Howard Technology Solutions
A division of Howard Industries, Inc.

Response to:

Nye County School District
470 #250011530
Technology Infrastructure Bid

Due: February 5, 2025 @ 10:00 AM

HOWARDedu

36 Howard Drive • Ellisville, MS 39437
P.O. Box 1590 • Laurel, MS 39441

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TECHNOLOGY SOLUTIONS

888.912.3151 *general* • 601.399.5077 *fax*
888.323.3151 *technical support*
www.Howard.com

Letter of Transmittal

January 27, 2025

Nye County School District
484 South West Street
Pahrump, NV 89048

RE: "Technology Infrastructure Bid / 470 #250011530

Howard Technology Solutions, a division of Howard Industries, Inc., (Federal ID Number 64-0466143 and **SPIN 143022153**) is pleased to offer a response to your bid. Howard Technology Solutions has read, understands, and acknowledges the contents of this RFP solicitation. It is confident you will find the proposal advantageous to the school district.

The office location that will serve as the main point of contact is Howard Technology Solutions at 36 Howard Drive, Ellisville, Mississippi 39437. Melissa Caldwell, Erate Program Manager, is authorized to contractually bind Howard Technology Solutions in this regard. Melissa's contact information is listed below for your convenience. Your main point of contacts for this RFP submission are as follows:

Karly Rogers
CA K12 Inside Sales Representative
Direct: (601) 399.5085
Email: krogers@howard.com

Jessica Heiser
CA K12 Outside Account Manager
Direct: (916) 709-9085
Email: jheiser@howard.com

Additional key contacts that help support all Erate functions at Howard Technology Solutions that can assist you are as follows:

Melissa Caldwell
Erate Manager
Direct: (601) 913.3111
mcaldwell@howard.com

Darlene Parker
Erate Bid Specialist
Direct: (601) 399.5044
dparker@howard.com

Howard Technology Solutions looks forward to serving you and working with you on this project and those in the future. Please direct all requests for clarifications or questions regarding this proposal to erate@howard.com so that we can ensure your request is handled as effectively and efficiently as possible.

Sincerely,

Darlene Parker
Erate Bid Specialist
Phone: 601.399.5044
Fax: 601.399.5077
Email: dparker@howard.com

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Executive Summary

Howard Technology Solutions is a division of Howard Industries Inc., which is headquartered in Ellisville, Mississippi and employs more than 4,500 people in locations all across the United States. Howard Industries has been in business since 1968 and began offering technology solutions in 1998, a venture that quickly spiraled into a viable business that today includes a successful line of Howard-manufactured servers, desktops, notebooks, and presentation carts. Howard works with all verticals including, but not limited to, education (K12 and Higher Education), state and local government, healthcare, businesses, utilities, and transportation.

As both a manufacturer and a value-added reseller, Howard Technology Solutions collaborates with industry-leading technology providers to bring the latest innovations to our clients. Howard offers comprehensive technology solutions, including PCs, networking, audiovisual, cybersecurity, software, and physical security technologies, as well as the accompanying accessories to enhance these systems. Howard has entered into strategic partnerships with companies such as Dell, Lenovo, HP, Extreme, HPE/Aruba, Fortinet, Ruckus, Barracuda, Sophos, Eaton, and many, many more in order to bring top of the line solutions to our clients. Please see line card for full listing of partners.

In addition to our sales teams, Howard Technology Solutions also has a fully staffed Professional Services team that focuses on all aspects of implementation, design, installation, and training for the product lines we represent. The standard operating procedures include scope management, schedule management, cost management, task management, and quality management to ensure all projects are kept on schedule and on budget. From pre-sales to post-sales, the professional services team members are highly knowledgeable and will provide thorough execution of the project at hand.

Howard Technology Solutions has been participating in the Erate program for over 23 years. During this time, Howard has successfully completed and implemented hundreds of Erate projects for clients across the United States. From Category Two hardware-only projects to Category Two hardware projects with full implementation, Howard prides itself on offering a comprehensive Erate portfolio and knowledgeable staff to guarantee a seamless Erate project experience. With the expertise of its in-house Erate Program Manager, Howard empowers its sales representatives and clients alike instilling confidence in the quality of service it provides. Program compliance is always a priority at Howard, and the company works diligently with all parties involved to always maintain adherence to program guidelines.

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Howard Comprehensive EDU Line Card

Our vision + strategy
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Powered by HOWARD Innovation

HOWARD PRODUCTS

Howard-branded products are designed, assembled, and quality tested in the USA. Each one includes a top-rated warranty and free customer support for as long as you own it.

