ORACLE DATA SHEET

Oracle Database Appliance X6-2S / X6-2M

ORACLE
DATABASE APPLIANCE

The Oracle Database Appliance saves time and money by simplifying deployment, maintenance, and support of database solutions for organizations of every size. Optimized for the world's most popular database—Oracle Database—it integrates software, compute, storage, and network resources to deliver database services for a wide range of custom and packaged online transaction processing (OLTP), in-memory database, and data warehousing applications. All hardware and software components are engineered and supported by Oracle, offering customers a reliable and secure system with built-in automation and best practices. In addition to accelerating the time to value when deploying database solutions, the Oracle Database Appliance offers flexible Oracle Database licensing options and reduces operational expenses associated with maintenance and support.

KEY FEATURES

- Fully integrated and complete database appliance
- Oracle Appliance Manager
- Web Console User Interface
- Oracle Database Enterprise Edition
- Oracle Database Standard Edition
- Single-instance Oracle databases
- Oracle Automatic Storage Management
- Oracle ASM Cluster File System
- Oracle Linux
- Intel® Xeon® E5-2630 v4 CPUs
- 10GBase-T and 10GbE SFP+ network connectivity
- NVM Express (NVMe) solid-state drives

Fully Integrated System Optimized for Oracle Database

The Oracle Database Appliance X6-2S and Oracle Database Appliance X6-2M are engineered as single 1U rack-mountable servers that provide the performance benefits associated with the latest generation Intel® Xeon® processors and NVM Express (NVMe) flash storage. The Oracle Database Appliance X6-2S is powered by one 10-core Intel® Xeon® processor E5-2630 v4 and 128 GB of main memory, expandable to 384 GB. The Oracle Database Appliance X6-2M doubles the processor and memory resources by offering two 10-core Intel® Xeon® processors E5-2630 v4 and 256 GB of main memory, expandable up to 768 GB. Both systems come configured with 6.4 TB of high-bandwidth NVMe flash for data storage and offer the option to double the raw storage capacity to 12.8 TB of NVMe flash. Both systems also come standard with 10GBase-T and 10GbE SFP+ network connectivity.

The Oracle Database Appliance X6-2S and Oracle Database Appliance X6-2M have Oracle best practices built-in and are optimized for Oracle databases. The number of processor cores, amount of main memory, and NVMe flash storage capacity in each fully integrated system is balanced to provide optimal database performance for a wide range of enterprise applications. Oracle Database sizing templates ensure that the system resources are properly allocated for database workloads running on each system. The Oracle Database Appliance X6-2S and Oracle Database Appliance X6-2M also incorporate NVMe flash storage to increase database performance and system reliability. Database workloads can realize a significant improvement in input/output operations per second (IOPS) and bandwidth while achieving extremely low latency

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KEY BENEFITS

- Oracle Engineered Systems for every organization
- World's #1 database
- Simple, optimized, and affordable
- Integrated hardware and software
- Built-in automation and best practices
- Ease of deployment, patching, management, and diagnostics
- Oracle's NVMe design to accelerate database performance
- Capacity-on-demand licensing
- Single-vendor support

and CPU overhead with NVMe flash storage over similar systems configured with conventional SAS solid-state drives.

Ease of Deployment, Management, and Support

To help customers easily deploy and manage their databases, the Oracle Database Appliance features the Appliance Manager software to simplify the provisioning, patching, and diagnosis of the system. The Appliance Manager feature greatly simplifies the deployment process and ensures that the database configuration adheres to Oracle's best practices. A web-based deployment console quickly gathers all the configuration parameters to streamline provisioning with a few easy steps. The Appliance Manager also drastically simplifies maintenance by patching the entire appliance, including all firmware and software, using an Oracle-tested patch bundle engineered specifically for the appliance. Simply select the appropriate patch bundle in the web-based patching console to update the entire system. Built-in diagnostics continually monitor the appliance and detect component failures, configuration issues, and deviations from best practices. In addition, the Oracle Database Appliance Auto Service Request (ASR) feature can automatically log service requests with Oracle Support to help speed resolution of issues.

