

Performance Report

PAC Storage PS 3000/4000 Gen2

Version: 2.7
Updated: August 2020

Applicable Models

For your reference, below are the applicable models in this performance report:

| Series | Applicable Models |
|--------------|---|
| PS 3000 Gen2 | PS 3012 Gen2 PS 3025B Gen2 PS 3016 Gen2 PS 3024 Gen2 PS 3060 Gen2 GSa 3025 Gen2 (Only for SSD performance) |

SAS SSD Drive

Block-Level Section

- IOPS with small block size

| Host Type: iSCSI_25Gb/s | | Block Level | | | | |
|---|--------|--------------|------------|---------|---------|----------------|
| | | Profile | End-to-End | | | All Cache Hit* |
| | | IO Behavior | Random | | | Sequential |
| | | Size | 4KB | 8KB | 64KB | 512B |
| PS 3000 Gen2 FW: 1.45G.05 Block mode | RAID 5 | Read (IOPS) | 411,484 | 420,392 | 112,876 | 276,604* |
| | | Write (IOPS) | 135,035 | 130,170 | 27,116 | 352,350* |

- Throughput with large block size

| Host Type: iSCSI_25Gb/s | | Block Level | | | | |
|---|--------|--------------|------------|--------|--------|---------------|
| | | Profile | End-to-End | | | All Cache Hit |
| | | IO Behavior | Sequential | | Random | Sequential |
| | | Size | 64KB | 1MB | 1MB | 1MB |
| PS 3000 Gen2 FW: 1.45G.05 Block mode | RAID 5 | Read (MB/s) | 6,781 | 8,329 | 8,640 | 11,743 |
| | | Write (MB/s) | 5,767 | 4,243 | 2,783 | 6,606 |
| PS 4000 Gen2 FW: 1.44G.02 Block mode | RAID 5 | Read (MB/s) | 11,107 | 11,882 | 11,734 | 14,184 |
| | | Write (MB/s) | 6,101 | 5,600 | 2,718 | 6,516 |

● Applications

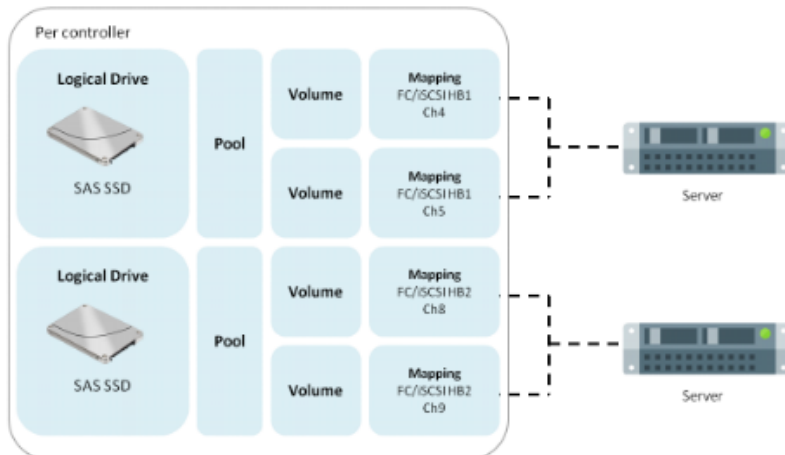
| Host Type: iSCSI_25Gb/s | | Block Level | | | |
|--|--------|-------------|---------------------------|---------|----------------------|
| | | Profile | End-to-End | | |
| | | Application | Database R/W = 70%/30% | | VDI R/W = 20%/80% |
| | | Size | 4KB | 8KB | 4KB |
| PS 3000 Gen2 FW: 1.45G.05 Block mode | RAID 5 | Read (IOPS) | 234,636 | 224,463 | 130,261 |

Topology

This section illustrates the principle of the network topology and storage configuration. Please refer to topology section and the system configuration section to get the best performance from PAC Storage PS family. **Note:** In order to leverage the advantage of multi-thread, please create multiple shared folders to run the file-level tests.

SAS SSD Drive

● Block-Level



System Configurations

Storage Configuration Profile

The following table shows the configuration adopted from our PS/PSe best practice with a storage pool and a shared folder. To provide a single namespace sharing solution, we configured the GS dual controller models with an active-standby configuration.

As a tradeoff between usable capacity and failure tolerance, we recommend to build the LD within 15 drives.

- **Block-Level SSD**

| Model | # of Drive | # of LD | # of Pool | # Volume | # of Client |
|--------------|------------|---------|-----------|----------|-------------|
| GS 3000 Gen2 | 16 | 2 | 2 | 4 | 4 |
| GS 4000 Gen2 | 16 | 2 | 2 | 4 | 4 |

Benchmark Tool Settings

| Benchmark Tool | Vdbench | |
|----------------|---------------|---|
| I/O setting | Threads: CIFS | Sequential 10, Random 64 (HDD unable to accept high threads) |
| | Ramp Up Time | 20 sec |
| | Run Time | 120 sec |