



## LAB AND ENGINEERING

### FlacheSAN1L-UN Approved Vendor List (AVL)

#### Description

This document is to present the vendor components that are qualified and approved to be used in conjunction with Echostreams enclosure. The list is curated from Echostreams lab test results, as well as from AVL and QVL of the aforementioned components. Items unlisted do not reflect on their incompatibility rather than they have yet looked upon. Disqualified items may be listed explicitly. Items on the list are subject to change.

#### Enclosures

FlacheSAN1L-UN

#### Lists

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|                  |            |
|------------------|------------|
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This list is compiled based on the compatibility between CPU and motherboard.

| Socket | Family | Number | Core | Frequency | Cache | TDP      |
|--------|--------|--------|------|-----------|-------|----------|
| SP3    | Naples | 7551   | 32   | 2.0GHz    | 64M   | 180W     |
| SP3    | Naples | 7451   | 24   | 2.3GHz    | 64M   | 180W     |
| SP3    | Naples | 7601   | 32   | 2.2GHz    | 64M   | 180W     |
| SP3    | Naples | 7351P  | 16   | 2.4GHz    | 64M   | 155/170W |
| SP3    | Naples | 7351   | 16   | 2.4GHz    | 64M   | 155/170W |

This list is compiled based on the compatibility between memory module and motherboard.

| Type | Speed | DIMM  | Size | Vendor  | Module    | Specs     | Cell    |
|------|-------|-------|------|---------|-----------|-----------|---------|
| DDR4 | 2400  | RDIMM | 16GB | Samsung | M393A2K40 | PC4-19200 | Samsung |
| DDR4 | 2400  | RDIMM | 32GB | Hynix   | HMA84GR7A | PC4-21300 | Hynix   |

This list is compiled based on the compatibility between the host IO cards and the JBOD.

| IO Card    | Vendor     | Name       | Model           | Chipset      | Host Bus  | Cle Lan | Xfer Rate           | Int. Port | Ext. Port | Connector | Form Factor |
|------------|------------|------------|-----------------|--------------|-----------|---------|---------------------|-----------|-----------|-----------|-------------|
| IOM        | Broadcom   |            | AOC-S2208L-H8iR | LSI SAS 2208 | PCIe Gen3 | x8      |                     |           |           |           | LP          |
|            |            |            | AOC-S2308L-L8i  | LSI SAS 2308 | PCIe Gen3 | x8      |                     |           |           |           | LP          |
|            |            |            | AOC-S3008L-L8i  | LSI SAS 3008 | PCIe Gen3 | x8      |                     |           |           |           | LP          |
|            |            |            | AOC-S3108L-H8iR | LSI SAS 3108 | PCIe Gen3 | x8      |                     |           |           |           | LP          |
|            |            |            | AOC-SAS2LP-H8iR | LSI SAS 2108 | PCIe Gen2 |         |                     |           |           |           | LP          |
|            |            |            | AOC-SAS2LP-MV8  | SAS          |           |         |                     |           |           |           | LP          |
|            |            |            | AOC-SLG3-4E2P   |              | PCIe Gen3 | x8      |                     |           |           |           | LP          |
| Network Ca | Qlogic     |            | QLE2562         |              | PCI-E 2.0 | x8      | 8 Gb/s FC           |           | 2 SFP+    |           | LP          |
|            |            |            | QLE2672         |              | PCI-E 3.0 | x4      | 16 Gb/s FC          |           | 2 SFP+    |           | LP          |
|            | Supermicro |            | SGP-i2          |              | PCI-E 2.0 | x4      | 1 GbE               |           | 2 RJ45    |           | LP          |
|            | Supermicro |            | SGP-i4          |              | PCI-E 2.0 | x4      | 1 GbE               |           | 4 RJ45    |           | LP          |
|            | Supermicro |            | STG-b4S         |              | PCI-E 3.0 | x8      | 10 GbE              |           | 4 SFP+    |           | LP          |
|            | Supermicro |            | STG-i2T         |              | PCI-E 2.0 | x8      | 10 GbE              |           | 2 RJ45    |           | LP          |
|            | Supermicro |            | STGN-i2S        |              | PCI-E 2.0 | x8      | 10 GbE              |           | 2 SFP+    |           | LP          |
|            | Mellanox   | ConnectX-3 | CX354A          |              | PCIe Gen3 | x8      | 16 Gb/s IB or 40GbE |           | 2         | QSFP      | LP          |
|            | Mellanox   |            | CX353A          |              | PCIe Gen3 | x8      | 16 Gb/s IB or 40GbE |           | 1         | QSFP      | LP          |
|            | Mellanox   | ConnectX-4 | CX456A          |              | PCIe Gen3 | x8      | 25 Gb/s IB or GbE   |           |           |           | LP          |
|            | Mellanox   |            | CX415A          |              | PCIe Gen3 | x8      | 25 Gb/s IB or GbE   |           |           |           | LP          |
|            | Mellanox   |            | CX416A          |              | PCIe Gen3 | x8      | 25 Gb/s IB or GbE   |           |           |           | LP          |
|            | Intel      |            | X520            | 82599        | PCIe Gen3 | x8      | 10GbE               |           | 2         | SFP+      | LP          |
|            | Intel      |            | XL710           |              | PCIe Gen3 | x8      | 40GbE               |           | 2         | SFP+      | LP          |
|            | Intel      |            | X710-DA4        |              | PCIe Gen3 | x8      |                     |           | 4         | SFP+      | LP          |
|            | Intel      |            | X540-T2         | 540          | PCIe Gen2 | x8      | 10GbE               | 0         | 2         | RJ-45     | LP          |
|            | Intel      |            | I350-T4V2       |              | PCIe Gen2 | x8      | 1GbE                | 0         | 2         | RJ-45     | LP          |