• Desktops • eSPORTS • Kiosks • Lighting
• Notebooks • Servers • Tablets • Workstations

A | COMPUTING SOLUTIONS

1. **ACCESSORIES:** Belkin, C2G, CaseLogic, Kensington & Targus
2. **ANTIVIRUS:** AVG, BitDefender, Carbon Black, Cylance, GoGuardian, Kaspersky Lab, MalwareBytes, McAfee, Palo Alto, Panda Security, Sophos, Symantec, Total Defense & Trend Micro
3. **ASSET MANAGEMENT:** Absolute, Asset Panda, Hayes & Symantec
4. **DESKTOPS:** HOWARD, Acer, Dell, HP & Lenovo
5. **MOBILE DEVICE MANAGEMENT:** Airwatch, Filewave, GoGuardian, Lightspeed Systems & Securly
6. **MOBILE PRESENTATION & CHARGING STATIONS:** Anywhere Cart, Aver, Blackbox, Bretford, Copernicus, Datamation, Earthwalk, Ergotron, Kwikboost, LocknCharge, Luxor, MooreCo, PowerGistics & Spectrum
7. **NOTEBOOKS & TABLETS:** HOWARD, Acer, Asus, Dell, Fujitsu, HP, Lenovo, Microsoft, Samsung & Toshiba
8. **PRINTERS (2D & 3D):** 3D Systems, Brother, Craftunique, HP, Kyocera, Lexmark, Makerbot, OKI & Xerox
9. **REFURBS:** Charge Carts, Computers, Document Cameras, Monitors, Notebooks, Servers, Storage & Tablets
10. **VR:** Asus, Epson, HP, Lenovo, Oculus, Samsung & Vive

B | AUDIOVISUAL + INSTRUCTIONAL SOLUTIONS

1. **AUDIO SOLUTIONS:** AMX, Audio Enhancement, Crestron, Elmo, Extron, Lightspeed & Shure
2. **BROADCASTING & STREAMING:** Panasonic, NewTek, Sony & Vaddio
3. **CABLES:** C2G, Comprehensive, Crestron, Liberty AV Solutions, MonoPrice & West Penn Wire
4. **CONTROL SYSTEMS:** AMX, Crestron, Extron, FrontRow, Kramer & SP Controls
5. **DOCUMENT CAMERAS:** Aver, Boxlight, Elmo, Epson, HoverCam, & Lumens
6. **FURNITURE:** AVFI, CEF, Middle Atlantic, MooreCo, Spectrum, & Worthington
7. **INTERACTIVE CLASSROOM SOLUTIONS:** BenQ, Boxlight, Epson, Interactive Projectors, Lü, NEC, Qomo, Samsung, SMART & WizeFloor
8. **INTERACTIVE DISPLAYS:** Aver, BenQ, Boxlight, Cleartouch, HoverCam, Newline, Promethean, Qomo, Ricoh, Sharp, Viewsonic & Wacom
9. **INTERCOMS, BELLS & PAGING SYSTEMS:** AtlasIED, Audio Enhancement, Extron, Harman & Valcom
10. **LECTURE CAPTURE:** Audio Enhancement, Crestron, Discover Video, Extron, Lumens & VBrick
11. **MIXERS & MICROPHONES:** AKG, Allen & Heath, Shure & Soundcraft
12. **MONITORS & DISPLAYS:** LG, NEC, Panasonic, Planar, Samsung, Sharp, Sony & Viewsonic
13. **MOUNTS:** Chief, Peerless AV & Premier Mounts
14. **PROJECTORS:** BenQ, Boxlight, Casio, Christie, Epson, Infocus, NEC, Panasonic, Sony & Viewsonic
15. **PROJECTOR SCREENS:** Da-Lite & Draper
16. **SPEAKERS & AMPS:** Audio Enhancement, Crestron, Crown, Danley, Extron, JBL, Lab Gruppen, Renkus-Heinz & Tannoy
17. **VIDEO CAMERAS:** Audio Enhancement, Aver, Axis, Hitachi, Panasonic, Sony & Vaddio
18. **VIDEO CONFERENCING:** Cisco, Crestron, Lifesize, MashMe.io, Mersive, Poly, ScreenBeam & Zoom
19. **WEBCASTING:** Mersive & Vivi
20. **WIRELESS INTERACTIVE PADS:** Boxlight, Elmo & Qomo

