# Cost-Effective, High Performance Server Solutions for the Small and Mid-Sized Business

SOLUTION BRIEF

When considering the purchase of a server solution for your small or mid-sized business, you have a number of concerns around affordability, complexity, and reliability. You need an IT solution that promotes user productivity and data security while reducing the threat of costly downtime. But with tight budgets, you may worry that a server solution is going to be too complex and costly to install and manage. You may have opted for using a desktop-based system in place of a server, believing it will meet your needs. Or you may believe that your current server solution purchased years ago is good enough. You just want an infrastructure that will be reliable, secure, and cost-effective so you can focus on the high-value activities of finding, retaining, and servicing customers.

With Intel and Microsoft, you no longer need to compromise. You can take advantage of a complete server solution that meets small and mid-size business needs at a cost you can afford. By pairing Windows Small Business Server (SBS) 2011 with the Intel® Xeon® processor E3-1200, you can adopt a proven server solution designed just for your business. SBS 2011 comes in Standard and Essentials editions, enabling businesses to get tailored solutions right for them (Figure 1). SBS 2011 with the Intel Xeon processor E3-1200 delivers enterprise-class technology in an affordable, high performance all-in-one IT solution.

| Features | SBS 2011 Essentials | SBS 2011 Standard |
|---|---|---|
| Recommended Processor | Intel® Xeon® processor E3-1200 | Intel® Xeon® processor E3-1200/ Intel® Xeon® processor 5600 series |
| End User Value | Server solution for small business users, to manage their network and protect, centralize, stream, and access business data | All-in-one server solution to protect your network, your data and to enhance productivity |
| PC/User Limit | Up to 25 users or devices | Up to 75 users or devices |
| IT Knowledge | Minimal | Understands strategic use of technology |
| Key Scenarios | ▪ Simplified network management<br>▪ Backup of PCs and Server<br>▪ File storage<br>▪ Remote access<br>▪ Business applications (LOBs)<br>▪ SaaS business applications | ▪ Website hosting<br>▪ Exchange e-mail<br>▪ Server backup<br>▪ Remote access<br>▪ Business applications (LOBs)<br>▪ SharePoint |
| On-premise Management | Near-zero, tailored to online services | Simplified, fully-on-premises solution |

Figure 1: SBS 2011 Essentials and Standard Editions

## IDEAL SERVER PLATFORM FOR SMALL AND MID-SIZED BUSINESSES

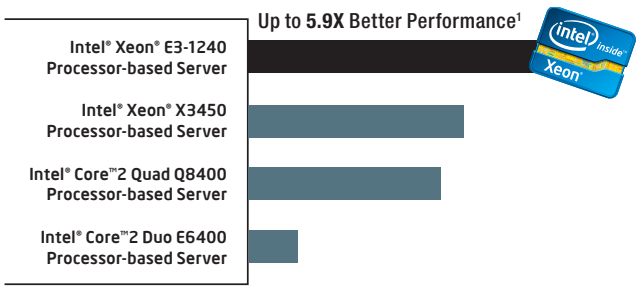
SBS 2011 Standard powered by the Intel Xeon processor E3-1200 can help SMBs balance business and IT needs. The combined power of the software and processor can help grow your business by managing collaboration and social networking tools, websites, print services, and a centralized database. At the same time, the platform helps ensure IT infrastructure is reliable, manageable, and secure.

### Boost Productivity

SBS 2011 Standard running on the Intel Xeon processor E3-1200 can help you stay on top of your business and do more with less. To help your employees stay in touch with colleagues and customers, SBS 2011 offers enterprise-class e-mail, contacts, calendar and communications with new Microsoft® Exchange Server 2010 Standard. Features built into the chip also help improve performance when multi-tasking using Intel® Hyper-Threading Technology. And as your business needs change, SBS 2011 Standard with the Intel Xeon processor E3-1200 has the flexibility to change with it. The Intel and Microsoft platform allows you to easily add users, servers, and applications or expand to other Microsoft technologies.

### Enhance Performance

The Microsoft and Intel platform also provides increased performance compared to desktop-based solutions and aging servers. The Intel Xeon processor E3-1200 is a proven solution validated by hardware and software testing to achieve 5.9 times better performance[1] than previous generation servers and desktops. It also delivers an even greater burst of speed automatically when your server needs it, using Intel® Turbo Boost Technology 2.0[2] to manage application loads when they are heaviest and reduce power consumption for lighter loads.




### Improve Reliability

To help catch and correct memory errors before they lead to downtime or data corruption, Error Correcting Code (ECC) memory built into the processor provides 24x7 dependability and advanced protection. This feature is not available for desktop systems or servers not running on Intel Xeon processors. The average rate of memory error for a server with 4GB memory running 24x7 is 150 times a year.[3,4] If 10 percent of errors cause a system crash, interrupting business for 10 minutes each time, it could cost you $4,300 to $50,000 a year for Windows-based server applications.[5] Systems with ECC memory correct the majority of errors—the chance of system failure due to uncorrectable errors over a server lifespan of three to five years is less than 0.001 percent.[3,4] SBS 2011 also helps reduce the risk of business-critical data loss by performing automatic backup and restoration.

