



Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and Astronomical Services
Administration (PAGASA)

06 May 2022

SUPPLEMENTAL / BID BULLETIN

ADDENDUM NO. 2022-013-01

Subject: Supply, Delivery, Installation, Training and Commissioning of Software-Defined Infrastructure for NL-PRSD and MPRSD Weather Forecasting

This Bid Bulletin is being issued to all prospective bidders to clarify, amend and/or modify certain provisions in the Bidding Documents and to answer the written clarificatory questions submitted by prospective bidders, to wit:

Query from **PINNACLE TECHNOLOGIES, INC.**

Question(s)	PAGASA BAC Answer(s)
<p>1. Page 2 of 8, Section D.1. a).</p> <p>1. Must be factory-integrated, pre-configured ready-to-go appliances built on proven and reliable servers that provide compute power for a variety of workloads and applications, powered by hyperconverged infrastructure software from VMware.</p> <p>This points directly to VMware. May we request to remove the "VMWare" and rephrase as "Must be factory-integrated, pre-configured ready-to-go appliances built on proven and reliable servers that provide compute power for a variety of workloads and applications, powered by hyper-converged infrastructure software." to allow other brand and more qualified bidder join the bidding</p>	<p>Request accepted. We will revise Section D. 1. a) 1 to "Must be factory-integrated, pre-configured ready-to-go appliances built on proven and reliable servers that provide compute power for a variety of workloads and applications, powered by hyper-converged infrastructure software."</p>
<p>2. Page 2 of 8, Section D.1. a).</p> <p>2. Must be a fully validated and integrated hardware and firmware that is certified with VMware software.</p> <p>This points directly to VMware. May we request to remove "VMWare" and rephrase as "Must have a fully validated and integrated hardware and firmware." to allow other brand and more qualified bidder join the bidding.</p>	<p>Request accepted. We will revise Section D. 1. a) 2 to "Must have a fully validated and integrated hardware and firmware."</p>
<p>3. Page 2 of 8, Section D.2.a)</p> <p>1. Hypervisor and hyperconverged infrastructure software must be a factory-installed VMware vSphere Enterprise Plus and vSAN</p>	

"tracking the sky...helping the country"

<p>Enterprise in latest editions including all relevant licenses for eight (8) Hyperconverged Appliance.</p> <p>This points directly to VMware. May we request to remove “VMWARE” and rephrase as “Hypervisor and hyperconverged infrastructure software must be a factory-installed hypervisor and software defined storage in latest editions including all relevant licenses for eight (8) Hyperconverged Appliance.” to allow other brand and more qualified bidder join the bidding</p>	<p>Request accepted. We will revise Section D. 2. a) 1 to “Hypervisor and hyperconverged infrastructure software must be a factory-installed hypervisor and software defined storage in latest editions including all relevant licenses for eight (8) Hyperconverged Appliance.</p>
<p>4. Page 2 of 8, Section D. 3.a).</p> <p>Centralized virtual server management software must be a vCenter Standard edition in latest editions including all relevant licenses for two (2) instances or sites</p> <p>This features points directly to VMware. May we request to rephrase as “Centralized virtual server management software must be in latest editions including all relevant licenses for two (2) instances or sites.” to allow other brand and more qualified bidder join the bidding</p>	<p>Request accepted. We will revise Section D. 2. a) 2 to “Centralized virtual server management software must be in latest editions including all relevant licenses for two (2) instances or sites</p>
<p>5. Can we propose this function in Section D.2;</p> <p>Provide application-level HA function, automatically detect and repair application faults running in virtual machine without installing agent inside virtual machine, including but not limited to Apache tomcat, JDK, Apache HTTP server, MySQL, SQL server, SharePoint and other applications, and support user-defined script to monitor application status?</p> <p>The benefit of this feature is it will ensure high availability of VMs that have faults detected, especially since critical applications of PAGASA will be running in this HCI environment, business continuity is a must.</p>	<p>Request accepted, we will add this list as item D. 2. A) 4, stating “Provide application-level HA function, automatically detect and repair application faults running in virtual machine without installing agent inside virtual machine, including but not limited to Apache tomcat, JDK, Apache HTTP server, MySQL, SQL server, SharePoint and other applications, and support user-defined script to monitor application status”</p>
<p>6. Can we propose this function in Section D.2;</p> <p>Provide the virtual machine recycle bin function to prevent data loss due to accidental deletion of virtual machines, support the setting of the recycle bin file saving period, expired files will be automatically deleted, and batch destruction or restoration of virtual machines is supported.</p> <p>The benefit of this feature is it will provide a recycle bin function for deleted VMs to avoid accidental deletion of VMs and restoration of VMs previously</p>	<p>Request accepted, we will add this list as item D. 2. A) 5, stating “Provide the virtual machine recycle bin function to prevent data loss due to accidental deletion of virtual machines, support the setting of the recycle bin file saving period, expired files will be automatically deleted, and batch destruction or restoration of virtual machines is supported</p>

