



**DEPARTMENT OF THE NAVY**  
 NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION  
 12211 SCIENCE DRIVE  
 ORLANDO, FLORIDA 32826-3224

IN REPLY REFER TO:  
 J&A\_21\_0299

JUSTIFICATION AND APPROVAL (J&A)  
 FOR OTHER THAN FULL AND OPEN COMPETITION

**1. Contracting Activity.**

Naval Air Warfare Center Training Systems Division (NAWCTSD) Orlando, FL

**2. Description of the Action Being Approved.**

This Justification and Approval (J&A) authorizes and approves the use of brand name description for the procurement of various commercial Brand Name Only components in support of the existing high density computation system for the NAWCTSD Rapid Design, Development and Fabrication (RD2F) lab.

**3. Description of Supplies/Services.**

The Government requires a kit containing the following commercially available high performance computing system hardware and supporting accessories that will be added into the existing NAWCTSD RD2F high density computing system.

Component	Brand	Part Number	Quantity (each)	Description
Storage Node w/ Optane Units	Thinkmate	RAX QS12-12E2	12	The Storage Node w/ Optane units shall be 2U units with 120 volt input supply and the following components: 1 x AMD EPYC 7302 Processor 16-Core 3.00GHz 128MB Cache, 128GB of Memory, 1 x 256GB Micron 1300 2.5" SATA 6.0Gb/s Solid State Drive, 1 x 3.84TB Intel SSD D3-S4610 Series 2.5" SATA 6.0Gb/s Solid State Drive, 2 x 1-Gigabit Ethernet connection, 1 x IPMI 2.0 Remote management interface over Ethernet with BIOS level KVM capability, 2 x Mellanox 100Gb/s EDR Infiniband adapter ConnectX-5 VPI (1x QSFP28), 1 x LSI SAS 9305-16i SAS 12Gb/s PCIe 3.0 16-Port Host Bus Adapter, 1 x Intel Optane SSD DC P4800X Series 1.5TB PCIe 3.0x4 NVMe Solid State Addon Card
Storage Node Units	Thinkmate	RAX QS12-12E2	3	The Storage Node units shall be 2U units with 120 volt input supply and the following components: 1 x AMD EPYC 7302 Processor 16-Core 3.00GHz 128MB Cache, 128GB of Memory, 1 x 256GB Micron 1300 2.5" SATA 6.0Gb/s Solid State Drive, 1 x 3.84TB Intel SSD D3-S4610 Series 2.5" SATA 6.0Gb/s Solid State Drive, 2 x 1-Gigabit Ethernet connection, 1 x IPMI 2.0 Remote management interface over Ethernet with BIOS level KVM capability, 2 x Mellanox 100Gb/s EDR Infiniband adapter ConnectX-5 VPI (1x QSFP28), 1 x LSI SAS 9305-16i SAS 12Gb/s PCIe 3.0 16-Port Host Bus Adapter

A100 Nodes Units	Thinkmate	GPX QN4-22E2-4NVLINK	5	The A100 Node units shall be 2U units with 120 volt input supply and the following components: 2 x AMD EPYC 7302 Processor 16-core 3.00GHz 128MB Cache, 512GB of Memory, 1 x 240GB Intel SSD D3-S4510 Series 2.5" SATA 6.0Gb/s Solid State Drive, 1 x NVIDIA HGX A100 – 4x NVIDIA A100 SXM4 GPUs – 320GB HBM2e Memory – 3rd Generation NVLink, 2 x 1-Gigabit Ethernet connection, 1 x IPMI 2.0 Remote management interface over Ethernet with BIOS level KVM capability, 1 x Mellanox 100Gb/s EDR Infiniband adapter ConnectX-5 VPI (1x QSFP28)
Compute Nodes Units	Thinkmate	HDX XT8-51S1	4	The Compute Node units shall be occupy 1U and contain two nodes with 120 volt input supply. Each node will have the following components: 2 x Intel Xeon Silver 4208 Processor 8-Core 2.1 GHz 11MB Cache, 512GB of Memory, 1 x 240GB Intel SSD D3-S4510 Series 2.5" SATA 6.0Gb/s Solid State Drive, 2 x 1-Gigabit Ethernet connection, 1 x IPMI 2.0 remote management interface over Ethernet with BIOS level KVM capability, 1 x Supermicro SIOM 56-Gigabit FDR InfiniBand Adapter AOC-MHIBF-m1Q2GM (1 x QSFP & 2 x RJ45)
IB Switch	Mellanox	MSB7800-EB2F	5	Brand Name Only
Rack	APC	AR3307	1	Brand Name Only
Network Switch	Cisco	WS-C3650-48TD-S	2	Brand Name Only
Labels	Brady	B33-9-427	2	Brand Name Only
Label Ribbon	Brady	B30-R4300	4	Brand Name Only
Vertical Cable Organizer	APC	AR7572	6	Brand Name Only
Vertical Cable Trays	Tripplite	SRCABLEVRT3	8	Brand Name Only
Horizontal Cable Trays	Tripplite	SRCABLERING1U	10	Brand Name Only
Horizontal Cable Trays	Tripplite	SRCABLERING2U	9	Brand Name Only
Top Rack Cable Tray	APC	AR8561	5	Brand Name Only
Cable Management	NeatPatch	NP2	11	Brand Name Only
Rack screws and nuts	APC	AR8100	10	Brand Name Only
Velcro	StarTech	HKLP100	4	Brand Name Only
SDD	Samsung	MU-PC1T0T/AM	20	Brand Name Only
5m fiber infiniband	Mellanox	FDR MC220731V-005	64	Brand Name Only
5m fiber infiniband	Mellanox	EDR MFA1A00-E005	12	Brand Name Only
0.5m EDR Cable	Mellanox	MCP1600-E00AE30	30	Brand Name Only
1.0m EDR Cable	Mellanox	MCP1600-E001E30	55	Brand Name Only
2m EDR Cable	Mellanox	MCP1600-E002E30	50	Brand Name Only
12ft Cat6a Snagless Unshielded (UTP) Network Patch Ethernet Cable-Blue	C2G	00699	14	Brand Name Only
9ft Cat6a Snagless Unshielded (UTP)	C2G	00697	70	Brand Name Only

