
Model Configurations

Contains:

Hardware RAID
with JBOD Expansion

HBA Mode with
JBOD Expansion

JBOD Expansion

Configurations

Hardware RAID Mode

The Hardware RAID controller uses RAID On Chip (i.e. ROC chip) to provide full RAID features (i.e. RAID 0, 1, 10, 5, 6, 50, 60) in the form of VD's (i.e. Virtual Devices) and exports them back to the OS. A higher number of devices can be configured by using an external JBOD (Just a Bunch of Devices). These JBODs can be chained for scalability. This controller also supports cache memory for higher performance. The cache memory is protected in the event of a power outage by a BBU or Cachevault (Supecap+TFM). The card also supports many other features that are normally associated with a RAID card and all features can be set or unset at BIOS and OS (command line or GUI app).

HBA Mode (IT Mode)

The storage controller provides one-to-one mapping of PD's (i.e. Physical Devices) and exports them back to the OS. It does not provide any RAID feature. The OS can either use the PD's as individual devices or use SW RAID to create OS level VD's that utilize a desired RAID level. A higher number of devices can be configured by using an external JBOD. These JBODs can be chained for scalability and grow a capacity in an enterprise software that can handle on-the-fly scalability, such as Hadoop, Swift and many other Open Source Scalable storage products. The storage controller card does not need cache therefore no cache protection (i.e. BBU) is required.

High Storage Capacity with JBOD Expansion

Traditional Storage deployments using JBOD expansion chassis offer users excellent cost per TB for their storage investment that becomes more cost effective as capacity is added to the server node. With up to 7 PCI-E 3.0 expansion slots available in DakotaStor servers, host connectivity can be optimized for applications that require storage of large sequential data types. Applications from video post-production, high resolution surveillance, and disk to disk backup are just a few examples. With high density form factors, usable capacity can reach hundreds of TBs, under a single server node.

Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

Hardware RAID
with JBOD Expansion

| Model | D4SAR | D4RAR | D4RAXR |
|-----------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| Chassis | 1U | 1U | 1U |
| Processor | Single Socket Intel® Xeon®E5-2600 v2 Family Default: E5-2609v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 |
| System Memory DIMMs | Up to 512GB ECC DDR3, up to 1866MHz; 8 x DIMM sockets Default: 8GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 8GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 8GB |
| Hot Swap Drives | 4 x 3.5" SAS2/SATA3 | 4 x 3.5" SAS2/SATA3 | 4 x 3.5" SAS2/SATA3 |
| Storage Controller | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache |
| Backplane | Single Expander | Single Expander | Single Expander |
| JBOD Expansion Port | 0 | 0 | 0 |
| Rear Hot-Swap Drive Support | No | No | No |
| Network Connectivity | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) |
| Serverboard / Chipset | Supermicro X9 / C602 | Supermicro X9 / C606 | Supermicro X9 / C606 |
| PCI-E 3.0 Expansion Slots | 0 | 1 – x16 | 1 – x16 |
| Server Remote Management | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN |
| Power Supply | 350W Single Gold Level Power Supply | 700/750W Redundant Gold Level (94%)Power Supplies | 700/750W Redundant Gold Level (94%)Power Supplies |
| Dimensions (H x W x D) in. | 1.7" x 17.2" x 19.8" | 1.7" x 17.2" x 27.75" | 1.7" x 17.2" x 27.75" |



Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

Hardware RAID
with JBOD Expansion

| Model | D24BR | D12AR | D16AR |
|-----------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Chassis | 2U | 2U | 3U |
| Processor | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 |
| System Memory DIMMs | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB |
| Hot Swap Drives | 24 x 2.5" SAS2/SATA3 | 12 x 3.5" SAS2/SATA3 | 16 x 3.5" SAS2/SATA3 |
| Storage Controller | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache |
| Backplane | Single Expander | Single Expander | Single Expander |
| JBOD Expansion Port | 1-SFF8088 | 1-SFF8088 | 1-SFF8088 |
| Rear Hot-Swap Drive Support | Yes / 2 x 2.5" | Yes / 2 x 2.5" | Yes / 2 x 2.5" |
| Network Connectivity | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) |
| Serverboard / Chipset | Supermicro X9 / C602 | Supermicro X9 / C602 | Supermicro X9 / C602 |
| PCI-E 3.0 Expansion Slots | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 – x16 | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 – x16 | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 – x16 |
| Server Remote Management | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN |
| Power Supply | 920W Redundant Platinum Level (94%) Power Supplies | 920W Redundant Platinum Level (94%) Power Supplies | 920W Redundant Platinum Level (94%) Power Supplies |
| Dimensions (H x W x D) in. | 3.5" x 17.2" x 25.5 | 3.5" x 17.2" x 25.5 | 5.2" x 17.2" x 25.5 |



Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

Hardware RAID
with JBOD Expansion

| Model | D24AR | D36AR |
|-----------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Chassis | 4U | 4U |
| Processor | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 |
| System Memory DIMMs | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB |
| Hot Swap Drives | 24 x 3.5" SAS2/SATA3 | 36 x 3.5" SAS2/SATA3 |
| Storage Controller | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache | Hardware RAID LSI® 2208 w/1GB Battery Backed Cache |
| Backplane | Single Expander | Single Expander |
| JBOD Expansion Port | 1-SFF8088 | 1-SFF8088 |
| Rear Hot-Swap Drive Support | Yes / 2 x 2.5" | No / 2 x 2.5" Internal Option |
| Network Connectivity | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) |
| Serverboard / Chipset | Supermicro X9 / C602 | Supermicro X9 / C602 |
| PCI-E 3.0 Expansion Slots | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 – x16 | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 – x16 |
| Server Remote Management | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN |
| Power Supply | 920W Redundant Platinum Level (94%) Power Supplies | 1280W Redundant Platinum Level high-efficiency Digital Power Supplies with I2C & PMBus (2+1) |
| Dimensions (H x W x D) in. | 7" x 17.2" x 26 | 7" x 17.2" x 27.5 |



Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

HBA Mode with JBOD Expansion

| Model | D24BH | D12AH | D16AH |
|-----------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| Chassis | 2U | 2U | 3U |
| Processor | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 |
| System Memory DIMMs | Up to 1TB ECC DDR3, up to 1866MHz; 16 x DIMM sockets Default: 16GB | Up to 1TB ECC DDR3, up to 1866MHz; 16 x DIMM sockets Default: 16GB | Up to 1TB ECC DDR3, up to 1866MHz; 16 x DIMM sockets Default: 16GB |
| Hot Swap Drives | 24 x 2.5" SAS2/SATA3 | 12 x 3.5" SAS2/SATA3 | 16 x 3.5" SAS2/SATA3 |
| Storage Controller | LSI® 2308 HBA | LSI® 2308 HBA | LSI® 2308 HBA |
| Backplane | Single Expander | Single Expander | Single Expander |
| JBOD Expansion Port | 1-SFF8088 | 1-SFF8088 | 1-SFF8088 |
| Rear Hot-Swap Drive Support | Yes / 2 x 2.5" | Yes / 2 x 2.5" | Yes / 2 x 2.5" |
| Network Connectivity | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) |
| Serverboard / Chipset | Supermicro X9 / C602J | Supermicro X9 / C602J | Supermicro X9 / C602J |
| PCI-E 3.0 Expansion Slots | CPU 1: 2 – x8 CPU 2: 3 – x8 | CPU 1: 2 – x8 CPU 2: 3 – x8 | CPU 1: 2 – x8 CPU 2: 3 – x8 |
| Server Remote Management | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN |
| Power Supply | 920W Redundant Platinum Level (94%) Power Supplies | 920W Redundant Platinum Level (94%) Power Supplies | 920W Redundant Platinum Level (94%) Power Supplies |
| Dimensions (H x W x D) in. | 3.5" x 17.2" x 25.5 | 3.5" x 17.2" x 25.5 | 5.2" x 17.2" x 25.5 |



Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

HBA Mode with JBOD Expansion

| Model | D24AH | D36AH | D72AH |
|-----------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Chassis | 4U | 4U | 4U |
| Processor | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 | Dual Socket Intel® Xeon®E5-2600 v2 Family Default: 2 x E5-2620v2 |
| System Memory DIMMs | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB | Up to 1.5TB ECC DDR3, up to 1866MHz; 24 x DIMM sockets Default: 16GB |
| Hot Swap Drives | 24 x 3.5" SAS2/SATA3 | 36 x 3.5" SAS2/SATA3 | 72 x 3.5" SAS2/SATA3 (2 per tray) |
| Storage Controller | LSI2308 HBA | LSI2308 HBA | 3x LSI2308 HBA |
| Backplane | Single Expander | Single Expander | Single Expander |
| JBOD Expansion Port | 1-SFF8088 | 1-SFF8088 | No |
| Rear Hot-Swap Drive Support | Yes / 2 x 2.5" | No / 2 x 2.5" Internal Option | No |
| Network Connectivity | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) | 4 x 1GbE (10 GbE Option) |
| Serverboard / Chipset | Supermicro X9 / C602 | Supermicro X9 / C602 | Supermicro X9 / C602 |
| PCI-E 3.0 Expansion Slots | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 - x16 | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 - x16 | CPU 1: 2 – x8 CPU 2: 1 – x8 & 2 - x16 |
| Server Remote Management | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN | IPMI 2.0 / KVM over LAN / Media over LAN |
| Power Supply | 920W Redundant Platinum Level (94%) Power Supplies | 1280W Redundant Platinum Level high-efficiency Digital Power Supplies with I2C & PMBus (2+1) | 1280W Redundant Platinum Level high-efficiency Digital Power Supplies with I2C & PMBus (2+1) |
| Dimensions (H x W x D) in. | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 7" x 17.2" x 35" |



Note: DakotaStor servers are available in X10 (E5-2600v3 Series) and/or SAS3 12 Gb/s platforms upon request

Model Configuration

JBOD Expansion

| | | | |
|----------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| Model | J24B1 J24B2 | J12A1 J12A2 | J16A1 J16A2 |
| Chassis | 2U | 2U | 3U |
| Hot Swap Drives | 24 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only | 12 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only | 16 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only |
| Backplane | B1: Single Expander - 6Gb/s B2: Dual Expander - 6Gb/s | A1: Single Expander - 6Gb/s A2: Dual Expander - 6Gb/s | A1: Single Expander - 6Gb/s A2: Dual Expander - 6Gb/s |
| JBOD Expansion Port | Yes | Yes | Yes |
| Power Supply | 920w Redundent Platinum Level (94%) Power Supplies | 920w Redundent Platinum Level (94%) Power Supplies | 920w Redundent Platinum Level (94%) Power Supplies |
| Dimensions (H x W x D) in. | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" | 3.5" x 17.2" x 25.5" |

| | | | |
|----------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Model | J24A1 J24A2 | J36A1 J36A2 | J45A1 J45A2 |
| Chassis | 4U | 4U | 4U |
| Hot Swap Drives | 24 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only | 36 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only | 45 x 3.5" SAS2/SATA3 Dual Expander supports SAS2 drives only |
| Backplane | A1: Single Expander - 6Gb/s A2: Dual Expander - 6Gb/s | A1: Single Expander - 6Gb/s A2: Dual Expander - 6Gb/s | A1: Single Expander - 6Gb/s A2: Dual Expander - 6Gb/s |
| JBOD Expansion Port | Yes | Yes | No |
| Power Supply | 920w Redundent Platinum Level (94%) Power Supplies | 1280w Redundent Platinum Level high-efficiency Digital Pwer Supplies with I2C & PMBus (2+1) | 1280w Redundent Platinum Level high-efficiency Digital Pwer Supplies with I2C & PMBus (2+1) |
| Dimensions (H x W x D) in. | 7" x 17.2" x 26" | 7" x 17.2" x 27.5" | 7" x 17.2" x 35" |