<p>deleted. To avoid any human error, we can reverse unwanted operations being done</p>	
<p>7. Can we propose this function in Section D.2</p> <p>One node can support virtualization and 3 types of storage functions(block, file, object) at the same time. At least 3 node clusters can provide virtualization, distributed block, object, and file storage services at the same time. Among them, object and file services must be provided on the host machine, and the same brand as the self-developed hyper-convergence, and cannot be provided in the form of an application running on a virtual machine.</p> <p>The benefit of this feature is it will provide a unified storage solution so that the HCI solution can cater to all storage scenarios needed. Since the HCI have two clusters, one with GPU and another without GPU, a unified storage function would be able to cater to any type of workload</p>	<p>Request accepted, we will add this list as item D. 2. A) 6, stating “One node can support virtualization and 3 types of storage functions (block, file, object) at the same time. At least 3 node clusters can provide virtualization, distributed block, object, and file storage services at the same time. Among them, object and file services must be provided on the host machine, and the same brand as the self-developed hyper-convergence, and cannot be provided in the form of an application running on a virtual machine</p>
<p>8. Page 3 of 8, Section D. 2. a) point 8</p> <ul style="list-style-type: none"> • 1 x NVIDIA T4 16GB PCIe Passive GPU (Graphics Processing Unit) <p>We suggest to require a Higher Performance GPU that can better cater to PAGASA's weather application that is graphic heavy. May we request propose a “1 x NVIDIA A10 24GB GPU (Graphics Processing Unit)</p>	<p>Request accepted. We will revise Section D. 3. a) point 8 to “1 x NVIDIA A10 24GB GPU (Graphics Processing Unit)”</p>
<p>9. Page 3 of 8, Section D. 3. a) point 10</p> <ul style="list-style-type: none"> • Software installed: VMware vSphere 7 Enterprise Plus and vSAN 7 Enterprise, VMware ESXi 7.0 (Factory Installed), GPU-acceleration libraries, and other relevant NVIDIA virtual GPU (vGPU) software. <p>This feature points directly to VMware. May we request to rephrase as “Software installed: Latest version of hypervisor and software defined storage, GPU-acceleration libraries, and other relevant NVIDIA virtual GPU (vGPU) software.” to allow other brand and more qualified bidder join the bidding</p>	<p>Request accepted. We will revise Section D. 3. a) point 10 to “Software installed: Latest version of hypervisor and software defined storage, GPU-acceleration libraries, and other relevant NVIDIA virtual GPU (vGPU) software.”</p>
<p>10. Page 3 of 8, Section D. 3. b) point 10</p> <ul style="list-style-type: none"> • VMware vSphere 7 Enterprise Plus and vSAN 7 Enterprise, VMware ESXi 7.0 (Factory Installed) 	

<p>This points directly to VMware. May we request to rephrase the specification to "Latest version of hypervisor and software defined storage." to allow other brand and more qualified bidder join the bidding</p>	<p>Request accepted. We will revise Section D. 3. b) point 10 to "Latest version of hypervisor and software defined storage."</p>
<p>11. From Page 3 of 8, Section D. 3. c) point 1</p> <ul style="list-style-type: none"> • Must have at least 16 SFP+ fixed 1000/10000 ports. <p>We suggest to add flexibility in terms of different types of connectivity such as GE, MGig, 10G, 25G and 40G ports. May we request to propose the component to "Must have at least 16 SFP+ fixed 1000/10000 ports and 1 expansion slot."</p>	<p>Request accepted. We will revise Section D. 3. c) point 1 to "Must have at least 16 SFP+ fixed 1000/10000 ports and 1 expansion slot."</p>
<p>12. Page 3 of 8, Section D. 3. c) point 2</p> <ul style="list-style-type: none"> • Software-defined networks ready with REST APIs and OpenFlow support. <p>We find it unnecessary for REST APIs as applications or containers needed can be addressed by HCI, while switch automation can be addressed by OpenFlow. May we request to relax the requirement to "Software-defined networks ready with and OpenFlow support."</p>	<p>Request accepted. We will revise Section D. 3. c) point 2 to "Software-defined networks ready with and OpenFlow support."</p>
<p>13. Page 3 of 8, Section D. 3. c) point 7</p> <ul style="list-style-type: none"> • Throughput up to more than 250 Mpps (64- byte packets) <p>We suggest to have a higher Switching Capacity which can cater better to PAGASA's server workload. May we request to propose this specification: "Throughput up to 357 Mpps (64-byte packets)"</p>	<p>Request accepted. We will revise Section D. 3. c) point 7 to "Throughput up to 357 Mpps (64-byte packets)"</p>
<p>14. From Page 3 of 8, Section D. 3. c) point 10</p> <ul style="list-style-type: none"> • MAC address table size must have at least 64000 entries <p>We find it unnecessary for 64000 entries in the MAC address table as 32000 MAC address table is large enough in actual deployment. May we request to relax the requirement to "MAC address table size must have at least 32000 entries"</p>	<p>Request accepted. We will revise Section D. 3. c) point 10 to "MAC address table size must have at least 32000 or up to 64000 entries"</p>
<p>15. Can we propose this function in Section D.3.c.</p> <p>Must support online cloud-platform for remote management, operation and maintenance</p>	<p>Request accepted, we will add this list as item D. 3. C) Point 15, stating "Possible support online cloud-</p>

