High Performance Solution with Open-E DSS V7 and Supermicro SSG-6027R-E1R12T

Flexible Storage to meet the rising tide of unstructured data
The SSG-6027R-E1R12T Server running Open-E DSS V7 offers a flexible cost effective platform to build and manage storage deployments. Open-E DSS V7 is a robust, award-winning enterprise storage application which offers excellent compatibility with industry standards. Key features and benefits include:

- **Easy To Use** – The simple GUI features an integrated wizard that guides users through the installation and storage configuration process step-by-step offering a low learning curve to understand the setup and configuration.

- **Remote Storage Management** – Our secure web-based interface enables you to manage the server from anywhere in the world.

- **Flexible Unified Connectivity** – SMB, NFS, Apple Talk, NFS, iSCSI, and Fibre Channel connectivity provides interoperability in enterprise environments of all sizes and application types.

- **Virtualization** – Certified with VMware and Citrix Ready as well as Optimized for Microsoft Hyper-V with Persistent Reservations.

- **High Availability** – Configurations can be deployed using 2x Nodes providing Active-Active and Active-Passive Failover for iSCSI Volumes. Support for File and Block interfaces allowing for replication with mission critical data redundancy.

**NAS and SAN (Unified Storage)**
- Unified Storage allows both block and file level access to support the widest number of client applications.
- Hardware RAID offers efficient capacity utilization, fault tolerance and write back cache performance to support low latency applications.
- Two 10G base-T interfaces offers the flexibility to work with both legacy 1G and 10G networks cabled with user friendly RJ45 copper cabling.

**Reliable Storage**
- Capable of high capacity and high throughput for demanding backup applications and general purpose file serving.

**Typical Deployment Model**
Single node configurations can provide storage to network production servers as well as direct support of clients with high capacity requirements.

**Supermicro 6027R-E1R12T AT-A-GLANCE**
- 2U Rack mount server with 12x 3.5” hot-swap drive bays
- Optional 2x rear 2.5” hot-swap bays for OS
- 6Gbps LSI 2208 SAS2 RAID controller
- 2x 10G Base-T Ethernet ports (RJ45)
- Dedicated IPMI Out-of-Band Management port

**Open-E DSS V7 AT-A-GLANCE**
- Robust, award-winning storage application
- Excellent compatibility with industry standards
- Easy to deploy and manage
- The most stable
- Price performance leader

Network Clients

10G Base-T network switch
(SSE-X3348T / SSE-X3348TR)

SuperStorageModel:
SGS-2027R-E1R12T
Running Open-E DSS V7
Supermicro Hardware Specifications

Base System Specification
The full system specification, manuals and support materials can be found at:

### Product SKUs
- SSG-6027R-E1R12T: SuperServer 6027R-E1R12T (Black)
- Motherboard: Super 296/8H-7TF

### Processor/Cache
- **Recommended CPU**: Intel® Xeon® E5-2697 v2 2.70GHz
- **System Supports**: Dual Socket R (LGA 2011) (up to 130W TDP)
- **Cache**: Up to 30MB
- **System Bus**: QPI up to 8 GT/s

### System Memory
- **Recommended Memory**: 64GB using 8x 8GB DDR3 ECC REG
- **System Supports**:
  - 16x 240-pin DDR3 DIMM sockets
  - Up to 178 DDR3 ECC UDIMM
  - Up to 512GB DDR3 ECC Registered memory (RDIMM)
  - Up to 128GB DDR3 ECC Un-Buffered memory (UDIMM)
- **Memory Type**: 1866/1600/1333/1066/800MHz ECC DDR3 SDRAM 72-bit, 240-pin gold-plated DIMMs
- **DIMM Sizes**: 32GB, 16GB, 8GB, 4GB, 2GB, 1GB
- **Memory Voltage**: 1.5 V, 1.35 V
- **Error Detection**: Corrects single-bit errors
- **Defects double-bit errors (using ECC memory)**

### On-Board Devices
- **Chipset**: Intel® C602 Chipset
- **AHCI SATA**:
  - SATA 2.0 3Gbps with RAID 0, 1, 5, 10
  - SATA 3.0 Gbps with RAID 0, 1
- **SCU SATA**:
  - SATA 2.0 3Gbps with RAID 0, 1, 10
- **SAS**:
  - SAS2 from LSI 2208
- **IPMI**:
  - HW RAID 0, 1, 0, 10, 50, 60 support
  - Support for Intelligent Platform Management interface v2.0
  - IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
  - Nuvoton WPCM450 BMC
  - Intel® X540 Dual Port 10GbE Base-T
  - Virtual Machine Device Queues reduce I/O overhead
  - Supports 10GbE Base-T, 100GbE-TX, and 1000Base-T, RJ45 output
  - 1x Realtek RTL8111N PHY (dedicated IPMI)
- **Graphics**:
  - Matrox G200eW

### Input / Output
- **AHCI SATA**:
  - 2x SATA 3.0 ports (6Gbps)
  - 4x SATA 2.0 ports (3Gbps)
- **SCU SATA**:
  - 4x SATA 2.0 ports (3Gbps)
- **SAS**:
  - 8x SAS2 ports (6Gbps)
- **LAN**:
  - 2x RJ45 100Base-T ports
  - 1x RJ45 Dedicated IPMI LAN port
- **USB**:
  - 7x USB 2.0 ports total (4 rear + 2 via header + 1 Type A)
- **VGA**:
  - 1x VGA port
- **Serial Port / Header**:
  - 1x Fast UART 16550 port / 11 Header

### Expansion Slots
- **PCI-Express**:
  - 1x PCIe x16
  - 6x PCIe x4

### Drive Bays
- **Hot-swap**:
  - 12x Hot-swap 3.5" SAS / SATA HDD trays
- **Optional OS Drive**:
  - 2x Rear Hot-swap 2.5" Drive Bays

### Backplane
- **SAS2 / SATA3 backplane**: LSI Expander

### System Cooling
- **Fans**: 3x 80mm 9.5K RPM, 6-pin PWM fans

### Power Supply with Power Distribution
- **920W high-efficiency (94%)** AC-DC Redundant power supplies with PMBus and I2C
- **AC Input**: 100-240V, 50-60 Hz, 11-4.5 Amp
- **DC Output**: 4 Amp @ 12V standalone
- **75 Amp @ 12V**

### System BIOS
- **BIOS Type**: 128MB SPI Flash EPROM with AMI BIOS
- **BIOS Features**:
  - Plug and Play (PnP)
  - APMI 1.2
  - PCI 2.2
  - ACPI 1.0 / 2.0
  - USB Keyboard support
  - SMBIOS 2.3
  - UEFI

### Operating Environment / Compliance
- **RoHS**: RoHS Compliant
- **Environmental Spec.**:
  - **Operating Temperature**:
    - 10°C to 35°C (50°F to 95°F)
  - **Non-operating Temperature**:
    - -40°C to 70°C (-40°F to 158°F)
  - **Operating Relative Humidity**:
    - 8% to 90% (non-condensing)
  - **Non-operating Relative Humidity**:
    - 5% to 95% (non-condensing)

### Out-of-Band Server Management
Our solutions are designed for easy automation with existing management infrastructure. In data centers, Supermicro Server Management Utilities provides you all the necessary functions.

- Remotely managing the health of hardware and operating system services
- Managing power consumption of nodes in cluster
- Managing BIOS provisioning through BMC/IPMI
- Execute commands on multiple target systems in parallel

For more information about Supermicro Server Management: http://www.supermicro.com/products/info/SMS_SUM.cfm