|             |          |          |               |             |           |    |           |    |    |             |    |
|-------------|----------|----------|---------------|-------------|-----------|----|-----------|----|----|-------------|----|
|             | Qlogic   |          | QLE2563       |             | PCIe Gen3 | x8 |           |    |    |             | LP |
|             | Qlogic   |          | QLE2672       |             | PCIe Gen3 | x8 |           |    |    |             | LP |
|             | Qlogic   |          | QLE3242       |             | PCIe Gen3 | x8 |           |    | 2  | RJ-45       | LP |
|             | HotLava  |          | HL-100G2Q-XL  | XL710       | PCIe Gen3 | x8 | 40GbE     |    | 1  | QSFP        | LP |
|             | Atto     |          | FC-322E       |             |           |    | 32Gb FC   |    |    |             | LP |
| SAS Card    | Broadcom | MegaRAID | SAS 9286-8e   | SAS2208     | PCIe Gen3 | x8 | 6Gb/s     | 0  | 8  | SFF-8088    | LP |
|             |          | HBA      | SAS 9207-8e   | SAS2308     | PCIe Gen3 | x8 | 6Gb/s     | 0  | 8  | SFF-8087    | LP |
|             |          | HBA      | SAS 9207-4i4e | SAS2308     | PCIe Gen3 | x8 | 6Gb/s     | 4  | 4  | SFF-8087/88 | LP |
|             |          | HBA      | SAS 9305-24i  | SAS3224 IOC | PCIe Gen3 | x8 | 12Gb/s    | 24 | 0  | SFF-8644    | LP |
|             |          | HBA      | SAS 9305-16e  | SAS3224 IOC | PCIe Gen3 | x8 | 12Gb/s    | 0  | 16 | SFF-8644    | LP |
|             |          | HBA      | SAS 9300-8e   | SAS3008 IOC | PCIe Gen3 | x8 | 12Gb/s    | 0  | 8  | SFF-8644    | LP |
|             |          | HBA      | SAS 9300-16e  | SAS3008 IOC | PCIe Gen3 | x8 | 12Gb/s    | 0  | 16 | SFF-8644    | LP |
|             |          | HBA      | SAS 9300-4i4e | SAS3008 IOC | PCIe Gen3 | x8 | 12Gb/s    | 4  | 4  | SFF-8643/44 | LP |
|             |          | MegaRAID | SAS 9380-8i8e | SAS3108 ROC | PCIe Gen3 | x8 | 12Gb/s    | 8  | 8  | SFF-8643/44 | LP |
|             |          | MegaRAID | SAS 9380-8e   | SAS3108 ROC | PCIe Gen4 | x8 | 12Gb/s    | 0  | 8  | SFF-8644    | LP |
|             | Adaptec  |          | ASR-71605     |             |           |    |           |    |    |             | LP |
|             | ATTO     |          | H12F0         |             |           |    | 12Gb/s    |    | 16 |             | LP |
| Storage Car | Samsung  |          | SM1715        |             | PCIe Gen3 | x8 | PCIe NVMe |    |    |             | LP |
|             | Kingston |          | EP1000        |             | PCIe Gen3 | x8 | PCIe NVMe |    |    |             | LP |