C | NETWORKING INFRASTRUCTURE SOLUTIONS

1. **BACKUP & REPLICATION:** Arcserve, Barracuda, CommVault, Cybernetics, ExaGrid, HPE, Quest, Rubrik, Spectra Logic, Unitrends, Veeam, VMware & Zerto
2. **BANDWIDTH MANAGEMENT SOLUTIONS:** Allot & Radware
3. **CONTENT FILTERING:** Barracuda, ContentKeeper, ESET, FamilyZone, Fortinet, iBoss, Lightspeed Systems, Palo Alto & Securly
4. **CONTINUITY SOLUTIONS:** Cisco
5. **COOLING, LAN STORAGE & POWER PROTECTION PRODUCTS:** Ametek, APC, CyberPower, Eaton, Orion, Schneider Electric & Tripp Lite
6. **DISASTER RECOVERY PRODUCTS:** HOWARD, Arcserve, Dell EMC, Veeam & VMware
7. **EMAIL ARCHIVING SOLUTIONS:** Arcserve, Barracuda & Data443
8. **HYPERCONVERGED:** Arcserve, Dell EMC, HPE, HVE, NetApp & Nutanix
9. **NETWORK ACCESS CONTROL:** Extreme, Fortinet & Opswat
10. **NETWORK INFRASTRUCTURE:** Broadcom, Cisco, Commscope Ruckus, Extreme & HPE
11. **SECURITY SOLUTIONS:** Barracuda, BitDefender, Carbon Black, CheckPoint, Fortinet, Juniper, McAfee, Panda Security, Radware, Sophos, Symantec & Watchguard
12. **SERVERS:** HOWARD, Dell, Fujitsu, HPE, HVE, IBM & Lenovo
13. **STORAGE:** HOWARD, Arcserve, Buffalo, Dell EMC, HVE, Overland Tandberg & Western Digital
14. **VOIP:** Alcatel-Lucent, Cisco, Digium, Fortinet, Mitel, Poly, Version3, Vertical & Zultys
15. **WIRELESS:** Arista, Aruba, Cisco Meraki, Commscope Ruckus, Cradlepoint, Extreme, Fortinet, HP, Kajeet, NetGear, Riverbed & Ubiquiti

D | VIRTUALIZATION

1. **BACKUP & DATA RECOVERY:** Arcserve, Barracuda, Nakivo, Unitrends, Veeam & Zerto
2. **CLOUD:** Arcserve, AWS, Green Cloud Defense & Microsoft
3. **DESKTOP VIRTUALIZATION:** Citrix, HVE, NComputing & VMware
4. **SERVER VIRTUALIZATION:** Citrix, HVE, Microsoft, Overland Tandberg & VMware
5. **SERVERS:** HOWARD, Dell, HPE, HVE, Lenovo & Nutanix
6. **SOFTWARE-DEFINED STORAGE:** DataCore & VMware
7. **STORAGE:** HOWARD, Arcserve, Dell EMC, HPE, HVE, Lenovo, Overland, QNAP & Synology
8. **VDI:** Citrix, Dell, HVE, Inuvika, LG, NComputing & VMware

E | PHYSICAL SECURITY

1. **ACCESS CONTROL:** 3xLogic, Axis, Brivo, i-Pro, Paxton, Salto & Verkada
2. **ACTIVE SHOOTER:** AmberBox, A.S.R.S., Athena Security, Crotega, & ZeroEyes
3. **BEHAVIOR MANAGEMENT:** IPVideo Corp. & Verkada
4. **BODY PROTECTION:** Bulletsafe, Getac & i-Pro
5. **CLOUD:** 3xLogic, Brivo & Verkada
6. **DISPLAYS:** Avue, Bosch, LG, NEC, Panasonic, Planar, Samsung, Sharp, Sony & ViewSonic
7. **EMERGENCY ALERT NOTIFICATION:** Audio Enhancement, Lynx, SafeKard & Singlewire
8. **ENCODERS:** Axis & i-Pro
9. **GUARD SERVICES EQUIPMENT:** MRKT-IT

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Erate Products and Services

Howard Technology Solutions offers Erate equipment and services in the following categories validating they meet current Erate eligibility guidelines. Any equipment that does not meet requirements will be discussed with clients prior to providing a quote. All quotes are also itemized to distinguish eligible from ineligible products and services. Please see the relevant categories below:

- Antennas, connectors, and related components for internal broadband connections
- Cabling (Cat 6 Cable Drops, Cat 6 Patch Cables, Stacking Cables, Fiber Patch Cables, Interior/Exterior Fiber Runs, Patch Panels (24 port, 48 port, etc.)
- Caching Servers
- Firewall Services and Components
- Racks (Floor, Wall, Open, Cabinet, etc.)
- Routers
- Optics, GBICS, Transceivers (1Gbps, 10GBps, etc.)
- Wireless Bridges
- Switches (Layer 2, Layer 3)
- Uninterruptable Power Supply/Battery Backup
- Access points used in a local area network (LAN) or wireless local area network (WLAN) environment
- Wireless Controller Systems
- Closet Cleanup
- Software supporting the components on this list
- School Bus Wi-Fi Solutions
- Cybersecurity Solutions

Howard Technology Solutions has a dedicated in-house Erate Program Manager focused on maintaining compliance with all FCC, USAC, and E-Rate Program rules and guidelines. With over 19 years of experience at Howard, the Erate Program Manager regularly attends trainings and seminars conducted by the FCC, USAC, and a third-party firm that Howard partners with for Erate data. The Erate Program Manager also participates in Erate conferences hosted by USAC across the United States. Howard's K12 representatives rely on this expertise to ensure consistent compliance with all Erate requirements.

Both the Erate Program Manager and Howard's K12 Territory Representatives attend Erate related training sessions conducted by manufacturers of Erate approved technology. This helps Howard's team stay up to date on solution eligibility. All quotes provided to clients are itemized by eligibility allowing clients to understand their financial responsibilities for each project. These efforts collectively ensure Howard remains fully compliant with Erate program rules and guidelines.