Flexible Oracle Database Software Licensing

The Oracle Database Appliance X6-2S and the Oracle Database Appliance X6-2M support both Oracle Database Enterprise Edition and Standard Edition. Enterprise deployments that require the enhanced feature set of Oracle Database Enterprise Edition can take advantage of a unique capacity-on-demand database software licensing model to quickly scale utilized processor cores without any hardware upgrades. Customers can deploy the system and license as few as 2 processor cores in the appliance, and incrementally scale up to the maximum physical processor cores in each system. This enables customers to deliver the performance and reliability that enterprise business users demand, and align software spending with business growth. Small enterprises, line-of-business departments, and branch office deployments that don't require enterprise class features can license Oracle Database Standard Edition, allowing them to realize the benefits of the Oracle Database Appliance to reduce costs and improve productivity.

Oracle Database Appliance X6-2S / X6-2M Specifications

System Architecture

- *One server per system*

Processor

- *One Intel® Xeon® processor for Oracle Database Appliance X6-2S*
- *Two Intel® Xeon® processors for Oracle Database Appliance X6-2M*
- *E5-2630 v4 2.2 GHz, 10 cores, 85 watts, 25 MB L3 cache, 8.0 GT/s QPI, DDR4-2133*

Cache

- *Level 1: 32 KB instruction and 32 KB data L1 cache per core*
- *Level 2: 256 KB shared data and instruction L2 cache per core*
- *Level 3: 25 MB shared inclusive L3 cache per processor*

Main Memory

- *128 GB (4 x 32 GB) for Oracle Database Appliance X6-2S*
  - *Optional memory expansion to 384 GB (12 x 32 GB)*
- *256 GB (8 x 32 GB) for Oracle Database Appliance X6-2M*
  - *Optional memory expansion to 512 GB (16 x 32 GB) or 768 GB (24 x 32 GB)*

INTERFACES

Standard I/O

- *Two onboard auto-sensing 100/1000/10000 M Base-T Ethernet ports for Oracle Database Appliance X6-2S*
- *Four onboard auto-sensing 100/1000/10000 M Base-T Ethernet ports for Oracle Database Appliance X6-2M*
- *USB: six 2.0 USB ports (two front, two rear, and two internal)*
- *Expansion bus: four PCIe 3.0 slots*
  - *PCIe internal slot: dual-port internal SAS HBA*
  - *PCIe slot 2: NVMe Switch PCIe card*
  - *PCIe slot 3: dual-port 10GbE SFP+ PCIe card*
  - *No additional cards may be added*

Storage

- *Two small form factor front hot-swappable 480 GB SATA SSDs (mirrored) for Operating System and Oracle Database software*
- *Two small form factor front NVMe SSDs for data storage*
  - *6.4 TB raw capacity, 3.2 TB (double-mirrored) usable capacity*
- *Optional expansion to four small form factor front NVMe SSDs for data storage*
  - *12.8 TB raw capacity, 6.4 TB (double-mirrored) or 4.2 TB (triple-mirrored) usable capacity*
- *Storage Capacity is based on storage industry conventions where 1 TB equals $1,000^4$ bytes*

Graphics

- *VGA 2D graphics controller embedded with 8 MB of dedicated graphics memory*
- *Resolution: 1,600 x 1,200 x 16 bits @ 60 Hz via the rear HD15 VGA port (1,024 x 768 when viewed remotely via Oracle ILOM)*

SYSTEMS MANAGEMENT

Interfaces

- *Dedicated 10/100/1000 M Base-T network management port*
- *In-band, out-of-band, and side-band network management access*
- *RJ45 serial management port*

Service Processor

Oracle Integrated Lights Out Manager (Oracle ILOM) provides:

