

# HOW CAN SERVERS HELP YOUR BUSINESS DO MORE?

**Is your business using a desktop PC to do the work of a server? A small investment in a real server can make a big difference to your business.**

Using a PC as the hub of an IT infrastructure can save a small business a little in terms of budget up front, but can cost them a lot in overall risk, exposure and lost opportunity. By implementing a real server, businesses can increase productivity, run more smoothly 24/7, and better safeguard data. The affordable Intel® Xeon® processor E3-1200 v5 family is a versatile platform that meets a broad range of business needs.

**FOR ABOUT 9¢ MORE PER DAY, A SERVER CAN OFFER BETTER PERFORMANCE, RELIABILITY AND SECURITY THAN A PC. <sup>1,2,3</sup>**

**Servers built with an Intel® Xeon® processor E3-1200 v5 processor provide:**

- Over 2.1x the performance of a 4 year old desktop PC<sup>4</sup>
- Better application responsiveness provided by larger cache<sup>4</sup>
- Error-correcting code (ECC) memory, redundant hard drives, and server-class validation for improved data integrity and system uptime



System Price:<sup>1,2,3</sup>  
**US\$736**

Typical Server<sup>2</sup>:

**Intel® Xeon® E3-1200 v5 Processor**



System Price:<sup>1,2,3</sup>  
**US\$603**

Typical Desktop<sup>2</sup>:

**6th gen Intel® Core™ i5 Processor**

# SERVERS CAN DO MORE FOR YOUR BUSINESS THAN A DESKTOP



	Business Benefit	Enabling Technology	Device deployed as server <sup>2</sup> :	
INCREASE EMPLOYEE PRODUCTIVITY	2.26x faster across a range of graphics intensive applications used by designers, engineers, and animators <sup>1,6</sup>	Intel® Iris™ Pro Graphics Intel® Turbo Boost Technology 2.0 Intel® Media Server Studio		✓
	1.43x faster performance to run business-critical applications faster <sup>1,6</sup>	Intel® Iris™ Pro Graphics Intel® Turbo Boost Technology 2.0 Intel® Media Server Studio		✓
	More computing power when you need it with performance that adapts to spikes in your workload <sup>7</sup>	Intel® Turbo Boost Technology 2.0	✓	✓
HELP PROTECT BUSINESS DATA	Accelerated encryption and decryption of sensitive data and files	Intel® Advanced Encryption Standard New Instructions (AES-NI)	✓	✓
	Keep systems safer from external threats and unauthorized updates or changes	Intel® Platform Protection Technology with Trusted Execution Technology		✓
	Enhances the performance of a wide range of security applications	Intel® Data Protection Technology with Secure Key	✓	✓
SUPPORT 24/7 RELIABILITY	Automatically check, detect and correct memory errors to avoid data loss	Error-correcting code (ECC) memory support		✓
	2.57x less likely to fail than a traditional hard drive <sup>8</sup>	Intel® Solid State Drive		✓
	Quick recovery in case of hard drive failure <sup>5</sup>	Intel® Rapid Storage Technology		✓
REDUCE TCO**	Reduce power usage during off-peak hours <sup>7</sup>	Intel® Turbo Boost Technology 2.0	✓	✓
	Minimize costly onsite repairs and potential downtime	Manageability and virtualization technologies		✓
	Increase system availability	Rigorous validation of server		✓

## As an Intel® Technology Provider, understanding servers is our business. Let us show you how a server based on the Intel® Xeon® processor E3-1200 v5 product family can help your business be more productive, secure and protected.

