Nodegrid Bold SR ™

Services Router & Out-of-Band IT Infrastructure Management for Branch, Edge, & Colocation Network Devices

Nodegrid Bold SR ™ (BSR) is an open platform appliance designed for secure access and control over remote devices at the edge of your network. **BSR offers out-of-band management and supports virtualization, application hosting, and containerization** via Docker, Kubernetes, and LXC. Minimize your stack for critical cost and space savings at edge locations.
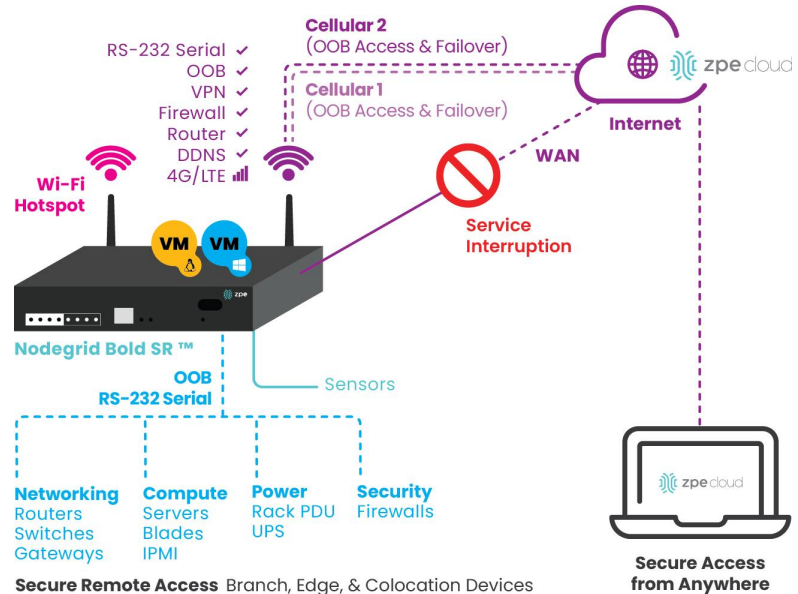
Benefits

- **Reduce CAPEX & OPEX expenses** with a consolidated, extensible solution & automated management
- **Reduce downtime & trips to remote locations** with instant remote access
- **Minimize MTTR, downtime, & expenses** with secure, centralized remote device access & control
- **Increase site reliability** with open industry standard hardware & easy-to-use software

Features

- **Gen 3 OOB Management Integration**
- **Extensible Applications** with virtualization & containers
- **Zero Touch Provisioning (ZTP)** over the WAN for fast & easy setup in remote locations
- **Integrates with ZPE Cloud & Nodegrid Clustering Feature** for a vendor-neutral, unified management solution
- **Modern x86_64bit Linux Kernel** for fast security patching & widespread software availability
- **Extended Automation** based on actionable data
- **Failover to 5G/4G/LTE & Wi-Fi**
- **Encrypted Data Transit** with SSL, IPSec, & Wireguard VPN technologies
- **DHCP Server** Extra IPs for your remote site or replace your current router altogether
- **Built-In Firewall**
- **Secure** Selectable encrypted cryptographic protocols and cypher suite levels, configuration checksum™
- **Power Control & Monitoring** Get alerts on IT device health & solve problems automatically
- **Automation/Orchestration** Puppet, Chef, Ansible, RESTful APIs

RS-232 Serial ✓
OOB ✓
VPN ✓
Firewall ✓
Router ✓
DDNS ✓
4G/LTE ▪

Wi-Fi Hotspot

Cellular 2 (OOB Access & Failover)
Cellular 1 (OOB Access & Failover)

zpe cloud
Internet
WAN
Service Interruption

VM   VM

Nodegrid Bold SR ™
OOB RS-232 Serial
Sensors

Networking Routers Switches Gateways
Compute Servers Blades IPMI
Power Rack PDU UPS
Security Firewalls

zpe cloud
Secure Access from Anywhere

Secure Remote Access Branch, Edge, & Colocation Devices

Nodegrid Bold SR is fast, secure, versatile and reliable. Bold in features and capabilities, **BSR supports a variety of connection methods**: serial, network, and USB. You get in-band and out-of-band remote access, power control, sensors and IT device health monitoring, alert notifications, actionable data, network backup, and more!

