency high bandwidth messaging is the most critical to linear scaling as the system grows. The government will look closely at the architecture that interconnects the compute nodes together, with an emphasis on non-blocking.

Will ERDC establish a minimum scaling-efficiency threshold and provide representative Government workloads or benchmark suites for this determination?

Yes.

What minimum capabilities must be operational for the Government to declare Initial Operating Capability? For example, must IOC include production user access, workload scheduling, parallel storage, security hardening, monitoring, workload execution, and successful benchmark testing, or may IOC be achieved when an initial quantity of usable compute resources is available?

IOC must include production user access, workload scheduling, parallel storage, security hardening, monitoring, workload execution, and successful benchmark testing to some partial quantity of usable compute.

Does “exact-copy replication” require an identical bill of materials, component models, firmware versions, and software versions, or does it mean a functionally and securely equivalent architecture that permits approved component substitutions necessitated by obsolescence, supply-chain availability, or technology refresh?

Exact copy replication means the introduction of identical or faster CPU cycles. It requires identical function and manageability using system management tools, equal or greater computational performance and memory, and standard operating procedure for inclusion or removal from system without modifying production workload. Production workload must observe no change to normal operation.

For nonvolatile storage used at IL7, SAP, or other classified levels, what specific cryptographic approval standard must be met? For example, will the applicable requirement be FIPS 140-3 validation, NSA Commercial Solutions for Classified components, NSA Type 1 encryption, or another classification-dependent standard?

Requirement is FIPS 140-3, Level 2 compliance, or the latest version required by the Department of War.

Before submission of a firm-fixed-price proposal, will the Government provide facility interface information for each contemplated deployment location, including available voltage and power, supply and return water temperatures, flow, pressure, water chemistry, CDU responsibilities, floor loading, physical clearances, and available heat-rejection capacity? Which portions of the cooling and power infrastructure will be Government-furnished?

The government will provide all needed facility interface information. The government provides PDUs, whips, and water piping.

What cybersecurity authorization responsibilities will be assigned to the contractor versus the Government, including preparation of RMF artifacts, control implementation evidence, eMASS entries, security test results, and support through authorization?

Security is a cooperative activity. Typically, the vendor is required to respond to all STIG entries for all hardware and software for which DISA has provided a STIG or SRG, and provide standard information to the government so that the government can prepare the RMF package and eMASS entries. Alternative security and system administration model may be considered.

Will applicable IL7, SAP, and enclave-specific security requirements be furnished to downselected offerors before final proposal submission?

Yes.

What STIG-compliance condition must exist at IOC and final acceptance?

IOC and final acceptance security requirements are the same. IOC is provided as an option to allow for partial delivery of compute components.

In particular, will any unresolved Category I findings be permitted, what limits will apply to Category II or Category III findings placed on a POA&M, and which versions of the applicable STIGs and vulnerability-scanning tools will control acceptance?

The expectation is that all findings have a response, regardless of category. We follow a risk management process that allows for POA&Ms on a case-by-case basis for items that cannot be resolved.

Please clarify the software boundary encompassed by a fully integrated and orchestrated system “up to the Operating System level.” Is the contractor expected to furnish and integrate provisioning, configuration management, cluster scheduling, container runtime, MPI, compilers, AI frameworks, monitoring, identity integration, and workload-management software, or will any of these capabilities be Government-furnished?

All the above are capabilities provided by the vendor.