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Model: D3-S4610 (Part Number: 4XB7A13639)

1. OVERVIEW

The Lenovo D3-S4610 240 GB Solid State Drive (SSD) is an internal storage solution designed for high-performance computing environments, particularly Lenovo servers. This SATA/600 SSD offers a storage capacity of 240 GB, optimized for mixed-use workloads with a high endurance rating. It provides superior read and write speeds, ensuring efficient data handling and system responsiveness. Its robust design and advanced features make it suitable for demanding enterprise applications.

Key features include 256-bit encryption, a maximum read transfer rate of 560 MB/s, and a maximum write transfer rate of 340 MB/s, with an endurance of 3.2 DWPD (Drive Writes Per Day).

2. SETUP AND INSTALLATION

This section provides general guidelines for installing the Lenovo D3-S4610 SSD. For specific server models, always refer to your server's official documentation for detailed installation procedures.

2.1. Before Installation

- Ensure your server is powered off and disconnected from all power sources.
- Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage.
- Confirm compatibility with your Lenovo ThinkSystem server model (e.g., ST550, SR530, SR630, etc.).

2.2. Physical Installation

1. Locate an available 3.5-inch drive bay in your server. This SSD is designed for hot-swap compatibility in supported systems.
2. If using a drive carrier, secure the SSD to the carrier using the appropriate screws.

3. Carefully slide the SSD (with or without carrier) into the empty drive bay until it clicks into place, ensuring the SATA data and power connectors align correctly.
4. Close and secure the drive bay latch or cover, if applicable.
5. Reconnect power to the server and power it on.

2.3. Initializing the SSD

- Once the server boots, access the operating system's Disk Management (Windows) or Disk Utility (Linux/macOS) to initialize, partition, and format the new SSD.
- Follow the on-screen prompts to prepare the drive for use.



A top-down view of the Lenovo D3-S4610 Solid State Drive. The drive is silver with a black label on top. The label displays the Lenovo logo, Intel SSD D3 S4610 Series branding, model number, serial number, and various technical specifications including manufacturing date, voltage, current, and capacity. The Intel logo is also visible on the bottom right corner of the drive's casing.

3. OPERATING INSTRUCTIONS

The Lenovo D3-S4610 SSD operates as a standard storage device within your server environment. Once installed and formatted, it can be used for various purposes:

- **Operating System Drive:** Install your server's operating system for fast boot times and application loading.
- **Application Storage:** Store frequently accessed applications and databases to leverage the SSD's high I/O performance.
- **Data Storage:** Use as primary or secondary storage for critical data that benefits from rapid access.
- **Caching:** Utilize as a cache drive in transactional applications to improve overall system responsiveness.

No specific user interaction is required for the SSD's operation beyond standard file management and system administration tasks.

4. MAINTENANCE AND BEST PRACTICES

To ensure optimal performance and longevity of your Lenovo D3-S4610 SSD, consider the following maintenance tips:

- **Enable TRIM:** Ensure your operating system has TRIM enabled. TRIM helps the SSD manage data more efficiently, preventing performance degradation over time. Most modern operating systems enable this by default for SSDs.
- **Avoid Defragmentation:** Unlike traditional HDDs, SSDs do not benefit from defragmentation. Defragmenting an SSD can reduce its lifespan by causing unnecessary write cycles.
- **Maintain Free Space:** Try to keep at least 10-15% of the SSD's capacity free. This allows the SSD's wear-leveling algorithms to function optimally.
- **Firmware Updates:** Periodically check the Lenovo support website for firmware updates for your SSD. Firmware updates can improve performance, stability, and address potential issues.
- **Monitor Health:** Use S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) tools to monitor the health and endurance of your SSD.

5. TROUBLESHOOTING

This section addresses common issues you might encounter with your SSD.

5.1. SSD Not Detected

- **Check Connections:** Ensure the SATA data and power cables are securely connected to both the SSD and the motherboard/backplane.
- **Verify BIOS/UEFI Settings:** Enter your server's BIOS/UEFI settings and confirm that the SATA port the SSD is connected to is enabled. Ensure the SATA mode is set to AHCI for optimal SSD performance.
- **Try Another Port/Cable:** Test the SSD with a different SATA port or cable to rule out faulty hardware.
- **Check Power Supply:** Ensure your server's power supply unit (PSU) provides sufficient power.

5.2. Slow Performance

- **TRIM Status:** Verify that TRIM is enabled for your SSD in your operating system.
- **Firmware:** Ensure your SSD has the latest firmware installed.
- **Free Space:** Check if the SSD is nearly full. Performance can degrade significantly when an SSD is close to full capacity.
- **Driver Issues:** Ensure your SATA controller drivers are up to date.
- **Overheating:** While less common for SSDs, ensure proper airflow within the server chassis to prevent thermal throttling.

5.3. Data Corruption or Errors

- **Run Disk Check:** Use your operating system's built-in disk checking tools (e.g., `chkdsk` on Windows,

`fsck` on Linux) to scan for and repair file system errors.

- **S.M.A.R.T. Data:** Check the SSD's S.M.A.R.T. data for any indicators of impending failure.
- **Backup Data:** Immediately back up any critical data if you suspect drive failure.

6. TECHNICAL SPECIFICATIONS

Feature	Specification
Storage Capacity	240 GB
Encryption Standard	256-bit
Maximum Read Transfer Rate	560 MB/s
Maximum Write Transfer Rate	340 MB/s
Endurance (DWPD)	3.2
Endurance (TBW)	1433.60 TB
Endurance Type	Mixed Use
Drive Interface	SATA
Drive Interface Standard	SATA/600
Drive Type	Internal
Drive Width	3.5"
Hot Swappable	Yes
Operating Power Consumption	2.40 W
Compatible Devices	Lenovo ThinkSystem Servers (ST550, SR530, SR550, SR570, SR590, SR630, SR650, SR850, SR860, SR950, SD530, SN850)
Manufacturer	Lenovo
Item Model Number	4XB7A13639
Product Dimensions	10.2 x 8.1 x 3.8 inches
Item Weight	1 pounds
Color	Black
Date First Available	September 16, 2018

7. WARRANTY AND SUPPORT

7.1. Limited Warranty

The Lenovo D3-S4610 Solid State Drive comes with a **1-Year Limited Warranty** from the manufacturer. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

7.2. Technical Support

For technical assistance, troubleshooting beyond this manual, or warranty service, please contact Lenovo's official support channels. Visit the official Lenovo support website for contact information, driver downloads, and additional resources.