

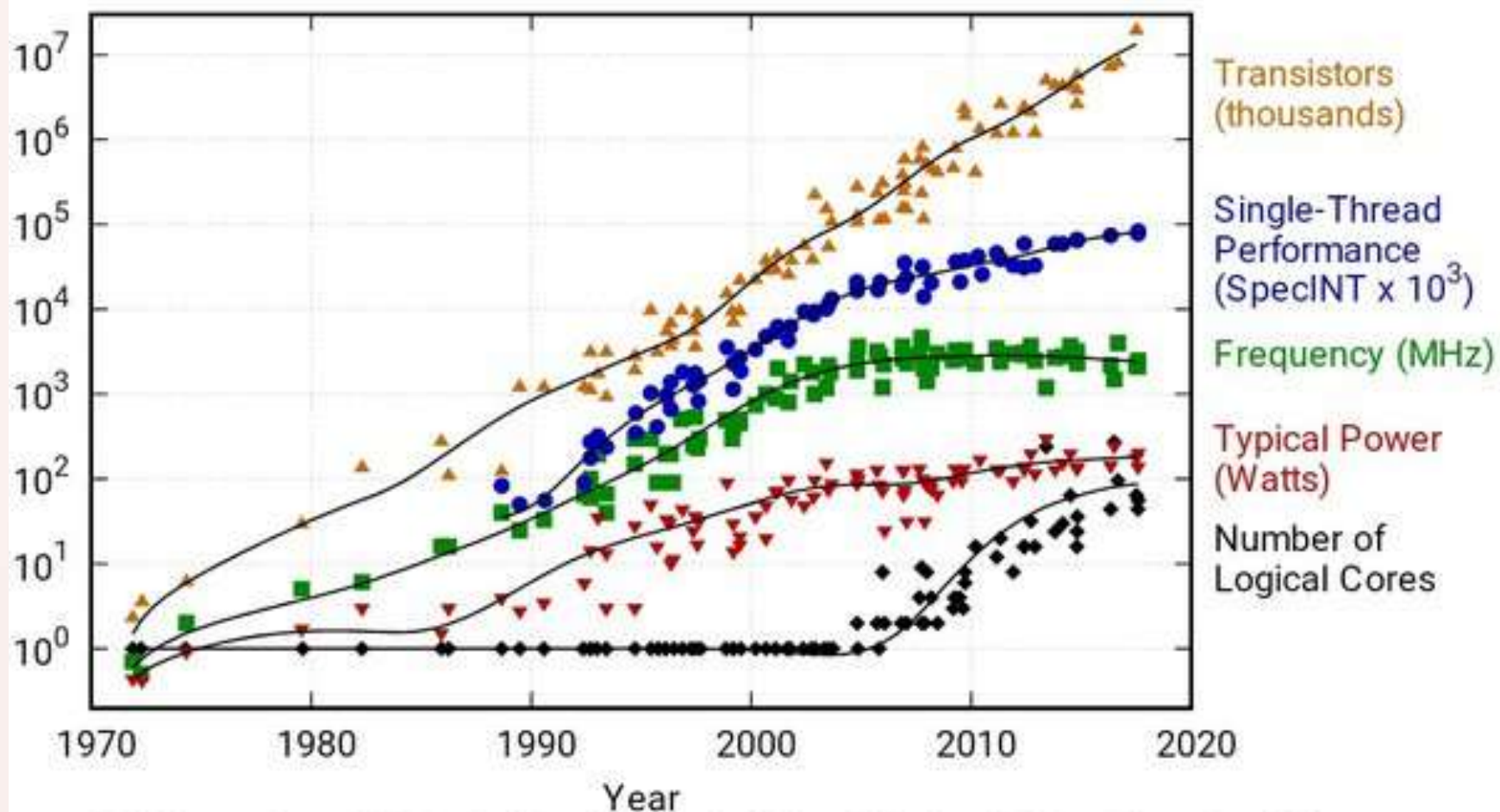


TECHORAMA

SIMD, vectorization - what it means and how to do it in .NET

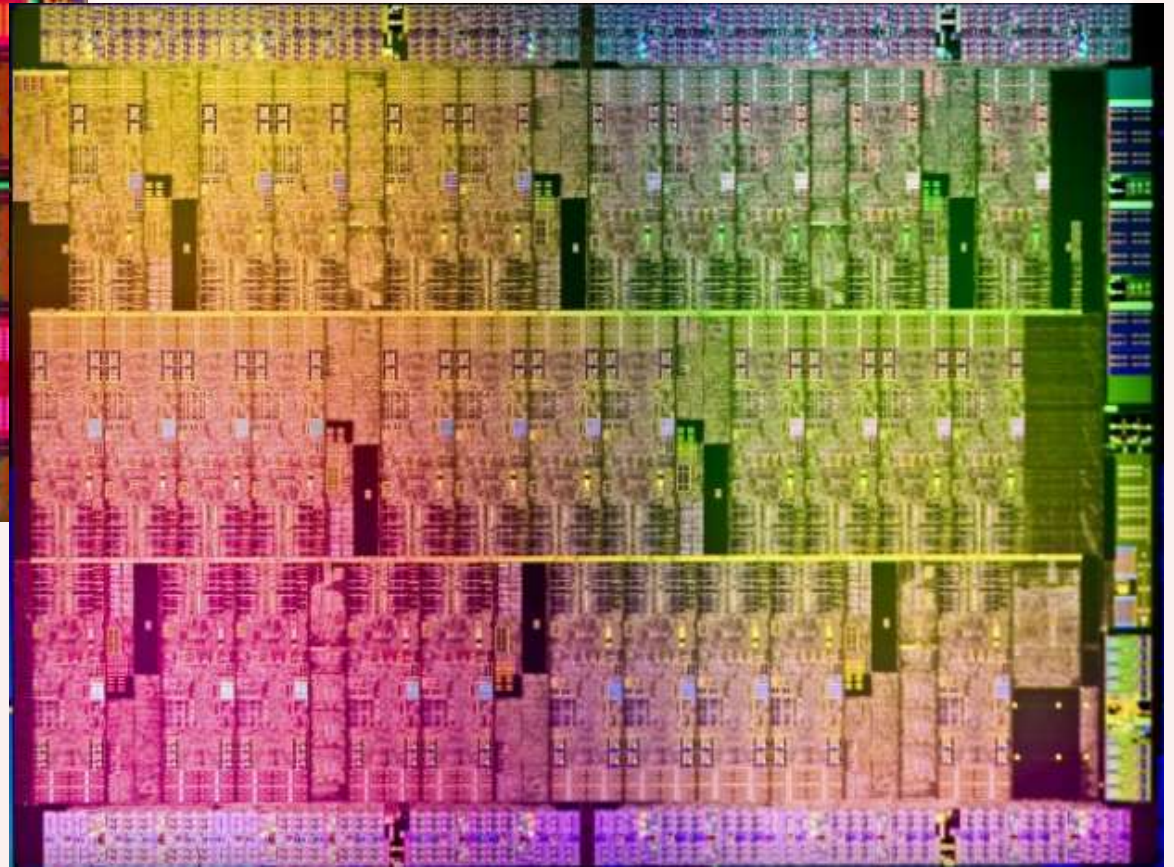
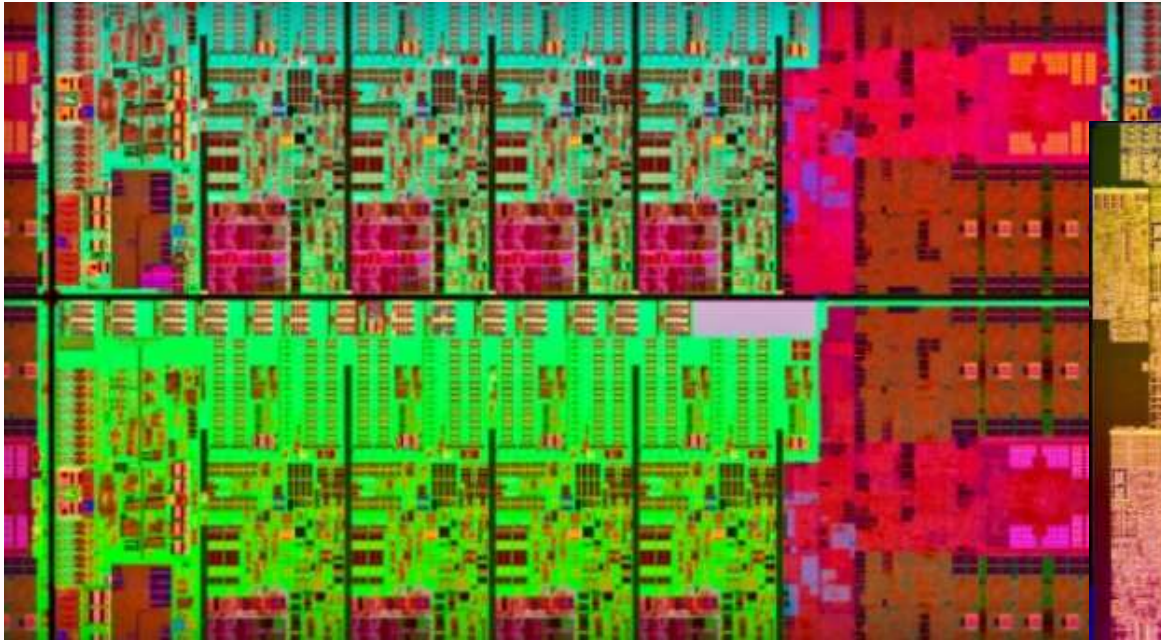
Jiří Činčura | www.tabsoverspaces.com

42 Years of Microprocessor Trend Data



Original data up to the year 2010 collected and plotted by M. Horowitz, F. Labonte, O. Shacham, K. Olukotun, L. Hammond, and C. Batten
New plot and data collected for 2010-2017 by K. Rupp