This list is compiled based on the compatibility between hard drives and expander. Echostreams backplane is used as a passive medium between those components. Only drives with 2.5" form factor are supported by the enclosures.

| Vendor             | Model                     | Type               | Gen   | FW        | Capacity | Size  | Cache   | RPM     |         |
|--------------------|---------------------------|--------------------|-------|-----------|----------|-------|---------|---------|---------|
| WD                 | WD9001BKHG                | SAS                | 6Gb/s | SR03      | 900GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD6001BKHG                | SAS                | 6Gb/s | SR03      | 600GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD4501BKHG                | SAS                | 6Gb/s | SR03      | 450GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD3001BKHG                | SAS                | 6Gb/s | SR03      | 300GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD9001BKHG                | SAS                | 6Gb/s | RG00      | 146GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD3000BKFG                | SAS                | 6Gb/s | RG00      | 300GB    | 2.5"  | 16MB    | 10K RPM |         |
|                    | WD6000BKHG                | SAS                | 6Gb/s | VG03      | 600GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | WD4500BKHG                | SAS                | 6Gb/s | VG03      | 450GB    | 2.5"  | 32MB    | 10K RPM |         |
|                    | HGST                      | HUC101212CSS600    | SAS   | 6Gb/s     | A35A     | 1.2TB | 2.5"    | 64MB    | 10K RPM |
| HUC109090CSS600    |                           | SAS                | 6Gb/s | A1D0      | 900GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC109060CSS600    |                           | SAS                | 6Gb/s | A1D0      | 600GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC109045CSS600    |                           | SAS                | 6Gb/s | A1D0      | 450GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC109030CSS600    |                           | SAS                | 6Gb/s | A1D0      | 300GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC106060CSS600    |                           | SAS                | 6Gb/s | A202      | 600GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC106045CSS600    |                           | SAS                | 6Gb/s | A202/A360 | 450GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC106030CSS600    |                           | SAS                | 6Gb/s | A202      | 300GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC106060CSS600    |                           | SAS                | 6Gb/s | A150      | 600GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC151473CSS600    |                           | SAS                | 6Gb/s | A5D0      | 73GB     | 2.5"  | 64MB    | 15K RPM |         |
| HUC151414CSS600    |                           | SAS                | 6Gb/s | A5D0      | 147GB    | 2.5"  | 64MB    | 15K RPM |         |
| HUC151414CSS600    |                           | SAS                | 6Gb/s | A370      | 147GB    | 2.5"  | 64MB    | 15K RPM |         |
| HUC103014CSS600    |                           | SAS                | 6Gb/s | A5D0      | 147G     | 2.5"  | 64MB    | 10K RPM |         |
| HUC103030CSS600    |                           | SAS                | 6Gb/s | A5D0      | 300GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC151414CSS600    |                           | SAS                | 6Gb/s | A5D0      | 147GB    | 2.5"  | 64MB    | 15K RPM |         |
| HUC151473CSS600    |                           | SAS                | 6Gb/s | A330      | 73GB     | 2.5"  | 64MB    | 15K RPM |         |
| HUC103030CSS600    |                           | SAS                | 6Gb/s | A120      | 300GB    | 2.5"  | 64MB    | 10K RPM |         |
| HUC103014CSS600    |                           | SAS                | 6Gb/s | A120      | 147GB    | 2.5"  | 64MB    | 10K RPM |         |
| Seagate            |                           | ST600MP0034 (512e) | SAS   | 6Gb/s     | E001     | 600GB | 2.5"    |         | 15K RPM |
|                    |                           | ST450MP0034 (512e) | SAS   | 6Gb/s     | E001     | 450GB | 2.5"    |         | 15K RPM |
|                    | ST300MP0034 (512e)        | SAS                | 6Gb/s | E001      | 300GB    | 2.5"  |         | 15K RPM |         |
|                    | ST300MX0004 (SSHDD, 512e) | SAS                | 6Gb/s | E001      | 300GB    | 2.5"  |         | 15K RPM |         |
|                    | ST450MX0004 (SSHDD, 512e) | SAS                | 6Gb/s | E001      | 450GB    | 2.5"  |         | 15K RPM |         |
|                    | ST600MX0004 (SSHDD, 512e) | SAS                | 6Gb/s | E001      | 600GB    | 2.5"  |         | 15K RPM |         |
|                    | ST300MP0004               | SAS                | 6Gb/s | N001      | 300GB    | 2.5"  |         | 15K RPM |         |
|                    | ST450MP0004               | SAS                | 6Gb/s | N001      | 450GB    | 2.5"  |         | 15K RPM |         |
|                    | ST300MP0014               | SAS                | 6Gb/s | TN01      | 300GB    | 2.5"  |         | 15K RPM |         |
|                    | ST450MP0014               | SAS                | 6Gb/s | TN01      | 450GB    | 2.5"  |         | 15K RPM |         |
| ST300MP0044 (512e) | SAS                       | 6Gb/s              | TE01  | 300GB     | 2.5"     |       | 15K RPM |         |         |