Nodegrid Bold SR Interfaces

- 2X **Cellular 4G/LTE** with Quad SIM
- 5X **Gbit Ethernet Ports**
- 8X **Serial Ports**
- 1X **VGA Ports**
- 1X **Console Port**
- 8X **Serial RS-232 Ports**
- 2X **USB 2.0 Ports**
- 2X **USB 3.0 Ports**
- 1X **Wi-Fi**

Internal Slots

- 2X **Cellular 4G/LTE** with Quad SIM
- **5G Cellular** with Dual SIM (COMING SOON)
- 1X **Wi-Fi**

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Technical Specifications

Accessibility
- 1X Gigabit Ethernet Port on RJ45
- Failover to 4G/LTE modem with Quad SIM, Console Port
- 4X Gigabit Ethernet Ports
- Built-in Switching
- Multiple Routing Tables

Managed Power Devices
Vendor-neutral PDU support

Managed IPMI Devices
OpenBMC, HP iLO, Dell iDRAC, Supermicro/Quanta IPMI, IPMI 2.0 compatible devices, Cisco CIMC/UCS, IBM IMM, Oracle ILOM, EMC/NetApp Storage IPMI

Sensors
Support for a wide range of USB sensors, managed devices, serial devices, USB devices, network devices, PDU, & IPMI devices

Networking
- IPv4 / IPv6 Support
- Embedded Layer 2 Switching, VLAN, Layer 3 Routing, BGP, OSFP, RIP, QoS, DHCP (Client & Server)

Port Access
- Direct access by port name, TCP port, device name & IPv4/IPv6
- High performance port login: <1 sec on SSH, <3 sec on Telnet
- 250+ simultaneous sessions
- Port sharing
- Command Line Interface (CLI)
- Port custom field support, port icon configuration, port search
- Device clustering across multiple Nodegrid units
- Break-over SSH support

System Management
- Extensible, automated control based on actionable real-time data
- Web GUI management portal, web console, Command Line Interface (CLI), Linux root shell, SNMP, RESTful API
- Zero Touch Provisioning (ZTP) via LAN/DHCP, WAN/ZPE Cloud, USB for configuration & firmware updates
- Multiple and customizable user levels of access
- Auto-discovery via network scan and custom probes
- SNMPv1,v2 and SNMPv3-v1 IPv4/IPv6 with MD5, SHA-224, SHA-256, SHA-384, SHA-512, DES, AES-192, AES-256
- Orchestration Integration & Automation: Puppet, Chef, Ansible, RESTful, ZPE Cloud & Nodegrid Clustering Feature
- File sharing via FTP, NFS, SSHFS, Windows Sharing, web file browser, ZPE Cloud
- Remote Procedure Call (RPC, gRPC)
- NetFlow, LLDP

Operating System
Built-in x86_64bit Nodegrid OS

Warranty
2-Year Limited Warranty

CPU & Storage (Upgrades Available)
- Intel x86_64 dual core
- 4GB of DDR3 DRAM
- 32GB Self Encrypted Disk (SED)

Device View Options
Tree, Table, Geo Map, Node, & WEB Interface with search

Security
- Hardened device with BIOS protection, TPM 2.0, UEFI Secure Boot, Signed OS, Self-Encrypted Disk (SED), Geofencing
- X.509 SSH certificate support, 4096-bit encryption keys
- Selectable cryptographic protocols for SSH & HTTPS (TLSv1.3,TLSv1.2, TLSv1.1, TLSv1)
- Selectable cypher suite levels: high, medium, low, custom
- IPsec, WireGuard, OpenSSL VPN with support for multi sites
- Local, AD/LDAP, RADIUS, TACACS+, Kerberos, authentication
- SAML 2.0 support via Duo, Okta, Ping Identity, ADFS
- Two-Factor Authentication with RSA & DUO
  Local, backup-user authentication support
- User-access lists per port
- Group/role-based authorization: AD/LDAP, RADIUS, TACACS+
- Fine grain & role-based access control
- Firewall: IP packet & security filtering, IP forwarding support
- MD5 / SHA System Configuration Checksum™
- System event logging to file, syslog, email, ZPE Cloud, Splunk & more
- Custom security settings
- Strong password enforcement

Access Protocols
HTTPS, SSHv2; optional HTTP, Telnet & SSHv1

Data Logging & Notifications
- Local port buffering – 20 MB per port
- Local, NFS, syslog, off-line data logging
- Time stamp & rotation for data logging
- Event destination: email, syslog, local, syslog, email, ZPE Cloud, Splunk & more
- Notification: syslog, email, ZPE Cloud, Splunk & more

Power Specifications
- 12VDC via external 100-240 VAC, 50/60 Hz adapter
- Power consumption 25 W typical
- Physical
- Front-Rear mounting brackets
- Size (L X W X H): 142 X 201 X 44 mm (5.5 X 7.9 X 1.73 in)
- Weight: 1.2 kg (2.6 lb)
- Shipping Weight: 2.3 kg (5.0 lb)
- Shipping (L X W X H): 313 X 313 X 140 mm (12.3 X 12.3 X 5.5 in)

Interface
- 8X RJ45 Serial ports
- 1X Gigabit (10/100/1000BT) Ethernet interfaces on RJ45
- 4X Gigabit (10/100/1000BT) Ethernet interfaces on RJ45 with Built-in Switch
- 2X USB 3.0 Host on Type A
- 2X USB 2.0 Hosts on Type A
- 1X Wi-Fi & Bluetooth Slot (Optional)
- 2X 4G/LTE Cellular Modem Slots with Dual SIM (Optional)
- 1X VGA port

Environmental
- Operation: -20 to 50º C (-4 to 122º F), 5-95% RH, non-cond.
- Storage: -20 to 67º C (-4 to 153º F), 10-90% RH, non-cond.

