



Intel® Xeon® Processor E5-2670 (20M Cache, 2.60 GHz, 8.00 GT/s Intel® QPI)

Specifications

- Essentials

| | |
|-----------------------------------|-----------------------|
| Processor Number | E5-2670 |
| Status | End of Life |
| Launch Date | Q1'12 |
| <u>Expected Discontinuance</u> | Q2'15 |
| Lithography | 32 nm |
| <u>Recommended Customer Price</u> | \$1552.00 - \$1556.00 |

- Performance

| | |
|---------------------------------|------------------|
| <u># of Cores</u> | 8 |
| <u># of Threads</u> | 16 |
| <u>Processor Base Frequency</u> | 2.60 GHz |
| <u>Max Turbo Frequency</u> | 3.30 GHz |
| Cache | 20 MB SmartCache |
| <u>Bus Speed</u> | 8 GT/s QPI |
| <u># of QPI Links</u> | 2 |
| <u>TDP</u> | 115 W |
| <u>VID Voltage Range</u> | 0.60V-1.35V |

- Supplemental Information

| | |
|-----------------------------------|--|
| <u>Embedded Options Available</u> |  No |
| Datasheet | Link |

- Memory Specifications

| | |
|---|---|
| <u>Max Memory Size (dependent on memory type)</u> | 384 GB |
| <u>Memory Types</u> | DDR3 800/1066/1333/1600 |
| <u>Max # of Memory Channels</u> | 4 |
| <u>Max Memory Bandwidth</u> | 51.2 GB/s |
| <u>ECC Memory Supported</u> † |  Yes |








- Expansion Options

| | |
|-----------------------------------|---------|
| Scalability | 2S Only |
| <u>PCI Express Revision</u> | 3.0 |
| <u>Max # of PCI Express Lanes</u> | 40 |

- Package Specifications

| | |
|-------------------------------|-----------------|
| Sockets Supported | FCLGA2011 |
| Max CPU Configuration | 2 |
| T _{CASE} | 80.0°C |
| Package Size | 52.5mm x 45.0mm |
| Low Halogen Options Available | See MDDS |

- Advanced Technologies

| | | |
|--|---|--------|
| Intel® Turbo Boost Technology ‡ | | 2.0 |
| Intel® vPro Technology ‡ |  | Yes |
| Intel® Hyper-Threading Technology ‡ |  | Yes |
| Intel® Virtualization Technology (VT-x) ‡ | | Yes |
| Intel® Virtualization Technology for Directed I/O (VT-d) ‡ |  | Yes |
| Intel® VT-x with Extended Page Tables (EPT) ‡ |  | Yes |
| Intel® 64 ‡ |  | Yes |
| Instruction Set | | 64-bit |
| Instruction Set Extensions | | AVX |
| Idle States | | Yes |
| Enhanced Intel SpeedStep® Technology |  | Yes |
| Intel® Demand Based Switching |  | Yes |
| Thermal Monitoring Technologies | | Yes |
| Intel® Flex Memory Access | | No |
| Intel® Identity Protection Technology ‡ | | No |

- Intel® Data Protection Technology

| | | |
|-----------------------------|---|-----|
| Intel® AES New Instructions |  | Yes |
|-----------------------------|---|-----|

- Intel® Platform Protection Technology

| | | |
|--------------------------------|---|-----|
| Trusted Execution Technology ‡ |  | Yes |
| Execute Disable Bit ‡ | | Yes |

Compatible Products

- Chipsets

| Compare | Product Name | Status | Bus Speed | Recommended Customer Price | PCI Express Revision | USB Revision |
|---------------|--------------------------------------|----------|-----------|----------------------------|----------------------|--------------|
| Compare All + | Intel® C608 Chipset | Launched | | \$88.00 | 2.0 | 2.0 |
| | Intel® C606 Chipset | Launched | | N/A | 2.0 | 2.0 |
| | Intel® C604 Chipset | Launched | | \$61.00 | 2.0 | 2.0 |
| | Intel® C602J Chipset | Launched | | \$55.00 | 2.0 | 2.0 |

| Compare Compare All + | Product Name | Status | Bus Speed | Recommended Customer Price | PCI Express Revision | USB Revision |
|--------------------------|-------------------------------------|----------|-----------|----------------------------|----------------------|--------------|
| | Intel® C602 Chipset | Launched | | N/A | 2.0 | 2.0 |

