

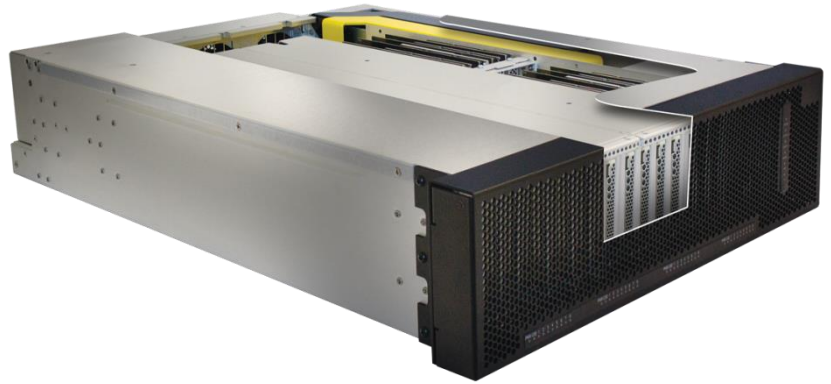
FSAe-3

The FSAe-3 (3U Flash Storage Array Expansion) provides 204.8TB Flash storage through thirty-two SanDisk ioMemory PCIe boards. The FSAe-3 cables to one to four host computers through PCIe x16 Gen3 connections operating at 128Gb/s bandwidth. The low-profile, half-length cable adapters support low latency and extreme bandwidth to the ioMemory.

PN: OSS-FSA-3U

Features

- 3U High
- Four removable canisters with eight flash memory cards each
- Fully IPMI v2.0 compliant monitoring, control & alarming system
- Two 1,200-watt rear removable, hot-swap supplies
- Superior Cooling with four 80 x 80 x 38mm fans on the rear of the enclosure
- Up to four PCIe x16 cable inputs to rear of enclosure



Specifications

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| Enclosure | <ul style="list-style-type: none"> • Dimensions: 17"W x 5.25" H x 24"D • Supports 32 half-length, full-height, single-slot PCIe x16 NAND FLASH boards • All 32 boards face the front of the chassis with the front 16 NAND flash boards having I/O bracket access and the rear 16 boards do not have I/O bracket access • Removable front bezel with air filter (can be customized for special I/O bracket access) • Front panel LEDs • Four rear panel PCIe x16 Gen3 cable interfaces • 4 removable rear fans behind a single fan bezel • Weight: 52lbs when fully loaded with 32 NAND Flash boards |
| Main Backplane | <ul style="list-style-type: none"> • Four PCIe x16 cable inputs to rear of enclosure • Four PCIe x16 high-density connectors to each canister • 1x PLX PEX 8796 and 2 x PLX PEX 8749 PCIe 3.0 switches manage PCIe cross connects from cables to canisters • 2x RJ45 connectors for IPMI v2.0 System Monitor • 1x HD DB-9 serial port for IPMI network configuration • Optional RJ45 for basic SYSMON2 chassis monitor (not required when using IPMI System Monitor) • Supports bus-bar power distribution to the canisters through 8 high-power bladed connectors (2 per canister) • On board IPMI System Monitor & SYSMON2 connectors |
| Canister Backplane | <ul style="list-style-type: none"> • 8x PCIe 3.0 slots in 2 ranks of 4 each. 2 slots are x16, 6 slots are x8 • All x8 connectors are "open back" style. All but rear slot 4 can support x16 physical cards in the x8 connector • 1x 8-Pin 12V power connectors for AUX power cables • PLX PEX 8796 PCIe 3.0 switch |
| Power | <ul style="list-style-type: none"> • 1200W redundant power subsystem • Two 1,200-watt rear removable, hot-swap supplies • Each supply measures 1U (1.65") x 3.3" x 10.6" • 1+1 redundant with full current sharing operation • +12V and +5Vsby voltage outputs • All +12V power rails shared on copper bus bar delivery system <p><i>AC Input Version</i></p> <ul style="list-style-type: none"> • 1,200W each at 90-264 VAC, 15A max input • Operates with 1+1 redundancy • IEC C14 power input at rear on each supply with optional power cord retention clip |