Network Patch Ethernet Cable-Blue				
8ft Cat6a Snagless Unshielded (UTP) Network Patch Ethernet Cable-Blue	C2G	00696	60	Brand Name Only
7ft Cat6a Snagless Unshielded (UTP) Network Patch Ethernet Cable-Blue	C2G	00695	50	Brand Name Only
3' 5-15P to C13 Power Cord	Cables.com	15A PCRD-3-15A	150	Brand Name Only
4' 5-15P to C13 Power Cord	Cables.com	15A PCRD-4-15A	50	Brand Name Only
3' 5-15P to C15 Power Cord	Cables.com	15A PCRD-3-C15	10	Brand Name Only
1U 19" Server Rack Cabinet Shelf - 16" deep	StarTech	CABSHELF116V	1	Brand Name Only

No operating system is required for any of the node types.

The estimated total dollar value of this J&A is [REDACTED].

Estimated Dollar Value in Thousands

FUND TYPE	FY	AMOUNT
[REDACTED]	[REDACTED]	[REDACTED]

**4. Statutory Authority Permitting Other Than Full and Open Competition.**

10 U.S.C. 2304(c)(1), Only one responsible source and no other supplies or services will satisfy agency requirements.

This procurement will be issued in accordance with FAR 13.501(a)(1)(ii) Simplified Procedures for Certain Commercial Items.

**5. Rationale Justifying Use of Cited Statutory Authority.**

The NAWCTSD RD2F lab currently operates a high performance computing system based on Thinkmate brand hardware units. This procurement will add additional matching hardware to the existing system increasing the overall system's computational power and concurrent task bandwidth.

The current system's complex management, operation, and maintenance depend on a combination of custom backend scripts, low level software, and system images developed and implemented by laboratory personnel that are specific to the existing hardware. This procurement will add matching brand name hardware necessary to meet agency needs that will seamlessly integrate with these custom software tools.

**6. Description of Efforts Made to Solicit Offers from as Many Offerors as Practicable.**

The Contract Specialist (CS) issued a sources sought notice to beta.SAM on 29 April 2021 in order to comply with PGI 206.302-1. The intent of the notice was to seek information on the availability of potential authorized reseller and comparable sources that could meet the Government's requirement.

Responses to this sources sought notice demonstrated that in addition to the original equipment manufacturer (OEM), Thinkmate (dba Integrated IT Solutions, Inc.), a manufacturer approved reseller network of companies exist capable of fulfilling the name brand specification requirement including small businesses. The remaining OEMs have numerous resellers as well.

**7. Determination of Fair and Reasonable Cost.**

The Contracting Officer has determined the anticipated cost to the Government of the supplies/services covered by this J&A will be fair and reasonable.

**8. Actions Taken to Remove Barriers to Competition.**

NAWCTSD RD2F personnel maintain knowledge of the current industry state of high performance computing hardware and software. Engineers read technology journals and product announcements and attend demonstrations and trade shows when possible. They are also the operators and maintainers of the existing high performance computer system, with thorough understanding of its requirements and the servicing marketplace.

NAWCTSD has no plans at this time to procure further upgrades to the existing high performance computer stack.

**CERTIFICATIONS AND APPROVAL**

**TECHNICAL/REQUIREMENTS CERTIFICATION**

I certify that the facts and representations under my cognizance which are included in this Justification and its supporting acquisition planning documents, except as noted herein, are complete and accurate to the best of my knowledge and belief.