- *Remote keyboard, video, and mouse redirection*
- *Full remote management through command-line, IPMI, and browser interfaces*
- *Remote media capability (USB, DVD, CD, and ISO image)*
- *Advanced power management and monitoring*

- *Active Directory, LDAP, and RADIUS support*
- *Dual Oracle ILOM flash*
- *Direct virtual media redirection*
- *FIPS 140-2 mode using OpenSSL FIPS certification (#1747)*

Monitoring

- *Comprehensive fault detection and notification*
- *In-band, out-of-band, and side-band SNMP monitoring v1, v2c, and v4*
- *Syslog and SMTP alerts*
- *Automatic creation of a service request for key hardware faults with Oracle's automated service request (ASR)*

SOFTWARE

Operating Systems

- *Oracle Linux (Pre-Installed)*
- *Oracle Appliance Manager (Pre-Installed)*

Oracle Database Software (Licensed Separately)

- *Choice of Oracle Database software*
  - *Oracle Database 11g Enterprise Edition Release 2 and Oracle Database 12c Enterprise Edition*
  - *Oracle Database 12c Standard Edition 2*
  - *Oracle Database 11g Standard Edition and Standard Edition One*
- *Support for:*
  - *Oracle Database Enterprise Edition database options*
  - *Oracle Enterprise Manager Management Packs for Oracle Database Enterprise Edition*

ENVIRONMENT

- *Operating temperature: 5°C to 35°C (41°F to 95°F)*
- *Nonoperating temperature: -40°C to 70°C (-40°F to 158°F)*
- *Operating relative humidity: 10% to 90%, noncondensing*
- *Nonoperating relative humidity: up to 93%, noncondensing*
- *Operating altitude: up to 9,840 feet (3,000 m*) maximum ambient temperature is derated by 1°C per 300 m above 900 m (*except in China where regulations may limit installations to a maximum altitude of 6,560 feet or 2,000 m)*
- *Nonoperating altitude: up to 39,370 feet (12,000 m)*
- *Acoustic noise: 7.0 Bels A-weighted operating, 7.0 Bels A-weighted idling*

POWER

- *Two hot-swappable and redundant power supplies, rated 91% efficiency*
- *Rated line voltage: 100 to 240 VAC*
- *Rated input current 100 to 127 VAC 7.2 A and 200 to 240 VAC 3.4 A*

For more information on power consumption, go to: Oracle Server X6-2 Power Calculator

REGULATIONS[1,2]

- *Product safety: UL/CSA-60950-1, EN60950-1-2006, IEC60950-1 CB scheme with all country differences*
- *EMC*
  - *Emissions: FCC CFR 47 Part 15, ICES-003, EN55022, EN61000-3-2 and EN61000-3-3*
- *Immunity: EM55024*

CERTIFICATIONS[1,2]

- *North America Safety (NRTL)*
- *European Union (EU)*
- *International CB Scheme*
- *BIS (India)*

[1] All standards and certifications referenced are to the latest official version. For additional detail, please contact your sales representative.

[2] Other country regulations/certifications may apply.

- *BSMI (Taiwan)*
- *RCM (Australia)*
- *CCC (PRC)*
- *MSIP (Korea)*
- *VCCI (Japan)*

EUROPEAN UNION DIRECTIVES

- *2006/95/EC Low Voltage Directive*
- *2004/108/EC EMC Directive*
- *2011/65/EU RoHS Directive*
- *2012/19/EU WEEE Directive*

DIMENSIONS AND WEIGHT

- *Height: 42.6 mm (1.7 in.)*
- *Width: 436.5 mm (17.2 in.)*
- *Depth: 737.0 mm (29.0 in.)*
- *Weight: 16.1 kg (34.5 lb.) base system*

INCLUDED INSTALLATION KITS

- *Tool-less rackmounting slide rail kit*
- *Cable management arm*

CONTACT US

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