Ordering Information

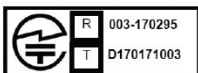| Channel SKU	Description	CPU	Memory	Power	Special
ZPE-BSR-24-Base	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 2-core Intel 64-bit CPU, 4GB DDR4, 32GB SLC. Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	2 Cores	4GB	AC Adaptor	Base
ZPE-BSR-24-W5	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 2-core Intel 64-bit CPU, 4GB DDR4, 32GB SLC, Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac). Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	2 Cores	4GB	AC Adaptor	Wi-Fi
ZPE-BSR-24-4G	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 2-core Intel 64-bit CPU, 4GB DDR4, 32GB SLC, 4G LTE (CAT12) Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	2 Cores	4GB	AC Adaptor	4G
ZPE-BSR-24-4G-W5	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 2-core Intel 64-bit CPU, 4GB DDR4, 32GB SLC, 4G LTE (CAT12), Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac). Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	2 Cores	4GB	AC Adaptor	4G Wi-Fi
ZPE-BSR-24-4G-W5-D128G	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 2-core Intel 64-bit CPU, 4GB DDR4, 32GB SLC, 4G LTE (CAT12), Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac), Disk2:128GB to host third-party applications. Single AC Power supply & cord included.Go to ZPEcloud.com to activate 90-day free subscription.Includes Standard 2-Year Support & HW warranty.	2 Cores	4GB	AC Adaptor	4G Wi-Fi Second Storage
ZPE-BSR-48-Base	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 4-core Intel 64-bit CPU, 8GB DDR4, 32GB SLC. Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	4 Cores	8GB	AC Adaptor	Base
ZPE-BSR-48-W5	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 4-core Intel 64-bit CPU, 8GB DDR4, 32GB SLC, Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac). Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	4 Cores	8GB	AC Adaptor	Wi-Fi
ZPE-BSR-48-4G	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 4-core Intel 64-bit CPU, 8GB DDR4, 32GB SLC, 4G LTE (CAT12) Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	4 Cores	8GB	AC Adaptor	4G
ZPE-BSR-48-4G-W5	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 4-core Intel 64-bit CPU, 8GB DDR4, 32GB SLC, 4G LTE (CAT12), Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac). Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription. Includes Standard 2-Year Support & HW warranty.	4 Cores	8GB	AC Adaptor	4G Wi-Fi
ZPE-BSR-48-4GW5-D128G	ZPE Nodegrid Bold SR. 8X RJ45 Serial rolled, 5X GbE, 4-core Intel 64-bit CPU, 8GB DDR4, 32GB SLC, 4G LTE (CAT12), Wi-Fi 5 (866Mbps 2X2 dual stream 802.11ac), Disk2:128GB to host third-party applications. Single AC Power supply & cord included. Go to ZPEcloud.com to activate 90-day free subscription.Includes Standard 2-Year Support & HW warranty.	4 Cores	8GB	AC Adaptor	4G Wi-Fi Second Storage

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Accessories & Support

Channel SKU	Description
ZPE-BSR-PSU	ZPE Nodegrid Bold SR. Power Supply (Primary & Secondary)
ZPE-BSR-TX-BASE-ALL-EW1G	ZPE Nodegrid Bold SR. 1Y 24X7 Gold Upgrade Support
ZPE-BSR-TX-BASE-ALL-EW2G	ZPE Nodegrid Bold SR. 2Y 24X7 Gold Upgrade Support
ZPE-BSR-TX-BASE-ALL-EW3G	ZPE Nodegrid Bold SR. 3Y 24X7 Gold Upgrade Support

NOTE: If you need more storage or other combinations please contact ZPE Sales: **sales@zpesystems.com**

FC ICES-003 (A) NMB-003(A)   CE   (N)   EAC   ⊖   CCC   RoHS Compliant   20   Anatel: 01127-22-14117   SGS   VCI   KC   ✕   (penguin)

003-170295
D170171003
FCC ID: 2ARCQ-EM7565
IC: 24339-EM7565

003-200132
D200112003
FCC ID: N7NEM91
IC: 2417C-EM91

020-170122
FCC ID: RYK-261ACNBT
IC: 6158A-261ACNBT

UK CA

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