1. Software and workloads used in performance tests may have been optimized for performance only on Intel® microprocessors. Performance tests, such as SYSmark® and MobileMark®, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

2. Desktop configuration: Intel® Core™ i5-6600 Processor (3.3 GHz base up to 3.9 GHz, 4T/4C, 6MB cache, 65W TDP). GIGABYTE GA-H170N-D3HP ATX motherboard DDR4. Rosewill® R536 Chassis. ASUS® 24X DVD Burner 24F1ST. Western Digital Blue WD10EZEX 1TB 7200 RPM 64MB Cache SATA 6.0Gb/s 3.5" Internal Hard Drive Bare Drive. Crucial 8GB (2x4GB) DDR4 2133. GIGABYTE® GV-R725OC-1GI video card. Server configuration: Intel® Xeon® processor E3-1230 v5 (8MB cache, 3.40 GHz, 4 cores/8 threads). SUPERMICRO MBD-X11SLL-F-O Micro ATX C32 chipset. SUPERMICRO CSE-731i-300B Chassis. ASUS® 24X DVD Burner 24F1ST. Western Digital RE WD2000FYYZ 2TB 7200 RPM 64MB Cache SATA 6.0Gb/s 3.5" Enterprise Internal Hard Drive Bare Drive. Crucial 8GB DDR4 2133 CT8G4RFS4213 Graphics included in motherboard. Amazon Cloud Comparison includes OS & 4 TB storage.

3. Cost figures based on system configurations from Newegg\* (newegg.com) and other retailers as of August 2016.

4. Measured using SPECint2006 Rate, Nov. 2013. Baseline Desktop configuration: Intel® Core™ i5-3330S, SPECint\_rate\_base2006 = 115, Source: <http://spec.org/cpu2006/results/res2014q3/cpu2006-20140701-30234.html> (Internal Intel® measurements) Measured using SPECint2006 Rate, Jan 2016. Server configuration: Intel® Xeon® E3-1230 v5, 3.40 GHz, SPECint\_rate\_base2006 = 245, Source: <http://spec.org/cpu2006/results/res2016q1/cpu2006-20160120-38742.html>. For more information go to <http://www.intel.com/performance>.

5. For more information on Intel® Rapid Storage Technology, visit [http://www.intel.com/p/en\\_US/support/highlights/chpsts/imsm](http://www.intel.com/p/en_US/support/highlights/chpsts/imsm).

6. Baseline system: Intel® Xeon® Processor E3-1275 v2, Intel HD graphics P400, 16GB (4x4GB DDR3-1600MHz ECC UDIMM), Western Digital WD2000FYYZ HDD, RHEL v6.3-2.6.32-278, ACRVMBY1.86C, IC13. Previous generation: Intel Xeon Processor E3-1276 v3 Supermicro B13M-3, X10SLM+-LN4f, Intel HD graphics P4600, 16 GB (4 x 4GB DDR3-1600MHz ECC UDIMM), Western Digital WD500GB HDD, RHEL6.5-2.6.32-431, 1.1a, IC14. New Configuration: Intel Xeon Processor E3-1275 v5, RVP8 Skylake Reference Board, Intel HD Graphics P530, 16GB (2 x 8GB DDR4-2133MHz ECC UDIMM), Intel SSD 530 Series 120GB model SSDSC2BW120A4, CentOS 7 - 3.10.0-123.el7.x86\_64, SKLSE2R1.R00.X092.B00.1507130736, IC14.

7. Intel processors of the same SKU may vary in frequency or power as a result of natural variability in the production process.

8. Baseline comparable system: HGST HDS722020ALA330 2TB Hard Drive (1.57% AFR) as measured by Backblaze\* May 2016 article "One Billion Drive Hours and Counting: Q1 2016 Hard Drive Stats", <https://www.backblaze.com/blog/hard-drive-reliability-stats-q1-2016/>. Baseline Intel® SSD: DC S3510 1.6TB (0.44% AFR) as measure in the Intel SDD Data Center Family for SATA product brief <http://www.intel.com/content/www/us/en/solid-state-drives/ssd-dc-s3x10-series-brief.html>. (1.57-0.44)/0.44=2.57

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software, or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer, or learn more at [intel.com](http://intel.com).

\*Other names and brands may be claimed as the property of others

\*\* Total cost of ownership

Copyright © 2016 Intel Corporation. All rights reserved. Intel, the Intel logo, Intel Inside, and Xeon are trademarks of Intel Corporation in the U.S. and/or other countries.