- Server/Workstation Board

| Compare Compare All + | Product Name | Status | Board Form Factor | Chassis Form Factor | Socket | Embedded Options Available | TDP |
|--------------------------|---|-------------|----------------------|---------------------|----------|----------------------------|-------|
| | Intel® Server Board S1600JP2 | Launched | Custom 6.8" x 13.8" | 1U Rack | Socket R | Yes | 135 W |
| | Intel® Server Board S1600JP4 | Launched | Custom 6.8" x 13.8" | 1U Rack | Socket R | Yes | 135 W |
| | Intel® Server Board S2600CO4 | Launched | SSI EEB 12" x 13" | 4U Rack or Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600COE | End of Life | SSI EEB 12" x 13" | 4U Rack or Pedestal | Socket R | Yes | 150 W |
| | Intel® Server Board S2600COEIOC | End of Life | SSI EEB 12" x 13" | Pedestal | Socket R | Yes | 150 W |
| | Intel® Server Board S2600CP2 | Launched | SSI EEB 12" x 13" | 4U Rack or Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600CP2IOC | End of Life | SSI EEB 12" x 13" | Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600CP2J | End of Life | SSI EEB 12" x 13" | Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600CP4 | Launched | SSI EEB 12" x 13" | 4U Rack or Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600CP4IOC | End of Life | SSI EEB 12" x 13" | Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600GL | Launched | Custom 16.5" x 16.5" | Rack | Socket R | Yes | 135 W |
| | Intel® Server Board S2600GZ | Launched | Custom 16.5" x 16.5" | Rack | Socket R | Yes | 135 W |
| | Intel® Server Board S2600IP4 | End of Life | Custom 14.2" x 15" | Rack or Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600IP4L | End of Life | Custom 14.2" x 15" | Rack or Pedestal | Socket R | Yes | 135 W |
| | Intel® Server Board S2600JF | End of Life | Custom 6.42" x 17.7" | 2U Rack | Socket R | No | 135 W |
| | Intel® Server Board S2600JFF | End of Life | Custom 6.42" x 17.7" | 2U Rack | Socket R | No | 135 W |
| | Intel® Server Board S2600JFQ | End of Life | Custom 6.42" x 17.7" | 2U Rack | Socket R | No | 135 W |
| | Intel® Server Board S2600WP | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |
| | Intel® Server Board S2600WPF | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |
| | Intel® Server Board S2600WPQ | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |

| Compare | Product Name | Status | Board Form Factor | Chassis Form Factor | Socket | Embedded Options Available | TDP |
|---------------|--|-------------|------------------------------|---------------------|----------|----------------------------|-------|
| Compare All + | Intel® Workstation Board W2600CR2 | End of Life | Custom 14.2" x 15" | 4U Rack or Pedestal | Socket R | No | 150 W |
| | Intel® Workstation Board W2600CR2L | End of Life | Custom 14.2" x 15" | Pedestal | Socket R | No | 150 W |
| | Intel® Compute Module HNS2600JF | End of Life | Custom 23.3" x 6.99" x 1.68" | 2U Rack | Socket R | No | 135 W |
| | Intel® Compute Module HNS2600JFF | End of Life | Custom 23.3" x 6.99" x 1.68" | 2U Rack | Socket R | No | 135 W |
| | Intel® Compute Module HNS2600JFQ | End of Life | Custom 23.3" x 6.99" x 1.68" | 2U Rack | Socket R | No | 135 W |
| | Intel® Compute Module HNS2600WP | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |
| | Intel® Compute Module HNS2600WPF | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |
| | Intel® Compute Module HNS2600WPQ | End of Life | Custom 6.8" x 18.9" | 2U Rack | Socket R | No | 135 W |

- System

| Compare | Product Name | Status | Chassis Form Factor | Board Form Factor | Socket |
|---------------|--|-------------|---------------------|----------------------|----------|
| Compare All + | Intel® Server System R1208GL4DS | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1304GL4DS9 | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1208GZ4GC | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1208GZ4GCSAS | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1208GZ4GS9 | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1304GZ4GC | Launched | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1304GZ4GS9 | End of Life | 1U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R1208JP4GS | End of Life | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System R1208JP4OC | Launched | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System R1208JP4TC | End of Life | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System R1304JP4GS | Launched | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System R1304JP4OC | Launched | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System R1304JP4TC | End of Life | 1U Rack | Custom 6.8" x 13.8" | Socket R |
| | Intel® Server System H2216JFFJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216JFFKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216JFJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216JFKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216JFQJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216JFQKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2312JFFJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |