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| <p>Power</p> | <p><i>-48V nominal DC Input Version</i></p> <ul style="list-style-type: none"> • 1,200W each at -45 to -60 VDC, 40A max input • Operates with 1+1 redundancy at this voltage input range • Molex terminal block input on each supply <p><i>Low Voltage DC Input Version</i></p> <ul style="list-style-type: none"> • 450W each at -28 to -36 VDC, 22A max input • Operates with no redundancy at this voltage input range • Molex terminal block input on each supply • Fully loaded 32-NAND Flash chassis draws approximately 900W typical. • Inquire about our 4U chassis if more power is required. |
| <p>Power Cords</p> | <ul style="list-style-type: none"> • 110V power cord for PDUs and Wall receptacles <ul style="list-style-type: none"> ◦ OSS Part number: OSS-CBL-PWR-5-15-C13-15A-6 ◦ NEMA 5-15 to IEC C13, Straight, 14AWG, 15A, 6' • 240V power cord for PDUs <ul style="list-style-type: none"> ◦ OSS Part number: OSS-CBL-PWR-C14-C13-15A-6 ◦ IEC C14 to IEC C13, Straight, 14AWG, 15A, 6' • 240V power cord for US Wall receptacles <ul style="list-style-type: none"> ◦ OSS Part number: OSS-CBL-PWR-6-15-C13-15A-6 ◦ NEMA 6-15 to IEC C13, Straight, 14AWG, 15A, 6' |
| <p>System Monitoring</p> | <p>Fully IPMI v2.0 compliant monitoring, control & alarming system</p> <p><i>Temperature</i></p> <ul style="list-style-type: none"> • Monitors inlet & exhaust temps • Fan speed auto adjusts by temp • Alarm set-points for over temp <p><i>Fans</i></p> <ul style="list-style-type: none"> • Monitors all system fan tachometers • Pulse Width Modulation fan speed control • Alarms for slow or failed fans <p><i>Power</i></p> <ul style="list-style-type: none"> • Monitors supply telemetry • Monitors output voltage rails • Alarms for voltages out of range • Alarms for supply failure <p><i>Add-in Cards</i></p> <ul style="list-style-type: none"> • Optionally monitors add-in card I2C SM bus (if used) • Optional Alarms for abnormal card telemetry <p><i>Interface</i></p> <ul style="list-style-type: none"> • Command Line Interface or web Graphical User Interface • Supports SNMP and RCM+ external interfaces • Remote chassis and canister LED tagging |
| <p>Air Filter</p> | <ul style="list-style-type: none"> • 30 ppi open cell polyfoam (other ppi ratings available) • Die-cut, removable and replaceable |
| <p>Cooling</p> | <ul style="list-style-type: none"> • Four 80 x 80 x 38mm fans on the rear of the enclosure • All fans are 141CFM each in pull-through configuration • All fans PWM monitored and speed controlled by the IPMI system monitor • Rear fans hot-swap from rear of the chassis after removing fan bezel • Power supplies separately cooled from internal 25mm fans |
| <p>Operating Environment</p> | <ul style="list-style-type: none"> • Temperature range: <ul style="list-style-type: none"> • Operating: 10°—35°C • Storage: -40°—85°C • Humidity range: <ul style="list-style-type: none"> • Operating: 20% to 80% relative (non-condensing) • Non-operating: 5% to 95% relative (non-condensing) • Altitude range: <ul style="list-style-type: none"> • Operating: 0 to 10,000 ft. • Storage: 0 to 50,000 ft. |

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| Agency Compliance | Designed to meet the following agency certifications with testing currently pending: <ul style="list-style-type: none"> • FCC - Part 15 of the FCC Rules, Class A, 47CFR • Canada ICES-003, issue 4, Class A • UL/IEC 60950-1 • Canada: CSA C22.2 No. 60950-1 • Argentina: IEC60950-1 • Japan: VCCI, Class A • Australia/New Zealand AS/NZS CISPR 22, Class A • IEC 60950-1 (CB Certificate and CB Test Report) • CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3) • CISPR 22, CISPR 24, Class A • CE Emissions 2004-108EC • RoHS compliance (Directive 2002/95/EC) • CCN NWWGQ, NWWGQ7 |
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| Fusion ioScale 6.4TB | |
| NAND Type | MLC (Multi Level Cell) |
| Read Bandwidth (GB/s) | 2.7 |
| Write Bandwidth (GB/s) | 2.1 |
| Ran. Read IOPS (4K) | 285,000 |
| Ran. Write IOPS (4K) | 385,000 |
| Read Access Latency | 92 μ s |
| Write Access Latency | 15 μ s |
| Bus Interface | PCIe 2.0 x8 |
| Endurance (PBW) | 22 |
| Weight | 7.25 ounces |
| Form Factor | Standard Height, Half-Length |
| Operating Systems | Microsoft Windows: Windows Server 2012 R2, Windows Server 2012, Windows 2008 R2 SP1 Linux: RHEL 5/6; SLES 11; OEL 5/6; CentOS 5/6; Debian Squeeze; Ubuntu 12/13 UNIX: Solaris 11.1/11 x64; Solaris 10 U11 x64 Hypervisors: VMware ESXi 5.0/5.1/5.5, Windows Server 2012 with Hyper-V, Windows Server 2012 R2 with Hyper-V |