| Data Formats | Range | Precision | Most significant byte … Highest addressed byte (7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0) |
|---|---|---|---|
| Word Integer | $10^4$ | 16 Bits | (Twos complement) 15 … 0 |
| Short Integer | $10^9$ | 32 Bits | (Twos complement) 31 … 0 |
| Long Integer | $10^{18}$ | 64 Bits | (Twos complement) 63 … 0 |
| Packed BCD | $10^{18}$ | 18 Digits | s \| X \| $d_{17}$ \| $d_{16}$ \| $d_{15}$ \| $d_{14}$ \| $d_{13}$ \| $d_{12}$ \| $d_{11}$ \| $d_{10}$ \| $d_9$ \| $d_8$ \| $d_7$ \| $d_6$ \| $d_5$ \| $d_4$ \| $d_3$ \| $d_2$ \| $d_1$ \| $d_0$ (79 … 71 … 0) |
| Single Precision | $10^{\pm 38}$ | 24 Bits | s \| Biased Exp \| Significand (31 … 22 … 0) |
| Double Precision | $10^{\pm 308}$ | 53 Bits | s \| Biased Exponent \| Significand (63 … 51 … 0) |
| Extended Precision | $10^{\pm 4932}$ | 64 Bits | s \| Biased Exponent \| I \| Significand (79 … 63 D … 0) |

s = sign bit (0 = postive; 1 = negative)
$d_n$ = decimal digit (two per byte)
X = bits have no significance; ignores when loading, zeros when storing
D = position of implicit binary point
I = Integer bit of significand; stored in temporary real, implicit in single and double precision

**Figure 9.4 Pentium II Numerical Data Formats**