Form W-9
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer
Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type.
See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

Howard Industries, Inc.

2 Business name/disregarded entity name, if different from above.

Howard Technology Solutions

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor   ☑ C corporation   ☐ S corporation   ☐ Partnership   ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . _____

   Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) _____

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . ☐

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)   **5**

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)   **N/A**

(Applies to accounts maintained outside the United States.)

5 Address (number, street, and apt. or suite no.). See instructions.

P O Box 1588 or 1590   Remit to Address: P O Box 11407

6 City, state, and ZIP code

Laurel, MS 39441   Birmingham, AL 35246-1132

Requester's name and address (optional)

7 List account number(s) here (optional)

Part I   Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number

6 4 – 0 4 6 6 1 4 3

Part II   Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and

2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and

3. I am a U.S. citizen or other U.S. person (defined below); and

4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here   Signature of U.S. person   *Darlene Parker*   Date   1-27-25

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

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FC Federal
Communications
Commission

Commission Registration System (CORES)

FCC Registration

Logged In As: dparker@howard.com | Logout

FRN Financial

Manage FRNs

Show 10 ✔ entries

FRN	FRN Name	Red Light Statu
0001740125	Howard Industries, Inc.	Green Light

FRN Financial

Showing 1 to 1 of 1 entries

Go Back

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Online Quotation

Quote No:	KJ2 1475434.00	**Quote Date:**	January 09, 2025
Customer Name:	Robert Williams	**Phone Number:**	7757277743
Company Name:	Nye County School District	**Fax Number:**	
Quote Name:	Erate 250011530		

Item 1

Category	Description	Qty.	Unit Price	Ext. Price
System Type:	Accessories			
1:	Juniper Networks EX Series EX4100-48P - Switch - L3 - managed - 48 x 10/100/1000Base-T + 16 x 1Gb Ethernet + 4 x 1/10 Gigabit (uplink) + 4 x 10/25 Gigabit (uplink / stacking) - desktop **MPN:** EX4100-48P	6	$2,635.00	$15,810.00
2:	Juniper Erate bundle, SW EX Standard, Class 3 (32 or 48 ports), Includes Wired Assurance subscription for EX32 or EX48 Port Switches with SVC CORE support, 1 YEAR **MPN:** S-EX-S-C3-1M1-C-E	6	$214.00	$1,284.00
3:	Juniper Networks EX Series EX4400-24X - Switch - L3 - managed - 24 x 10/100/1000 + 2 x 100 Gigabit (uplink / stacking) - front to back airflow - rack-mountable - E-Rate program **MPN:** EX4400-24X	3	$5,572.00	$16,716.00
4:	Juniper Erate bundle, SW EX Standard, Class 2 (24 ports), Includes Wired Assurance subscription for EX24 Port Switches with SVC CORE support, 1 YEAR **MPN:** S-EX-S-C2-1M1-C-E	3	$130.00	$390.00
5:	Juniper AP45 eRate bundle, Premium Performance MultiGigabit WiFi 6E 802.11ax Access Point (AP45) with Adaptive BLE Array includes one 1yr Cloud Subscriptions **MPN:** B-AP45-1S-1Y-E	19	$762.00	$14,478.00
6:	Juniper AP64 eRate bundle, High Performance Outdoor MultiGigabit Wi-Fi 802.11ax (AP64) with BLE includes one 1yr Cloud Subscription **MPN:** B-AP64-1S-1Y-E	13	$803.00	$10,439.00

Sub-Total:	$59,117.00
Shipping & Handling:	Included
Taxes:	Tax Exempt
Total for Item 1:	$59,117.00

This Quote will expire on February 08, 2025.
Please include your Quote Number on your Purchase Order.

Total for all pre-configured items

Sub-Total:	$59,117.00
Shipping & Handling :	Included
Taxes:	Tax Exempt
Total:	$59,117.00

Notes:

https://hcintranet/order/core/accessories/detail.cfm?id=S27125202&format=PDF

Juniper Networks EX Series EX4100

48P - Switch - L3 - managed - 48 x 10/100/1000Base-T + 16 x 1Gb Ethernet + 4 x 1/10 Gigabit (uplink) + 4 x 10/25 Gigabit (uplink / stacking) - desktop

Manufacturer: Juniper Networks

MPN: EX4100-48P

Printed On: Mon 01/27/2025 13:29:23

OVERVIEW

The EX4100 line of Ethernet access switches offers secure, cloud-ready access for enterprise campus, branch, and data center networks in the AI era and optimized for the cloud. These platforms boost network performance and visibility, meeting the security demands of today - as well as for networks of the next decade.

As part of the underlying infrastructure for Juniper Mist Wired Assurance, the EX4100 line is purpose-built for, and managed by, the cloud. The switches leverage Mist AI to simplify operations and provide better visibility into the experience of connected devices, delivering a refreshing, experience-first approach to access layer switching.

