Hybrid Flash Storage

VS320D-RS26

Optimize Price and Performance for SMB Workloads

| | Form Factor | 2U | | Storage Bay | 26 | | Storage Controller | 2 |

Key Benefits
Outstanding Performance

- Industry leading density with dual active architecture
- Excellent performance with 8.8 GB/s a 64K Sequential 64K R/W throughput and 770K Random 4KB R/W IOPS
- Outstanding scale-up capability up to 9 PB available capacity

Dependable Data Experience

- 99.9999% high availability design with no single point of failure.
- Cache-to-flash to protect cache data in power outage.
- Non-disruptive firmware upgrade ensures continuous data service with zero downtime.

Versatile Connectivity

- Each controller with built-in 4-port 10 GbE (SFP+) and maximum 12 LAN ports allows direct connection to multiple LANs without switches.
- Optional high-speed 25 GbE iSCSI and 32 Gb Fibre Channel LAN cards.

Modern Simplicity

- ASUS Storage Manager, a flash-based storage management system, minimizes the learning curve and eases maintenance through an intuitive GUI.
- Data can be accessed in 5 minutes after installation.
- Wake-on-SAS allows you to remotely power on / off all cascaded ASUS expansion units for power saving.

Leading Density with Uncompromised Performance

The VS320D-RS26 (2.5" 2U 26-bay) is the high density hybrid flash storage. It offers 8% more capacity than the common 2U 24-bay products on the market. This can further lower the cost per TB, minimize IT rack space, and generate greener footprint. Offers outstanding performance ideal for modern enterprise applications store such as virtualization, database, mail server , and VDI.

High Availability and Enterprise Reliability

The ASUS Storage series is a proven high availability SAN storage system with full redundancy in modular design. Its dual-active architecture and automatic failover / failback mechanism, coupled with cache-to-flash technology, enables the system to withstand critical situations.

Flexible I/O Modules and Scale-up Capacity as Needed

Each controller has two LAN card slots that can be configured as iSCSI, Fibre Channel, or a mix of both besides built-in 4-port 10 GbE iSCSI (SFP+). As a result, the series offers great flexibility with built-in 8-port 10 GbE iSCSI (SFP+) and up to 24 LAN ports in a dual-controller system. In addition, the VS320D-RS26 provides massive scale-up capabilities by connecting ASUS expansion units or 3rd-party expansion units with up to 434 disk drives or 9.2 PB available capacity for future data growth.

Proven Simplicity - "Set and Forget" Data Services

ASUS Storage Manager, a storage management system with intuitive GUI designs, helps to save time in storage deployment considerably. ASUS Storage Manager also delivers enterprise storage features including complete RAID level protection, RAID EE with fast rebuild, thin provisioning, SSD cache, auto-tiering, and more. With the help of an intuitive dashboard and reporting system, managers can analyze business usage and monitor storage status in real time.

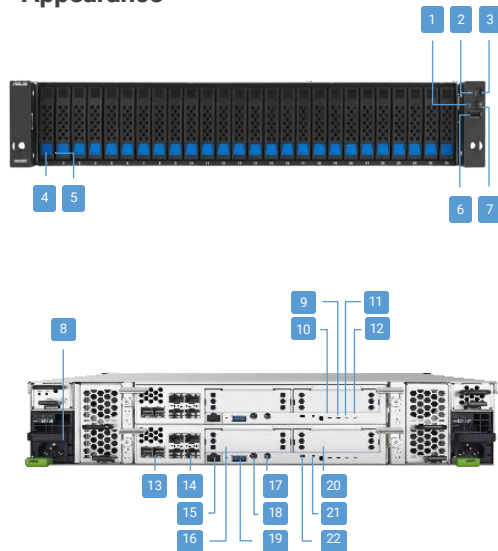## Advanced Data Protection to Safeguard Assets

To protect against data loss and downtime events, ASUS Storage Manager provides complete array- based backup functions including local backup and remote replication. Based on snapshot technology, a solid safety net for disaster recovery can be built to meet the required RPO and RTO.

Secure Data and Secure Management

Supporting SED (Self-Encrypting Drives) will keep your sensitive data safe even if the drives are lost, stolen, or misplaced. Additionally, RBAC (Role-Based Access Control) helps to prevent unauthorized access to your data. All management communication is secured over https.