Compare
Compare All +

Product Name

Status

Chassis Form Factor

Board Form Factor

Socket

| | Product Name | Status | Chassis Form Factor | Board Form Factor | Socket |
|--|--|-------------|---------------------|----------------------|----------|
| | Intel® Server System H2312JFFKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2312JFJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2312JFKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2312JFQJR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2312JFQKR | End of Life | 2U Rack | Custom 6.42" x 17.7" | Socket R |
| | Intel® Server System H2216WPFJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2216WPFKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2216WPJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2216WPKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2216WPQJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2216WPQKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPFJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPFKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPQJR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System H2312WPQKR | End of Life | 2U Rack | Custom 6.8" x 18.9" | Socket R |
| | Intel® Server System R2208GL4DS9 | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2208GL4GS | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2308GL4DS9 | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2308GL4GS | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2312GL4GS | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2208GZ4GC | Launched | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2208GZ4GS9 | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2216GZ4GC | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2216GZ4GCLX | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2224GZ4GC4 | Launched | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2224GZ4GCSAS | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2308GZ4GC | Launched | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2308GZ4GS9 | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2312GZ4GC4 | Launched | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2312GZ4GCSAS | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2312GZ4GS9 | End of Life | 2U Rack | Custom 16.5" x 16.5" | Socket R |
| | Intel® Server System R2216IP4LHPC | End of Life | 2U Rack | Custom 14.2" x 15" | Socket R |
| | Intel® Server System R2224IP4LHPC | End of Life | 2U Rack | Custom 14.2" x 15" | Socket R |
| | Intel® Server System R2208IP4LHPC | End of Life | 2U Rack | Custom 14.2" x 15" | Socket R |

| Compare | Product Name | Status | Chassis Form Factor | Board Form Factor | Socket |
|---------------|---|-------------|---------------------|--------------------|----------|
| Compare All + | | | | | |
| | Intel® Server System R2308IP4LHPC | End of Life | 2U Rack | Custom 14.2" x 15" | Socket R |
| | Intel® Server System R2312IP4LHPC | End of Life | 2U Rack | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4208CP4MHGC | End of Life | 4U Pedestal | 12" x 13" | Socket R |
| | Intel® Server System P4308CP4MHEN | End of Life | 4U Pedestal | 12" x 13" | Socket R |
| | Intel® Server System P4308CP4MHGC | Launched | 4U Pedestal | 12" x 13" | Socket R |
| | Intel® Server System P4208IP4LHGC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4216IP4LHJC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4216IP4LHKC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4224IP4LHKC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4308IP4LHGC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4308IP4LHJC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4308IP4LHJCL | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Server System P4308IP4LHKC | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Workstation System P4304CR2LFGN | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Workstation System P4304CR2LFJN | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Workstation System P4304CR2LFJNL | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |
| | Intel® Workstation System P4304CR2LFKN | End of Life | 4U Pedestal | Custom 14.2" x 15" | Socket R |

Product Images

[Block Diagram](#)

Benchmarks

| Benchmark | Sockets | Score |
|---------------------------------------|---------|-------|
| SPECfp_rate_base2006 | 2 | 481 |
| SPECint_rate_base2006 | 2 | 632 |

SPECfp is a registered trademark of the Standard Performance Evaluation Corporation (SPEC).

SPECint is a registered trademark of the Standard Performance Evaluation Corporation (SPEC).

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. For more complete information visit <http://www.intel.com/content/www/us/en/benchmarks/benchmark.html>.

Configurations: System configurations are included in the benchmark details linked above.

Ordering and Spec Information

Trade Compliance Information

| ECCN | CCATS | US HTS |
|--------|---------|------------------|
| 5A992C | G077159 | 8542310000-HYBRD |


Ordering and Spec Information


| Spec Code | Ordering Code | Step | RCP |
|---|-----------------|------|-----------|
| Intel® Xeon® Processor E5-2670 (20M Cache, 2.60 GHz) FC-LGA10, Tray | | | |
| SROKX | CM8062101082713 | C2 | \$1552.00 |


Retired and Discontinued


| Spec Code | Ordering Code | Step | RCP |
|---|-----------------|------|-----------|
| Boxed Intel® Xeon® Processor E5-2670 (20M Cache, 2.60 GHz) FC-LGA10 | | | |
| SROKX | BX80621E52670 | C2 | \$1556.00 |
| Intel® Xeon® Processor E5-2670 (20M Cache, 2.60 GHz) FC-LGA10, Tray | | | |
| SROH8 | CM8062101082713 | C1 | N/A |


Download Drivers

 **Intel® Processor Diagnostic Tool**
This download installs the Intel® Processor Diagnostic Tool release 4.0.0.29, which is compatible with multiprocessor systems.
Version: 4.0.0.29 (Latest) **Date:** 12/17/2016
Operating Systems: Windows 7*, Windows Server 2008 R2*, Windows 8*, 3 more

 **BIOS Implementation Test Suite (BITS)**
This download installs version build 2073 of the BIOS Implementation Test Suite (BITS).
Version: Build 2073 (Latest) **Date:** 2/2/2016
Operating Systems: OS Independent

 **Linux* Processor Microcode Data File**
The microcode data file contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.
Version: 20150121 (Previously Released) **Date:** 1/21/2015
Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 90 more

 **Linux* Processor Microcode Data File**
The microcode data file 20150107 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.
Version: 20150107 (Previously Released) **Date:** 1/7/2015
Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 88 more

