# Intel® Xeon® Processor E5-2658 (20M, 2.10 GHz, 8.0 GT/s Intel® QPI)

## Specifications

| Essentials | |
|---|---|
| Status | Launched |
| Launch Date | Q1'12 |
| Expected Discontinuance | Q1'19 |
| Processor Number | E5-2658 |
| # of Cores | 8 |
| # of Threads | 16 |
| Clock Speed | 2.1 GHz |
| Max Turbo Frequency | 2.4 GHz |
| Bus/Core Ratio | 24 |
| Intel® QPI Speed | 8 GT/s |
| # of QPI Links | 2 |
| Instruction Set | 64-bit |
| Instruction Set Extensions | YES |
| Embedded Options Available | Yes |
| Lithography | 32 nm |
| Scalability | 2S Only |
| Max TDP | 95 W |
| VID Voltage Range | 0.6-1.35V |
| Recommended Customer Price | $1186 |

| Memory Specifications | |
|---|---|
| Max Memory Size (dependent on memory type) | 750 GB |
| Memory Types | DDR3-1600 |
| # of Memory Channels | 4 |
| Max Memory Bandwidth | 51.2 GB/s |
| ECC Memory Supported | Yes |
| **Graphics Specifications** | |
| Integrated Graphics | |
| **Expansion Options** | |
| PCI Express Revision | Gen 3.0 |
| # of PCI Express Ports | 40 |
| **Package Specifications** | |
| Max CPU Configuration | 2 |
| Sockets Supported | FCLGA2011 |
| Low Halogen Options Available | See MDDS |
| **Advanced Technologies** | |
| Intel® Turbo Boost Technology | 2.0 |
| Intel® Hyper-Threading Technology | Yes |
| Intel® Virtualization Technology (VT-x) | Yes |
| Intel® Virtualization Technology for Directed I/O (VT-d) | Yes |
| Intel® Trusted Execution Technology | Yes |
| AES New Instructions | Yes |
| Intel® 64 | Yes |
| Enhanced Intel SpeedStep® Technology | Yes |

## ORDERING AND SPEC INFORMATION

### Ordering and Spec Information

**Intel® Xeon® Processor E5-2658 (20M, 2.10 GHz, 8.0 GT/s Intel® QPI)**
**FC-LGA10, Tray**

| Socket | Step | Step TDP | Ordering Code | Spec Code | VT-x | RCP |
|---|---|---|---|---|---|---|
| FCLGA2011 | C2 | 95 W | CM8062101042805 | SR0LZ | Yes | $1186 |

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

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers 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. 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.

Enabling Execute Disable Bit functionality requires a PC with a processor with Execute Disable Bit capability and a supporting operating system. Check with your PC manufacturer on whether your system delivers Execute Disable Bit functionality.

64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Consult with your system vendor for more information.

Hyper-Threading Technology (HT Technology) requires a computer system with an Intel® processor supporting HT Technology and an HT Technology enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See www.intel.com/products/ht/hyperthreading_more.htm for more information including details on which processors support HT Technology.

Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, virtual machine monitor (VMM) and for some uses, certain platform software, enabled for it. Functionality, performance or other benefit will vary depending on hardware and software configurations. Intel Virtualization Technology-enabled VMM applications are currently in development.

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/products/processor_number for details.

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

All information provided is subject to change at any time, without notice. Intel may make changes to manufacturing life cycle, specifications, and product descriptions at any time, without notice. The information herein is provided "as-is" and Intel does not make any representations or warranties whatsoever regarding accuracy of the information, nor on the product features, availability, functionality, or compatibility of the products listed. Please contact system vendor for more information on specific products or systems.

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.

Max Turbo Frequency refers to the maximum single-core frequency that can be achieved with Intel® Turbo Boost Technology, which requires a PC 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 PC manufacturer on whether your system delivers Intel Turbo Boost Technology. See www.intel.com/technology/turboboost/ for more information.

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