VS320D-RS26

Appearance

1. Enclosure Status LED
2. Enclosure Access LED
3. Enclosure Power Button / LED
4. Disk Drive Status LED
5. Disk Drive Power LED
6. USB Port
7. UID **(Unique Identifier)** Button / LED
8. Power Supply Unit
9. Master / Slave LED **(only for dual controllers)**
10. Controller Status LED
11. Dirty Cache LED
12. UID **(Unique Identifier)** LED
13. 12 Gb/s SAS Wide Port
14. 10 GbE iSCSI (SFP+) Port
15. Management Port
16. LAN Card Slot 1 **(LAN card is an optional part)**
17. Service Port
18. Console Port
19. USB Port
20. LAN Card Slot 2 **(LAN Card is an optional part)**
21. Reset to Factory Default Button
22. Buzzer Mute Button

System Specification

Model Name	VS320D-RS26
Architecture	Dual-active controller
CPU	
Processor	Intel® Xeon® 64-bit 4-core
Memory	
Memory Module	DDR4 ECC DIMM (per controller)
Total Memory Slots	4 (per controller)
Memory Expandable up to	256 GB (per controller)
Storage	
Drive Bays	2.5" Slot x 26
Maximum Drive Bays with Expansion Unit	434
Compatible Drive Type	2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD
Drive Interface	SAS 12 Gb/s
Maximum Internal Raw Capacity	399.36 TB (calculate 15.36 TB SSD)
Maximum Raw Capacity with Expansion Units	10,191 TB (calculate 24 TB HDD)
Hot Swappable Drive	Yes
Connectivity Port	
PCIe Expansion	(Gen 3x8 Slot) x 2
1 GbE RJ45 LAN Port	1 (onboard management port per controller)
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)
10 GbE RJ45 LAN Port	4 (option)
25 GbE SFP28 LAN Port	2 (option) / 4 (option)
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)
32 Gb SFP28 Fibre Channel	2 (option)
Expansion and External Port	
12 Gb/s SAS Wide Port	2 (onboard per controller)
USB Port	1 (front) / 2 (rear)
Others	Console Port x 1, Service Port (UPS) x 1
Software Specification	
Storage OS	ASUS Storage Manager
RAID Type	0 / 1 / 3 / 5 / 6 / 10 / 30 / 50 / 60 / 5EE / 6EE / 50EE / 60EE / N-way mirror
Storage Efficiency	Thin provisioning
Software Acceleration	SSD cache (option) / Auto tiering (option)
Data Protection	Snapshot / Local volume clone
Remote Replication	Asynchronous (built-in) / Synchronous (option)
Security	HTTPS / SSH / iSCSI CHAP / ISE & SED
Management	Web UI / Serial console / RESTful API / S.E.S. / LCM
Appearance	
Dimension (H x W x D) (mm)	88 x 438 x 491
Net Weight (kg)	16.3
Gross Weight (kg)	18.6
Others	
Memory Protection	Cache-to-Flash (Supercapacitor Module + Flash Module) (option)
System Fan	4 pcs
Power Supply Unit	850 W x 2 (80 PLUS Platinum)
Power Consumption	429 W
Certification	CE / FCC / BSMI / CCC
Environment	
Operation temperature	0°C to 40°C
Non operation temperature	-10°C to 50°C
Non operation humidity	10% to 90% (Non condensing)

Hybrid Flash Unified Storage

VS320D-RS26U

Optimize Price and Performance
for SMB Workloads

| Form Factor | 2U | Storage Bay | 26 | Storage Controller | 2 |

Key Benefits
Outstanding Performance

- Industry leading density with dual active architecture
- Excellent performance with SSD cache and Auto tiering to enhance R/W throughput and random 4KB R/W IOPS
- Outstanding scale-up capability up to 400TB SSD 1st tier and 7.4PB raw HDD capacity

Dependable Data Experience

- 99.9999% high availability design with no single point of failure.
- Cache-to-flash to protect cache data in power outage.
- Non-disruptive firmware upgrade ensures continuous data service with zero downtime.

Versatile Connectivity

- Each controller with built-in 4-port 10 GbE (SFP+) and maximum 12 LAN ports allows direct connection to multiple hosts without switches.
- Optional high-speed 25 GbE and 32 Gb Fibre Channel NICs.

Modern Simplicity

- ASUS Storage Manager, a flash-based storage management system, minimizes the learning curve and eases maintenance through an intuitive GUI.
- Data can be accessed in 5 minutes after installation.
- Allows you to expansion capacity with 4 JBODs and data migration.

Leading Density with Uncompromised Performance

The VS320D-RS26U (2.5" 2U 26-bay) is the high density hybrid flash storage. It offers 8% more capacity than the common 2U 24-bay products on the market. This can further lower the cost per TB, minimize IT rack space, and generate greener footprint. Offers outstanding performance ideal for modern enterprise applications store such as virtualization, kubernetes, media non-linear editing , VDI and data lake.

High Availability and Enterprise Reliability

The ASUS Storage series is a proven high availability unified storage system with full redundancy in modular design. Its dual-active architecture and automatic failover / failback mechanism, coupled with cache-to-flash technology, enables the system to withstand critical situations.