KEY SELLING POINTS

- Ethernet VPN - Virtual Extensible LAN (EVPN-VXLAN) to the access layer
- Switch-to-switch encryption using Media Access Control Security (MACsec) AES256
- IEEE 802.3
- Flow-based telemetry to monitor traffic flows for anomaly detection, ability to measure packet delays and report drop reasons

FEATURES

- EVPN-VXLAN technology
- MACsec AES256
- Flow-based telemetry

SPECIFICATIONS

General

Device Type	Switch - 48 ports - L3 - managed - stackable

Enclosure Type   Desktop

Subtype   Gigabit Ethernet

Ports

48 x 10/100/1000Base-T + 16 x 1Gb Ethernet + 4 x 1/10 Gigabit (uplink) + 4 x 10/25 Gigabit (uplink / stacking)

MAC Address Table Size   112000 entries

Jumbo Frame Support   9216 bytes

Routing Protocol

OSPF, IS-IS, RIP-1, RIP-2, BGP, IGMPv2, IGMP, VRRP, OSPFv2, PIM-SM, static IP routing, PIM-DM, IGMPv3, OSPFv3, PIM-SSM, RIPng, MLD, Bidirectional Forwarding Detection (BFD), CIDR, BGP for IPv6, MSTP, RSTP, STP

Remote Management Protocol

SNMP 1, RMON 1, RMON 2, RMON 3, RMON 9, SNMP 3, SNMP 2c, HTTP, HTTPS, TFTP, SSH-2, CLI, NTP, ICMP, DHCP, IPv4, IPv6, RSTP, TACACS+, RADIUS

Features

Flow control, firewall protection, auto-sensing per device, BOOTP support, RARP support, ARP support, VLAN support, auto-uplink (auto MDI/MDI-X), IGMP snooping, Syslog support, DoS attack prevention, DiffServ support, store and forward, IPv6 support, High Availability, DPI, WRED, sFlow, STP support, MSTP support, event log, DHCP snooping, ACL support, QoS, DHCP server, VRF-Lite, MLD snooping, DHCP proxy, DAI, temperature sensor, RTG, TDR, NSB, NSR, GRES, PVST+, IPv4 support, LACP support, DHCP relay, DHCP client, MIB, MVRP, NDP, VSTP, redundant hot swappable fans, CoS, SP, IPFIX, Captive Portal, DSCP support, ERPS, 2 fans, UFD, IP source guard, ECN, ICMP Router Discovery Protocol (IRDP), SCP, VXLAN, Link Aggregation, EVPN, MAC address learning, policy based routing, AAA, WDRR, Voice VLAN, LLDP-MED, RA guard, proxy ARP, DHCP Helper, WRR, RVI, VLAN Tagging, port-based VLAN, PVLAN support, DDoS Protection, flooding detection, MACsec, JTI, MAC Learning Disable, DNS support, MRP

Compliant Standards

IEEE 802.3, IEEE 802.3u, IEEE 802.1D, IEEE 802.1Q, IEEE 802.3ab, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w, IEEE 802.1x, IEEE 802.1s, IEEE 802.3ah, IEEE 802.1ae, IEEE 802.1ab (LLDP), IEEE 802.1ak, ITU-T G.8032

Status Indicators   Status

https://hcintranet/order/core/accessories/detail.cfm?id=S27733552&format=PDF

Juniper Networks EX Series EX4400

24X - Switch - L3 - managed - 24 x 10/100/1000 + 2 x 100
Gigabit (uplink / stacking) - front to back airflow -
rack-mountable - E-Rate program

Manufacturer: Juniper Networks

MPN: EX4400-24X

Printed On: Mon 01/27/2025 13:30:10

OVERVIEW

The EX4400-24X is a compact, scalable, 10GbE switch ideal for enterprise campus distribution deployments. The AI-driven, cloud-native switch offers leading-edge technologies, including EVPN-VXLAN for building advanced campus fabrics and streaming telemetry for optimizing user experiences from client to cloud. It's differentiated by features such as MACsec AES-256, microsegmentation using group-based policies, and Juniper Virtual Chassis technology.

The EX4400-24X can be deployed as a distribution switch in larger campuses or in small or medium-sized campus core networks. It's cloud-ready and zero-touch provisioning (ZTP)-enabled, so you can onboard, configure, and manage it with Juniper Mist Wired Assurance for improved connected-device experiences. The EX4400-24X transmits rich telemetry to the Juniper Mist cloud, while Mist AI simplifies operations and enables actionable client-level insights in real time.

