

GS 5024U Best Practice

Overview

The **GS 5024U** is a 2U hybrid NVMe unified storage solution. This guide outlines the specific hardware configurations required to reach maximum performance benchmarks:

- **NVMe SSDs:** Up to 125GB/s throughput.
- **NL-SAS HDDs:** Up to 100GB/s throughput.

1. Drive & RAID Configuration

To reach target speeds, the following drive populations are required:

Metric	NVMe SSD Configuration	NL-SAS HDD Configuration
Target Throughput	125 GB/s	100 GB/s
Drive Count	24x U.2 NVMe SSDs (Full Population)	480x NL-SAS HDDs (via 6x JBODs)
RAID Level	RAID 5 or RAID 6	RAID 5 or RAID 6

2. Memory Requirements

- Configuration: Full population of **8 DIMMs per controller**.
- Requirement: **Both controllers must be fully populated** to ensure optimal memory bandwidth and system stability.

3. Host Board Slot Assignments

Host board placement is critical for bandwidth distribution. Please follow the slot assignments below based on your drive media.

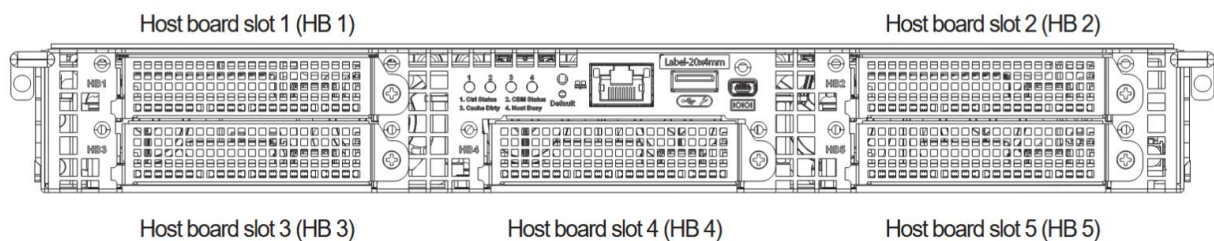
A. For 125GB/s (NVMe SSD Setup)

- **Fibre Channel (32G FC):** Install **5x FC host boards** per controller in **Slots 1 through 5**.
- **100GbE (Dual Port):** Install **4x 100GbE host boards** per controller in **Slots 1 through 4**.
- **200GbE (Single Port):** Install **4x 200GbE host boards** per controller in **Slots 1 through 4**.

B. For 100GB/s (NL-SAS HDD Setup)

Note: Slots 1 and 2 are dedicated to 24Gb SAS Expansion boards to connect JB 4090 JBODs.

- **100GbE (Dual Port):** Install **3x 100GbE host boards** per controller in **Slots 3 through 5**.
- **200GbE (Single Port):** Install **3x 200GbE host boards** per controller in **Slots 3 through 5**.



4. Host Server & Testing Environment

To replicate these performance figures, the following test environment is required:

- **FC Connectivity:** 6x Windows Servers.
- **Ethernet Connectivity:** 4x Windows Servers.
- **Benchmark Tool:** Iometer.
- **Test Setting:** Outstanding I/O (Queue Depth) set to **64**.