|         |                    |     |       |      |       |      |          |
|---------|--------------------|-----|-------|------|-------|------|----------|
|         | ST450MP0044 (512e) | SAS | 6Gb/s | TE01 | 450GB | 2.5" | 15K RPM  |
|         | ST600MP0044 (512e) | SAS | 6Gb/s | TE01 | 600GB | 2.5" | 15K RPM  |
|         | ST1200MM0017       | SAS | 6Gb/s | 1    | 1.2TB | 2.5" | 10K RPM  |
|         | ST1200MM0017       | SAS | 6Gb/s | 1    | 1.2TB | 2.5" | 10K RPM  |
|         | ST900MM0026        | SAS | 6Gb/s | 1    | 900GB | 2.5" | 10K RPM  |
|         | ST600MM0026        | SAS | 6Gb/s | 1    | 600GB | 2.5" | 10K RPM  |
|         | ST450MM0026        | SAS | 6Gb/s | 1    | 450GB | 2.5" | 10K RPM  |
|         | ST300MM0026        | SAS | 6Gb/s | 1    | 300GB | 2.5" | 10K RPM  |
|         | ST900MM0006        | SAS | 6Gb/s | A001 | 900GB | 2.5" | 10K RPM  |
|         | ST600MM0006        | SAS | 6Gb/s | A001 | 600GB | 2.5" | 10K RPM  |
|         | ST450MM0006        | SAS | 6Gb/s | A001 | 450GB | 2.5" | 10K RPM  |
|         | ST300MM0006        | SAS | 6Gb/s | A001 | 300GB | 2.5" | 10K RPM  |
|         | ST91000640SS       | SAS | 6Gb/s | 1    | 1TB   | 2.5" | 7200 RPM |
|         | ST9500620SS        | SAS | 6Gb/s | 2    | 500GB | 2.5" | 7200 RPM |
|         | ST91000640NS       | SAS | 6Gb/s | SN01 | 1TB   | 2.5" | 7200 RPM |
|         | ST9500620NS        | SAS | 6Gb/s | SN01 | 500GB | 2.5" | 7200 RPM |
|         | ST9250610NS        | SAS | 6Gb/s | SN01 | 250GB | 2.5" | 7200 RPM |
|         | ST9600204SS        | SAS | 6Gb/s | 4    | 600GB | 2.5" | 10K RPM  |
|         | ST9450404SS        | SAS | 6Gb/s | 4    | 450GB | 2.5" | 10K RPM  |
|         | ST9500431SS        | SAS | 6Gb/s | DSF0 | 500GB | 2.5" | 7200 RPM |
|         | ST9900805SS        | SAS | 6Gb/s | 4    | 900GB | 2.5" | 10K RPM  |
|         | ST9600205SS        | SAS | 6Gb/s | 4    | 600GB | 2.5" | 10K RPM  |
|         | ST9450405SS        | SAS | 6Gb/s | 4    | 400GB | 2.5" | 10K RPM  |
|         | ST9300605SS        | SAS | 6Gb/s | 4    | 300GB | 2.5" | 10K RPM  |
|         | ST973452SS         | SAS | 6Gb/s | 5    | 73GB  | 2.5" | 15K RPM  |
|         | ST9146852SS        | SAS | 6Gb/s | 5    | 146GB | 2.5" | 15K RPM  |
|         | ST9300603SS        | SAS | 6Gb/s | 6    | 300GB | 2.5" | 10K RPM  |
|         | ST9146803SS        | SAS | 6Gb/s | 6    | 146GB | 2.5" | 10K RPM  |
|         | ST9500430SS        | SAS | 6Gb/s | 3    | 500GB | 2.5" | 7200 RPM |
| Toshiba | AL13SEB300         | SAS | 6Gb/s | 101  | 300GB | 2.5" | 10K RPM  |
|         | AL13SEB450         | SAS | 6Gb/s | 101  | 450GB | 2.5" | 10K RPM  |
|         | AL13SEB600         | SAS | 6Gb/s | 101  | 600GB | 2.5" | 10K RPM  |
|         | AL13SEB900         | SAS | 6Gb/s | 101  | 900GB | 2.5" | 10K RPM  |
|         | MBF2600RE          | SAS | 6Gb/s | 101  | 600GB | 2.5" | 10K RPM  |
|         | MBF2450RE          | SAS | 6Gb/s | 101  | 450GB | 2.5" | 10K RPM  |
|         | MBF2300RE          | SAS | 6Gb/s | 101  | 300GB | 2.5" | 10K RPM  |
|         | MBF2600RC          | SAS | 6Gb/s | 109  | 600GB | 2.5" | 10K RPM  |
|         | MBF2450RC          | SAS | 6Gb/s | 109  | 450GB | 2.5" | 10K RPM  |
|         | MBF2300RC          | SAS | 6Gb/s | 109  | 300GB | 2.5" | 10K RPM  |
|         | MK2001TRKB         | SAS | 6Gb/s | 105  | 2TB   | 3.5" | 7200 RPM |
|         | MK1001TRKB         | SAS | 6Gb/s | 105  | 1TB   | 3.5" | 7200 RPM |
|         | MK3001GRRB         | SAS | 6Gb/s | 102  | 300GB | 2.5" | 15K RPM  |
|         | MK1401GRRB         | SAS | 6Gb/s | 102  | 145GB | 2.5" | 15K RPM  |
| Fujitsu | MBE2073RC          | SAS | 6Gb/s | 103  | 73GB  | 2.5" | 15K RPM  |
|         | MBD2300RC          | SAS | 6Gb/s | 102  | 300GB | 2.5" | 10K RPM  |
|         | MBE2147RC          | SAS | 6Gb/s | 103  | 147GB | 2.5" | 15K RPM  |
|         | MBD2147RC          | SAS | 6Gb/s | 102  | 147GB | 2.5" | 10K RPM  |