KEY SELLING POINTS

- AI-driven switching
- Virtual Chassis technology
- MACsec AES-256
- End-to-end campus fabric
- Flow-based telemetry

FEATURES

- AI-driven switching
- Virtual Chassis technology
- MACsec AES-256
- End-to-end campus fabric
- Microsegmentation
- Flow-based telemetry

SPECIFICATIONS

General

Device Type	Switch - 24 ports - L3 - managed - stackable
Enclosure Type	Front to back airflow rack-mountable 1U
Subtype	Gigabit Ethernet
Ports	24 x 10/100/1000 + 2 x 100 Gigabit (uplink / stacking)

Performance

Unidirectional switching capacity: 324 Gbps ¦ Bidirectional switching capacity: 648 Gbps ¦ Throughput: 482 Mpps

Capacity

IPv6 neighbor discovery: 4096 ¦ VSTP instances: 510 ¦ MST instances: 64 ¦ Maximum member ports per LAG: 16 ¦ ARP entries: 24000 ¦ IPv4 prefixes (Unicast): 130048 ¦ IPv4 hosts (Unicast): 81000 ¦ IPv4 routes (Multicast): 40000 ¦ IPv6 neighbor discovery: 12000 ¦ IPv6 routes (Unicast): 87000 ¦ Host IPv6 routes (Unicast): 40000 ¦ IPv6 routes (Multicast): 20000

MAC Address Table Size	112000 entries
Jumbo Frame Support	9216 bytes

Routing Protocol

OSPF, IS-IS, RIP-1, RIP-2, BGP, IGMPv2, IGMP, VRRP, OSPFv2, PIM-SM, static IP routing, PIM-DM, IGMPv3, OSPFv3, PIM-SSM, RIPng, MLD, Bidirectional Forwarding Detection (BFD), CIDR, BGP for IPv6, MSTP, RSTP, STP

Remote Management Protocol

SNMP 1, RMON 1, RMON 2, RMON 3, RMON 9, SNMP 3, SNMP 2c, HTTP, HTTPS, TFTP, SSH-2, CLI, NTP, ICMP, DHCP, IPv4, IPv6, RSTP, TACACS+, RADIUS

Encryption Algorithm	MD5, TLS, PEAP, TTLS, 256-bit AES
Authentication Method	RADIUS, TACACS+, Secure Shell v.2 (SSH2), Extensible Authentication Protocol (EAP)

Features

Flow control, firewall protection, auto-sensing per device, BOOTP support, RARP support, ARP support, VLAN support, auto-uplink (auto MDI/MDI-X), IGMP snooping, Syslog support, DoS attack prevention, DiffServ support, store and forward, IPv6 support, High Availability, DPI, WRED, sFlow, STP support, MSTP support, event log, DHCP snooping, ACL support, QoS, DHCP server, VRF-Lite, MLD snooping, DHCP proxy, DAI, temperature sensor, RTG, TDR, NSB, NSR, GRES, PVST+, IPv4 support, LACP support, DHCP relay, DHCP client, MIB, MVRP, NDP, VSTP, redundant hot swappable fans, CoS, SP, IPFIX, Captive Portal, DSCP support, ERPS, 2 fans, UFD, IP source guard, ECN, ICMP Router Discovery Protocol (IRDP), SCP, VXLAN, Link Aggregation, EVPN, MAC address learning, policy based routing, AAA, WDRR, Voice VLAN, LLDP-MED, RA guard, proxy ARP, DHCP Helper, WRR, RVI, VLAN Tagging, port-based VLAN, PVLAN support, DDoS Protection, flooding detection, MACsec, JTI, MAC Learning Disable, DNS support, MRP

Compliant Standards

IEEE 802.3, IEEE 802.3u, IEEE 802.1D, IEEE 802.1Q, IEEE 802.3ab, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w, IEEE 802.1x, IEEE 802.1s, IEEE 802.3ah, IEEE 802.1ae, IEEE 802.1ab (LLDP), IEEE 802.1ak, ITU-T G.8032

Processor	1 x Intel: 2.2 GHz
RAM	4 GB
Flash Memory	20 GB

Status Indicators	Status

Expansion / Connectivity

Interfaces

24 x 10/100/1000 Base-T RJ-45 ¦ 2 x 100Gbit LAN QSFP28 uplink/stacking ¦ 1 x management RJ-45 ¦ 1 x USB-C ¦ 1 x console RJ-45 ¦ 1 x USB

Expansion Slots	1 (total) / 1 (free) x expansion slot

Power

Power Device	Internal power supply - hot-plug
Installed Qty	1
Max Supported Qty	2
Power Redundancy	Yes
Power Provided	550 Watt
Voltage Required	AC 100-120/200-240 V

Miscellaneous

Compliant Standards

VCCI, CISPR 24, ICES-003, EN55024, FCC CFR47 Part 15, FCC CFR21 Part 1040, UL 60950-1, IEC 60950-1, RoHS, BSMI CNS 13438, IEC 60825-1, IEC 60825-2, EN 300 386 V1.6.1, KN32, KN35, IEC 62368-1, TCVN 7189, CISPR 32, EN 55032, IEEE 802.3af, IEEE 802.3at, CAN/CSA-C22.2 No. 62368-1, CAN/CSA-C22.2 No. 60950-1, UL 62368-1, TCVN 7317, EN 55035, CISPR 35, IEEE 802.3bt, EN 300 386 V2.1.1, EMC-221, OCT-16, AS/NZS CISPR 32, TEC, IEC 62368-3, ETSI ES 203 136 V.1.1.1