<p>The benefit of this function is to ensure that an alternate solution for management is provided.</p>	<p>platform for remote management, operation and maintenance”</p>
<p>16. Can we propose this function in D.3.d. Must support online cloud-platform for remote management, operation and maintenance The benefit of this function is to ensure that an alternate solution for management is provided.</p>	<p>Request accepted, we will add this list as item D. 3. D) Point 7, stating “ Possible support online cloud-platform for remote management, operation and maintenance”</p>
<p>17. Page 5 of 8, Section D. 3. h) point 3</p> <ul style="list-style-type: none"> • WAN ports must support PPPoE, Static IP, DHCP; WAN Link Health Check by PING, DNS Lookup, or HTTP; Bandwidth Allowance Monitor, IPv6; Support for USB 4G/3G Modem; Support for Dynamic DNS services. <p>We find that DNS Lookup not a common method for WAN Link Health Check. While we can provide 4G Module using SIC Cards. May we request to rephrase as “WAN ports must support PPPoE, Static IP, DHCP; WAN Link Health Check byPING, or HTTP; Bandwidth Allowance Monitor, IPv6; Support for 4G/3G Modem; Support for Dynamic DNS services.”</p>	<p>Request accepted. We will revise Section D. 3. h) point 3 to “WAN ports can also support PPPoE, Static IP, DHCP; WAN Link Health Check byPING, or HTTP; Bandwidth Allowance Monitor, IPv6; Support for 4G/3G Modem; Support for Dynamic DNS services.”</p>
<p>18. Page 5 of 8, Section D. 3. h) point 6</p> <ul style="list-style-type: none"> • Stateful firewall throughput of at least 1Gbps and VPN throughput of 150Mbps. <p>We suggest to have a higher performance router to ensure ingress and egress traffic would not be the cause of bottleneck when accessing application in HCI environment. May we request to propose this feature; “Stateful firewall throughput of at least 5 Gbps and VPN throughput of 1.5 Gbps”</p>	<p>Request accepted. We will revise Section D. 3. h) point 6 to “Stateful firewall throughput capable of 5 Gbps and VPN throughput of 1.5 Gbps”</p>
<p>19. Page 5 of 8, Section D. 3. h) point 7</p> <ul style="list-style-type: none"> • Supports IPSec, L2TP, PPTP, Site-to-site VPN, 256-bit AES Encryption, Pre-shared Key Authentication, OpenVPN Server. <p>We find that IPSec VPN is a more reliable Secured VPN connection as compared to OpenVPN. May we request to propose this feature, as “Supports IPSec, L2TP, PPTP, Site-to-site VPN, 256-bit AES Encryption, Pre-shared Key Authentication”</p>	<p>Request accepted. We will revise Section D. 3. h) point 7 to “Supports IPSec, L2TP, PPTP, Site-to-site VPN, 256-bit AES Encryption, Pre-shared Key Authentication”</p>
<p>20. Can we propose this function in Section D.3.H</p>	

<ul style="list-style-type: none"> • Support HDD/SSD to realize storage data of local log, Webcache, etc. <p>The benefit of this function is the local HDD/SSD would function as a cache and would decrease bandwidth consumption of router.</p>	<p>Request accepted, we will add this list as item D. 3. h) Point 9, stating capable of Supporting HDD/SSD to realize storage data of local log, Webcache, etc.”</p>
<p>21. We would like to clarify regarding the SLCC, how does PAGASA define it? Does a similar project with hyperconverged component in a main system will suffice?</p>	<p>Yes, a similar project with Hyper-Converged Infrastructure system will suffice</p>

Query from **ADVANCE SOLUTIONS INC., INC**

<ul style="list-style-type: none"> • f) TWO (2) SETS of 42U Enterprise Rack Cabinet <ul style="list-style-type: none"> a) Must include the rack PDUs power strips, vertically mounted side by side <p>May we humbly request if you can Option PDU's on rack cabinets because most servers nowadays are connecting directly to the UPS and no need for PDUs on the rack cabinet</p>	<p>We can remove it since UPS also have power outlet.</p>
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This shall form an integral part of the Bid Documents.

For guidance and information of all participating bidders.

(Sgd)BONIFACIO G. PAJUELAS, Ph.D.
Chairperson, PAGASA-BAC