 **Linux* Processor Microcode Data File**
The microcode data file 20140913 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.
Version: 20140913 (Previously Released) **Date:** 9/15/2014
Operating Systems: Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, Red Hat Enterprise Linux 2.1*, 81 more

 **Linux* Processor Microcode Data File**

The microcode data file 20140624 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20140624 (Previously Released)

Date: 6/24/2014

Operating Systems: Linux*



Linux* Processor Microcode Data File

The microcode data file 20140430 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20140430 (Previously Released)

Date: 4/30/2014

Operating Systems: Linux*



Linux* Processor Microcode Data File

The microcode data file 20140122 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20140122 (Previously Released)

Date: 1/22/2014

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 79 more



Linux* Processor Microcode Data File

The microcode data file 20130906 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20130906 (Previously Released)

Date: 9/6/2013

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 79 more



Linux* Processor Microcode Data File

The microcode data file 20130808 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20130808 (Previously Released)

Date: 8/14/2013

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 79 more



Linux* Processor Microcode Data File

The microcode data file 20130222 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20130222 (Previously Released)

Date: 2/25/2013

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 74 more



Linux* Processor Microcode Data File

The microcode data file 20120606-v2 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20120606-v2 (Previously Released)

Date: 10/1/2012

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 72 more



Linux* Processor Microcode Data File

The microcode data file 20120606 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20120606 (Previously Released)

Date: 6/6/2012

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 72 more



Display Drivers for Intel® Core™ Processors on 64-bit Windows 7* and Windows Embedded Standard 7*

This download installs version 15.22.54.64.2622 of the display drivers for Intel® Core™ Processors for Windows* 7, 64-bit and Windows Embedded Standard 7.

Version: 15.22.54.64.2622 (Previously Released)

Date: 1/1/2012

Operating Systems: Windows 7, 64-bit*, Windows Embedded Standard 7*



Linux* Processor Microcode Data File

The microcode data file 20111110 for Linux* contains the latest microcode definitions for all Intel® Processors. Intel periodically releases these microcode updates.

Version: 20111110 (Previously Released)

Date: 12/12/2011

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more



Linux* Processor Microcode Data File

The microcode data file 20110915 for Linux* contains the latest microcode definitions for all Intel® Processors.

Version: 20110915 (Previously Released)

Date: 9/13/2011

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more



Linux* Processor Microcode Data File

The microcode data file 20110428 for Linux* contains the latest microcode definitions for all Intel® Processors.

Version: 20110428 (Previously Released)

Date: 4/24/2011

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more



Linux* Processor Microcode Data File

The microcode data file 20101123 for Linux* contains the latest microcode definitions for all Intel® Processors.

Version: 20101123 (Previously Released)

Date: 11/20/2010

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more



Linux* Processor Microcode Data File

The microcode data file 20100914 for Linux* contains the latest microcode definitions for all Intel® Processors.

Version: 20100914 (Previously Released)

Date: 9/11/2010

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more



Linux* Processor Microcode Data File

The microcode data file 201000826 for Linux* contains the latest microcode definitions for all Intel® Processors.

Version: 201000826 (Previously Released)

Date: 8/21/2010

Operating Systems: Turbolinux*, Red Hat Desktop 3 Update 4*, Red Hat Desktop Linux 3*, 70 more

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Refer to Datasheet for formal definitions of product properties and features.

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

Some products can support AES New Instructions with a Processor Configuration update, in particular, i7-2630QM/i7-2635QM, i7-2670QM/i7-2675QM, i5-2430M/i5-2435M, i5-2410M/i5-2415M. Please contact OEM for the BIOS that includes the latest Processor configuration update.

‡ This feature may not be available on all computing systems. Please check with the system vendor to determine if your system delivers this feature, or reference the system specifications (motherboard, processor, chipset, power supply, HDD, graphics controller, memory, BIOS, drivers, virtual machine monitor-VMM, platform software, and/or operating system) for feature compatibility. Functionality, performance, and other benefits of this feature may vary depending on system configuration.

"Conflict free" and "conflict-free" means "DRC conflict free", which is defined by the U.S. Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heatsinks/coolers.

See <http://www.intel.com/content/www/us/en/architecture-and-technology/hyper-threading/hyper-threading-technology.html?wapkw=hyper+threading> for more information including details on which processors support Intel® HT Technology.

Max Turbo Frequency refers to the maximum single-core processor frequency that can be achieved with Intel® Turbo Boost Technology. See www.intel.com/technology/turboboost/ for more information.

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers, typically represent 1,000-unit purchase quantities, and are subject to change without notice. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply. If sold in bulk, price represents individual unit. Listing of these RCP does not constitute a formal pricing offer from Intel. Please work with your appropriate Intel representative to obtain a formal price quotation.

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

For benchmarking data see <http://www.intel.com/performance>.

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See <http://www.intel.com/content/www/us/en/processors/processor-numbers.html> for details.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

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