| Type       | Size      | Vendor    | Capacity | Model    | Part Number       |
|------------|-----------|-----------|----------|----------|-------------------|
| SATA3      | 2.5"      | Innodisk  | 256G     |          | DGS25-B56D81SC1QC |
| SATA3      | 2.5"      | Innodisk  | 128G     | 3MG-P    | DGS25-A28D67SC1QC |
| SATA3      | 2.5"      | Intel     | 120G     | 530      |                   |
| SATA3      | 2.5"      | Kingston  | 100G     | SSDNOW E |                   |
| SATA 6Gb/s | 2.5"      | Seagate   | 500GB    |          | ST9500620NS       |
| SATA 6Gb/s | 2.5"      | Seagate   | 1TB      |          | ST91000640NS      |
| SATA 6Gb/s | 2.5"      | Intel     | 800GB    |          | SSDSC2BB800G4     |
| SATA 6Gb/s | 2.5"      | Samsung   | 240GB    |          | MZ-7WD240N/003    |
| PCIe       | M.2 2280  | Intel     | 128GB    | SSDPEKKW |                   |
| PCIe       | M.2 22110 | Techman   | 2TB      | PV100E5B |                   |
| PCIe       | M.2 2280  | Techman   | 480GB    | PV100D5N |                   |
| PCIe       | M.2 22110 | Techman   | 482GB    | PV100C5B |                   |
| SATA 6Gb/s | M.2       | Transcend | 128GB    | MTS800   |                   |
| SATA 6Gb/s | M.2       | Transcend | 128GB    | MTS600   |                   |
| SATA 6Gb/s | M.2       | Transcend | 128GB    | MTS400   |                   |