

Evaluation of Intel i7 Core Processor

¹Prerna Setia, ²Nishchal, ³Satvinder

^{1,3}Electronics and Communication Engineering, Dronacharya College of Engineering, Gurgaon

²Dronacharya College of Engineering, Gurgaon

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Abstract

The Intel Nehalem microarchitecture that encompasses the Core i7 class of processors uses a 45nm fabrication process for different processors in the Core i7 family. Besides using the power consumption benefits of 45nm, Intel made some dramatic changes in the Nehalem microarchitecture to offer new features and capabilities in the Core i7 family of processors. The paper presented over here is a complete exposure to the precisely used technologies in Intel i7 core processor. Intel i7 processor is a newly available and latest core processor present in the market. It uses all the new technologies present with in the corporate world. It is redesigned by a high repetitive quality of software technocrats so that it is sophisticated form of all of the core processors present. Intel Core i7 usually applies to all families of desktop and laptop 64-bit x86-64 processors which uses the Westmere, Nehalem, Ivy, Sandy Bridge and the Haswell microarchitectures. The Core i7 brand mostly targets all the business and highend consumer markets for both desktop and laptop computers, and is distinguished from the (entry-level consumer) Core i3, (mainstream consumer) Core i5, and (server and workstation) Xeon brands. In the first three microarchitecture generations of Intel brand, Core i7 has family members using two distinct system-level architectures, and therefore two distinct. In each of the generation, the highest performing Core i7 processors uses same socket and QPI-based architecture as the low-end Xeon processors of the previous generation, while the lower-performing Core i7 processors uses the same socket and the PCIe/DMI/FDI architecture as was in the Core i5. Intel firstly introduced the Core i7 in late 2001 with the name Nehalem-based Bloomfield Quad-core processor. In 2009, the new Core i7 models based on the Lynnfield the Nehalem-based, desktop quadcore processor and the Clarksfield the Nehalem-based quad-core mobile were added, and In January 2010 the models based on the Arrandale dual-core mobile processor were also Nehalem-based added too. The first six-core processor in the Core lineup is the Nehalem-based Gulftown, which was launched on March 16, 2010. Both the regular Core i7 and the *Extreme Edition* are advertised as five stars in the Intel Processor Rating.

Keyword: Intel i7, core processor, Evaluation