

# M I C R O P R O C E S S O R

www.MPRonline.com

---

THE INSIDER'S GUIDE TO MICROPROCESSOR HARDWARE

---

## PENTIUM 4 REACHES 2.8GHZ

*By Tom R. Halfhill {8/26/02-04}*

---

Intel is shipping four new Pentium 4 processors, including three faster models. The new top-of-the-line 2.8GHz Pentium 4 is 11% faster than the previous champion, the 2.53GHz Pentium 4. The other three new processors run at 2.66-, 2.6-, and 2.5GHz.

All four processors have the same Northwood core as other recent Pentium 4 chips. Northwood has 512K of on-chip core-speed L2 cache on a 131mm<sup>2</sup> die. The only significant difference among these processors is the base clock frequency of the front-side bus. The 2.8GHz and 2.66GHz chips have a 133MHz front-side bus that's quad-pumped to deliver 533MHz of peak memory bandwidth, whereas the 2.6GHz and 2.5GHz processors have a 100MHz front-side bus that's quad-pumped to 400MHz. Intel continues to introduce new chips with the older 400MHz bus for compatibility with core-logic system chip sets and motherboards that can't run at 533MHz.

Intel rushed out the 2.8GHz Pentium 4 ahead of the previously disclosed roadmap date to maintain a lead over AMD's fastest Athlon XP. On August 21, AMD announced two new versions of the Athlon XP, the 2600+ and 2400+. The 2600+ narrowly surpassed the 2.53GHz Pentium 4 in AMD's estimated performance with common applications software. Actual core clock frequencies of the 2600+ and 2400+ are 2.13GHz and 2.0GHz, respectively, marking the first time an AMD processor has passed 2.0GHz. The new 2.8GHz Pentium 4 is about 8% faster than the Athlon XP 2600+, in estimated performance, and about 31% faster in raw clock speed. ♦

*To subscribe to Microprocessor Report, phone 480.609.4551 or visit [www.MDRonline.com](http://www.MDRonline.com)*