Flexible I/O Modules and Scale-up Capacity as Needed

Each controller has two NIC slots that can be configured as CIFS, NFS, FTP, iSCSi, FCP, or multi protocols of built-in 4-port 10 GbE iSCSI and file protocols (SFP+). As a result, the series offers great flexibility with built-in 8-port 10 GbE iSCSI (SFP+) and up to 24 LAN ports in a dual-controller system. In addition, the VS320D-RS26U provides massive scale-up capabilities by connecting ASUS expansion units (JBOD) with up to 26 SAS SSD and 312 SAS HDD in 7.4 PB raw capacity for future data growth.

Proven Simplicity - "Set and Forget" Data Services

ASUS Unified Storage Manager, a storage management system with intuitive GUI designs, helps to save time in storage deployment considerably. ASUS Storage Unified Manager also delivers enterprise storage features including complete RAID level protection, RAID EE with fast rebuild, thin provisioning, SSD cache, auto-tiering, compression, inline deduplication and more. With the help of an intuitive dashboard and reporting system, managers can analyze business usage and monitor storage status in real time.
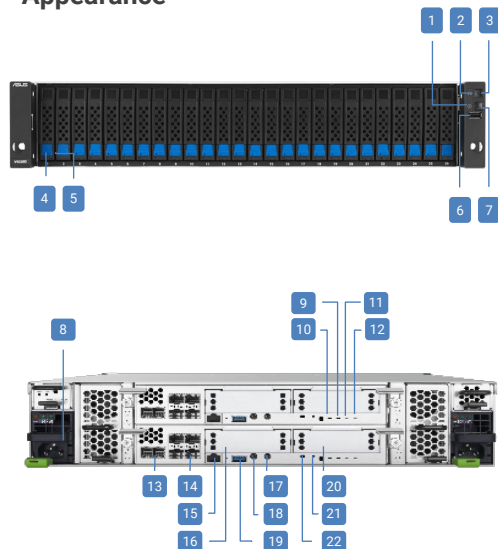
Advanced Data Protection to Safeguard Assets

To protect against data loss and downtime events, ASUS Unified Storage Manager provides complete array- based backup functions including local backup and remote replication. Based on snapshot technology, a solid safety net for disaster recovery can be built to meet the required RPO and RTO.

Secure Data and Secure Management

Supporting SED (Self-Encrypting Drives) will keep your sensitive data safe even if the drives are lost, stolen, or misplaced. WORM (Write Once Read Many) will keep your sensitive data safe to prevent human or ransomware tampering. Additionally, Windows ACL (Access Control List) and RBAC (Role-Based Access Control) helps to prevent unauthorized access to your data. All management communication is secured over https.

VS320D-RS26U

Appearance

1. Enclosure Status LED
2. Enclosure Access LED
3. Enclosure Power Button / LED
4. Disk Drive Status LED
5. Disk Drive Power LED
6. USB Port
7. UID **(Unique Identifier)** Button / LED
8. Power Supply Unit
9. Master / Slave LED **(only for dual controllers)**
10. Controller Status LED
11. Dirty Cache LED
12. UID **(Unique Identifier)** LED
13. 12 Gb/s SAS Wide Port
14. 10 GbE iSCSI (SFP+) Port
15. Management Port
16. LAN Card Slot 1 **(LAN card is an optional part)**
17. Service Port
18. Console Port
19. USB Port
20. LAN Card Slot 2 **(LAN Card is an optional part)**
21. Reset to Factory Default Button
22. Buzzer Mute Button