Manufacturer Selling Program	E-Rate program

Software / System Requirements

Software Included	Junos OS

Dimensions & Weight

Width	17.4 in
Depth	16.9 in
Height	1.7 in

Environmental Parameters

Min Operating Temperature	32 °F

Max Operating Temperature	113 °F
Humidity Range Operating	5 - 90% (non-condensing)
Min Storage Temperature	-40 °F
Max Storage Temperature	158 °F
Humidity Range Storage	0 - 90% (non-condensing)

Invitation to Bid on Technology Infrastructure

The Nye County School District, Pahrump Nevada will receive sealed bids at the Office of the Nye County Superintendent, Southern District office for Technology Infrastructure to include Wireless Access Points, Switching, Routing and Power Backup (UPS) projects.

Bids will be received until 10:00 a.m. PST on February 5, 2025. All bids will be opened publicly at 11:00 a.m. February 5, 2025 at the Nye County School District Southern Office. Award of bid is scheduled for February 20, 2025 Board of Trustees meeting. Bids shall be submitted in a sealed envelope and delivered to the following address: Nye County School District, 484 South West Street, Pahrump, NV 89048. The envelope must be sealed and marked: "Technology Infrastructure Bids, Form 470 240007918"

NCSD Offices will be closed 12/23/2024 - 1/5/2025, reopening on January 6, 2025. Bids should be submitted to arrive after January 6, 2025, and prior to the close of the bidding process 10:00 a.m. PST on February 5, 2025.

Request for bid specifications and forms may be obtained by going to the Nye County School District website https://www.nye.k12.nv.us, the USAC portal website https://data.usac.org/publicreports/Forms/Form470Rfp, and looking up the 470 or at Nye County School District, 484 South West Street, Pahrump, NV 89048. Debarment and Suspension Certification, and a W-9 must accompany all bids. A written certification is a required as part of the contract: "Company Name" certifies that it is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Israel, per State of Nevada NRS 332.065. The awarded bidder will be notified by the Nye County School District.

Any question must be submitted via email to Robert Williams, rwilliams@nyeschools.org, with a copy to gperson@erateelite.com by 10:00 a.m. PST on January 3, 2025. Answers will be posted in the above links by January 8, 2025.

The Board of Trustees of the Nye County School District reserves the right to reject any or all bids and to accept the bid which it feels is in the best interest of the area to be served and/or the School District and follows all applicable NRS laws and E-rate rules.

ATTEST

_____

Raymond Ritchie
Chief Operating Officer
Nye County School District

Publication: On or about Wednesday, December 25, 2024

Affidavits of Publisher
Pahrump Valley Times   PO: #61908

Nye County School District

E-Rate Cat-2 2025-2026 Equipment Requirements

Sites: Multiple

Routing

Project Description: Ship to central staging site three (3) 24 port SFP+ Layer3 access aggregation L3 switches, depending on bid cost, of the compatible equipment with all product documentation, and rack mounting hardware. Bids must include expected equipment delivery time window.

Delivery/Shipping Location:
Nye County School District
Attn: Technology
484 S. West St.
Pahrump, NV 89048

E-Rate Description: Aruba CX 6300 24SFP+ or equivalent [JL658A Aruba CX 6300M 24-port SFP+] that provides 24 SFP+ ports, redundant power, and is capable of supporting 10G and 1G modules on all ports. Layer3 access switches must include operational feature set, including Layer3 protocols such as OSPF with no licensing required or equivalent. Switch must be supplied with sixteen (16) compatible 1G Multi-mode fiber SFP transceivers.

All equipment or supplies offered shall be new, currently in production and of the manufacturer's latest design unless otherwise stated.

SWITCHING

Project Description: Ship to central staging site six (6) 48 port POE switches, depending on bid cost, of the compatible equipment with all product documentation, and rack mounting hardware. Bids must include expected equipment delivery time window.

Delivery/Shipping Location:
Nye County School District
Attn: Technology
484 S. West St.
Pahrump, NV 89048

E-Rate Description: CX6200 48 port or equivalent [R8Q70A Aruba CX 6200M 48G PoE 4SFP+] that provides close to 48 ports, and includes at least 4 Gigabit SFP ports, and additionally supports POE+ IEEE 802.3at (up to 30W) on all standard ports. Switch must include full feature set with no licensing required or equivalent. Switch must be supplied with two (2) compatible 1G Multi-Mode fiber SFP transceivers.

All equipment or supplies offered shall be new, currently in production and of the manufacturer's latest design unless otherwise stated.

Wireless-Indoor

Project Description: Deliver nineteen (19) units of the compatible equipment, ceiling mounting hardware, all product documentation, list of serial and MAC values, and ship out with latest long-term-release firmware installed. In-house IT dept. will deploy and program. Bids must include expected equipment delivery time window.