### Secure Your Data

Protecting data is critical—43 percent of businesses that suffer a data breach never re-open.[6] By standardizing on SBS 2011 Standard running on the Intel Xeon processor E3-1200, you can increase data and network protection to avoid costly interruptions and potentially catastrophic data loss. The Intel Xeon processor E3-1200 helps protect your business with Intel® AES-NI.[7] This feature provides efficient data encryption and decryption without compromising performance. Intel® Rapid Storage Technology (Intel® RST) also helps protect your infrastructure against hard drive failure and data loss. Features built into SBS 2011 Standard help safeguard your businesses as well. The anti-malware, anti-spam, and anti-phishing features included in Microsoft Exchange 2010 help secure company communications and e-mail.

### The Economics of a Real Server vs. a Desktop[8]

Despite what many small business may think, today a typical entry-level server is priced comparably to a high-end desktop system. Are reliability, keeping your data secure, and additional productivity worth an incremental $170?

| | |
|---|---|
| Typical desktop system | $831 |
| Typical single-processor server system | $1,001 |
| Cost premium vs. desktop | $170 |

Additional $0.12 investment per day over 4 years

**Streamline Management**
Management is also streamlined with SBS 2011 Standard powered by the Intel Xeon processor E3-1200. Remote Keyboard, Video, Mouse (KVM) and Intel® HD Graphics enable offsite diagnostic capabilities resulting in more efficient incident response. With Intel® Active Management Technology (Intel® AMT), you can gain flexible management for simpler maintenance and more reliable operation. Intel® AMT allows IT administrators, whether provided by your IT partner or an in-house resource, to proactively perform centralized, secure backups, and updates remotely. SBS 2011 Standard also compliments Intel technology to help perform automatic backup and restoration of business-critical data to help prevent data loss. Overall administration is also streamlined with the ability for IT administrators to manage PCs and servers from a single console using a familiar interface.

## INTEL AND MICROSOFT SCALE TO SUPPORT BUSINESS GROWTH

If you find your business growing quickly or if you are on the verge of expanding past 75 users, Intel and Microsoft have optimized solutions to support your emerging infrastructure needs. With growth, migrate your IT system to Windows Server 2008 R2 powered by Intel® Xeon® processor 5600 series to get enterprise-level capabilities. The Intel and Microsoft enterprise platform provides the additional security, performance, and scalability needed to meet the demands of larger businesses.

## SUMMARY

SBS 2011 Standard with the Intel Xeon processor E3-1200 can help you make a smart server investment to get the performance, capacity, and reliability your business needs at an affordable price. You can replace older servers and desktops being used as servers with a complete solution that is tailored to support your business. SBS 2011 Standard powered by the Intel Xeon processor E3-1200 is a proven solution that supports your initiatives and business growth.

## RESOURCES AND LINKS

- Intel® Xeon® processor E3-1200 product family:
  **www.intel.com/products/server/processor/xeonE3**
  **www.intel.com/itcenter/products/xeon/e3**
- Small Business Server 2001:
  **www.microsoft.com/sbs/en/us**

[1] Averaged normalized performance of three SMB workloads (e-mail, database, and web) on a 1S server based on Intel® Xeon® processor E3-1240 is up to 495% better than a desktop-based server using Intel® Core™ 2 Duo Processor E6400 based on the results of a study conducted by Principled Technologies.

[2] Intel® Turbo Boost Technology requires a platform with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software and overall system configuration. Check with your platform manufacturer on whether your system delivers Intel Turbo Boost Technology. For more information, see http://www.intel.com/technology/turboboost.

[3] X. Li, K. Shen, M. Huang, and L. Chu. A memory soft error measurement on production systems. In USENIX Annual of Technical Conf., 2007.

[4] Xin Li, Michael C. Huang, Kai Shen, Lingkun Chu. An Empirical Study of Memory Hardware Errors in A Server Farm. Proceedings of the 3rd workshop on on Hot Topics in System Dependability, 2007

[5] 2005 North American Linux and Windows TCO Comparison Report, Part 1

[6] Source: According to a study conducted by the University of Texas

[7] 58% faster disk encryption was measured on Intel® Xeon Processor E3-1280 compared to Intel® Xeon® Processor X3480 in an Intel internal performance study in January 2011.

[8] Source: Cost figures based on system configurations from www.newegg.com as of October 2010 and estimated retail costs of Intel® Server Products available April 2011. Reflects standard components of each system, however systems and pricing may vary. Cost of desktop is based on an Intel® Core™ i5-2550 processor-based CPU (3.3 GHz, no Intel® Hyperthreading Technology) and Intel® Desktop Board DP55WG. Server configuration based on an Intel® Xeon® processor E3-1230 CPU (3.20GHz, Intel® Hyperthreading Technology).

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