A Modern Processor



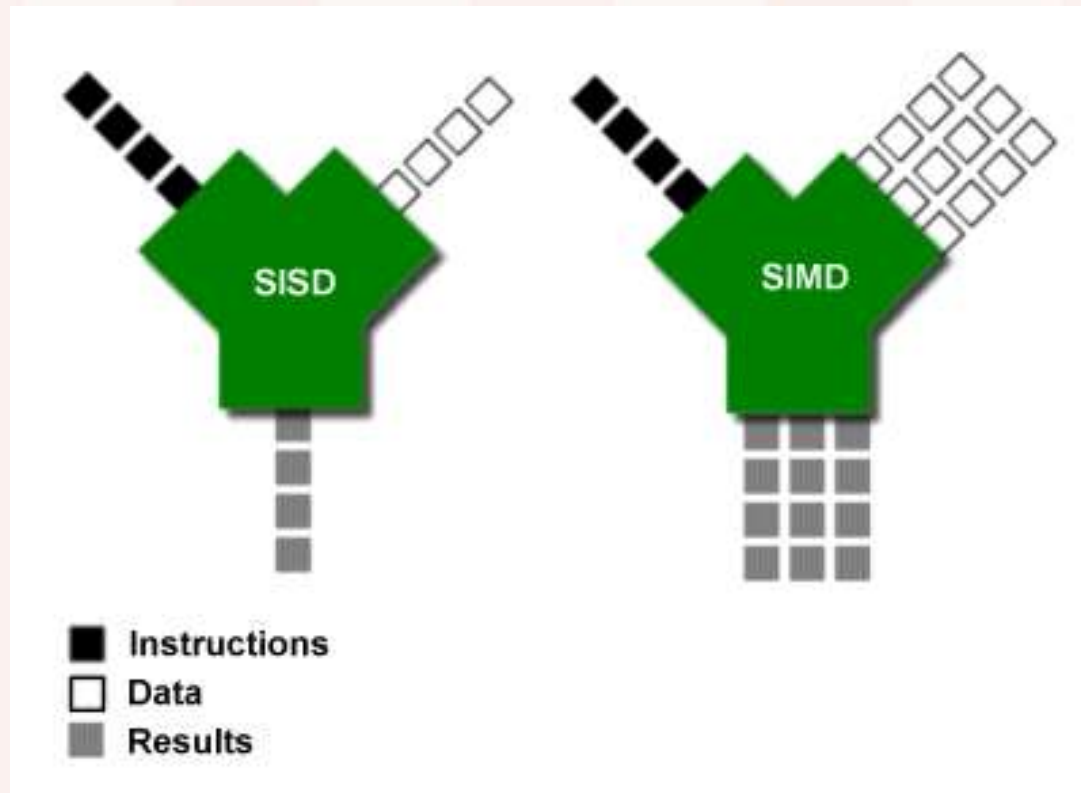
SISD

- Single Instruction Single Data
- Instruction Level Parallelism (ILP)
- Parallel processing

SIMD

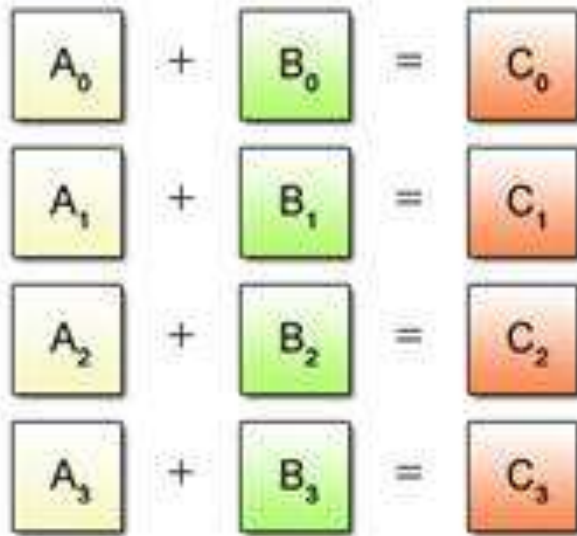
- Single Instruction Multiple Data

SIMD

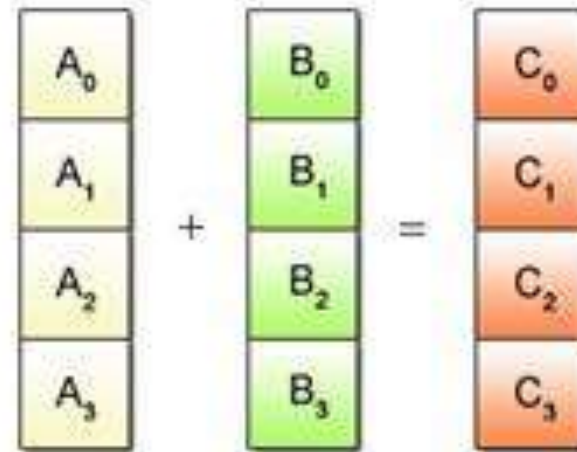


SIMD

(a) Scalar Operation



(b) SIMD Operation



Q & A