Delivery/Shipping Location:
Nye County School District
Attn: Technology
484 S. West St.
Pahrump, NV 89048

E-Rate Description: Aruba AP 615 or equivalent [R7J50A: Aruba AP-615 (US) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP], must be compatible with embedded Aruba Instant controller, with management accessible within the NCSD LAN network, and not require a cloud portal of any kind. The equipment must support 2.4Ghz and 5Ghz bands; standards of POE, 802.11a/b/g/n/ac/ax, and Multi-User MIMO.

All equipment or supplies offered shall be new, currently in production and of the manufacturer's latest design unless otherwise stated.

Wireless-outdoor-backhaul

Project Description: Deliver thirteen (13) units of the compatible equipment, away-from-wall mounting hardware, all product documentation, list of serial and MAC values, and ship out with latest long-term-release firmware installed. In-house IT dept. will deploy and program. Bids must include expected equipment delivery time window.

Delivery/Shipping Location:
Nye County School District
Attn: Technology
484 S. West St.
Pahrump, NV 89048

E-Rate Description: Aruba AP 577 or equivalent [AP-577 (US) Dual Radio 2x2/4x4 802.11ax Integrated Directional Ant Outdoor AP], IP67 rating for outdoor operation against water and dust, administration should be like the embedded Aruba Instant controller, accessible anywhere within the NCSD LAN network and not require a cloud portal of any kind. It must support mesh-like infrastructure consisting of multiple source Aps (portals) and backhaul uplink Aps (points) with physical Ethernet port bridging capability supporting all VLAN traffic. The equipment must support 2.4Ghz and 5Ghz bands; be powered by POE, even on the uplink port; use directional antennas for broad but targeted coverage, and have the ability to mesh at distances up to 240 ft.

All equipment or supplies offered shall be new, currently in production and of the manufacturer's latest design unless otherwise stated.

Power Backup (UPS)

Project Description: Deliver seven (7) units of the compatible equipment, with network connectivity and management. In-house IT dept. will deploy and program. Equipment will be used for switches and routers matching E-rate guidelines. Bids must include expected equipment delivery time window.

Delivery/Shipping Location:
Nye County School District
Attn: Technology
484 S. West St.
Pahrump, NV 89048

E-Rate Description: GXT5 Lithium-Ion UPS 2000VA/1800W/120V UPS or equivalent [GXT5LI-2000LVRT2UXLN w/RDU101 Network card] with at least 2000VA rating using LiFePo4 batteries with double or more the service life of Lead-acid batteries. Standard Li-ion batteries are excluded due to runaway thermal risk. UPS battery should be hot-swap replaceable. Target runtime should be at least 25m with a 400W load. UPS must include any required network modules for basic SNMP and management features. Bid requires 4-post mounting hardware and optional tower-stand and wall input plug must be of type 120v 5-20P.

All equipment or supplies offered shall be new, currently in production and of the manufacturer's latest design unless otherwise stated.

Bid Response

Bidders are responsible for identifying and documenting E-Rate eligibility percentages on all proposed equipment and services. Response must include a table with SKU/Part No, Description, Unit Amount, Extended Amount, and a breakout of E-Rate eligible amounts as well as costs to the school district. Bidders proposing equipment they consider to be an "equivalent" to the specified equipment must include supporting documentation such as manufacturer technical specifications, data sheets, white paper, or other documentation that supports equivalence to the specified equipment. Should said documentation not be included with the RFB submission, the vendor may be considered "non-responsive" and the response may be rejected. Similar equipment from other manufacturers considered

An "equivalent" that are specified will be given equal consideration based upon the following criteria:

• Specifications
• Quality
• Design
• Utility
• Past Performance
• Service (which includes repairs, replacement parts, and adjustments)
• Price

All Bidders must submit complete manufacturer's specifications and current catalog number/identifier if Bidding other than manufacturer specified. Failure to submit complete specifications may be cause for rejection of bid item.

Bidders of an alternative single manufacturer must provide the SPECIFIC model number(s), description, and price after discount of the proposed equivalent to all HPE Aruba models defined in the attached RFP.

NCSD Information Technology Network staff will make the final determination of the equivalence of the proposed alternative. If it is determined that the proposed alternatives are NOT equal in all features and functionality, then the bid will not be considered. Bidders of an alternative single manufacturer must also hold a certification equal to HP Platinum Partner requirements with the proposed manufacturer, if applicable.

DEBARMENT AND SUSPENSION CERTIFICATION

Attention Nye County School District:

We hereby certify that we are not listed on the General Services Administration's Excluded Parties List System (EPLS), in accordance with E.O.s 12549 and 12689, "Debarment and Suspension". We also certify that we have not been debarred, suspended, or otherwise excluded by agencies, and contractors declared ineligible under statutory or regulatory authority.

Howard Technology Solutions
a division of Howard Industries, Inc.
_____

Company Name

DUNS # 04-341-7476

Darlene Parker, Bid Specialist
_____
Print Name and Title of Certifying Official

_____   1-27-25
Signature of Certifying Official   Date

_____

For District Use Only:

Verified through Sam.gov. _____   _____
                            Date   Signature

8/17/18