System Specification

Model Name	VS320D-RS26U
Architecture	Dual-active controller
CPU	
Processor	Intel® Xeon® 64-bit 4-core (per controller)
Memory	
Memory Module	DDR4 ECC DIMM (per controller)
Total Memory Slots	4 (per controller)
Memory Expandable up to	128 GB (per controller)
Storage	
Drive Bays	2.5" Slot x 26
Maximum Drive Bays with Expansion Unit (JBOD)	26 SAS SSD + 312 SAS HDD
Compatible Drive Type	2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD
Drive Interface	SAS 12 Gb/s
Maximum Internal Raw Capacity	399 TB (calculate 15.36 TB SSD)
Maximum Raw Capacity with Expansion Units (JBOD)	7,887 TB (calculate 24 TB HDD and 15.36TB SSD)
Hot Swappable Drive	Yes
Connectivity Port	
PCIe Expansion	(Gen 3x8 Slot) x 2
1 GbE RJ45 LAN Port	1 (onboard management port per controller)
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)
10 GbE RJ45 LAN Port	4 (option)
25 GbE SFP28 LAN Port	2 (option) / 4 (option)
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)
32 Gb SFP28 Fibre Channel	2 (option) / 4 (option)
Expansion and External Port	
12 Gb/s SAS Wide Port	2 (onboard per controller)
USB Port	1 (front) / 2 (rear)
Others	Console Port x 1, Service Port (UPS) x 1
Software Specification	
Storage OS	ASUS Unified Storage Manager
RAID Type	0 / 1 / 3 / 5 / 6 / 10 / 30 / 50 / 60 / 5EE / 6EE / 50EE / 60EE / N-way mirror
Support Protocols	CIFS / NFS / FTP / WebDAV / iSCSI / FCP
Storage Efficiency	Thin provisioning Compression and Deduplication (option)
Software Acceleration	SSD cache / Auto tiering / RDMA
Data Protection	Snapshot
Backup Service	Rsync / S3 backup / Cloud backup / XMirror* / Microsoft 365 email backup
Remote Replication	Asynchronous (built-in) / Synchronous (option)
Security	SSL / SSH / iSCSI CHAP / ISE & SED / WORM / RBAC / Windows ACL / Antivirus
Management	Web UI / Serial console / RESTful API / S.E.S. / LCM
Appearance	
Dimension (H x W x D) (mm)	88 x 438 x 491
Net Weight (kg)	16.3
Gross Weight (kg)	18.6
Others	
Memory Protection	Cache-to-Flash (Supercapacitor Module + Flash Module) (option)
System Fan	4 pcs
Power Supply Unit	850 W x 2 (80 PLUS Platinum)
Power Consumption	429 W
Certification	CE / FCC / BSMI / CCC
Environment	
Operation temperature	0˚C to 40˚C
Non operation temperature	-10˚C to 50˚C
Non operating humidity	10% to 90% (Non condensing)

4U 78bays SAS JBOD

VS320D-RS78J

High Density & High Availability JBOD for storage capacity expansion

Form Factor **4U**	Storage Bay **78**	Storage Expander **2**

Appearance
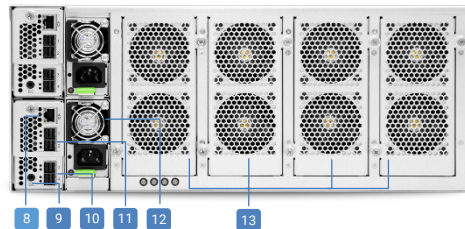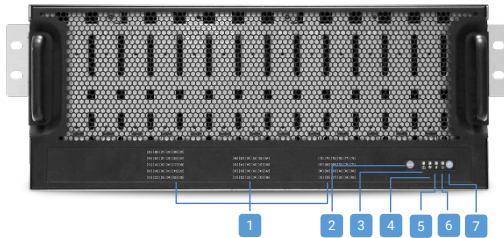
1. Disk Drive Power / Status LED
2. System Alert Mute Switch
3. Fan Fault LED
4. Temperature (Overheating) LED
5. Power Fail LED
6. Power LED
7. System Power Switch
8. Management Port
9. Console Port
10. 12Gb/s SAS Wide Port 3 and Port 4
11. 12Gb/s SAS Wide Port 1 and Port 2
12. Power Supply Unit
13. Fan Module

Key Benefits Outstanding Performance

The VS320D-RS78J (3.5" 4U 78-bay) is a high density storage expansion JBOD unit with a low acquisition cost.
Excellent performance with 12Gb/s SAS interface and 48 Gb/s SAS Wide Port.
Outstanding scale-up capability up to 7.4 PB and ideal for modern enterprise applications such as 2nd cold data pools, data lake , and backup.

High Availability and Enterprise Reliability

The ASUS VS320D-RS78J is a proven high availability JBOD with fully redundant components for all significant functions, including dual expander, power supplies, fan modules, host ports, and expansion ports.
Support zone configure allows you to map hard drive groups to different SAS interfaces.

System Specification

Model Name	VS320D-RS78J
Architecture	Dual-active expander
Storage	
Drive Bays	3.5" Slot x 78
Maximum Drive Bays with JBODs	312 (78x4)
Compatible Drive Type	3.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD (optional)
Drive Interface	SAS 12 Gb/s , 48Gb/s Wide Port
Maximum Internal Raw Capacity	1,872 TB (calculate 24 TB SSD)
Maximum Raw Capacity with JBODs	7,488 TB (calculate 24 TB HDD)
Hot Swappable Drive	Yes
Expansion and External Port	
12 Gb/s SAS Wide Port	4 x Mini-SAS (onboard) per expander
Management Port	1 GbE (IPMI) per expander
Others	1 x BMC console port per expander
Appearance	
Dimension (H x W x D) (mm)	176 x 434 x 810.5
Gross Weight (kg)	57.67
Others	
System Fan	8 pcs
Power Supply Unit	1600 W x 2 (80 PLUS Platinum)
Certification	CE / FCC / BSMI / CCC
Environment	
Operation temperature	0°C to 35°C
Operating humidity	20% to 80%
Non operation temperature	-20°C to 60°C
Non operating humidity	10% to 90% (Non condensing)