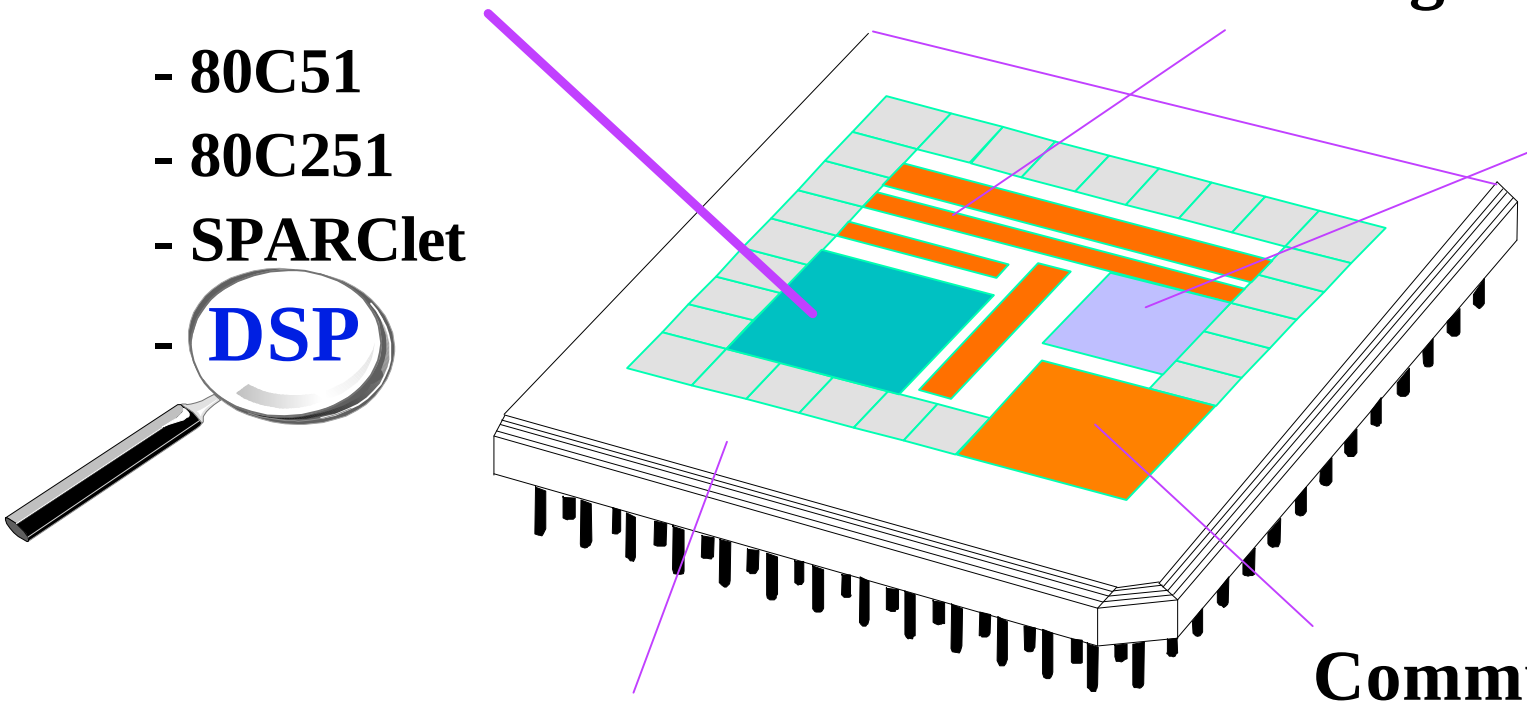
One-chip embedded communication system

Processor cores

- 80C51
- 80C251
- SPARClet
- DSP



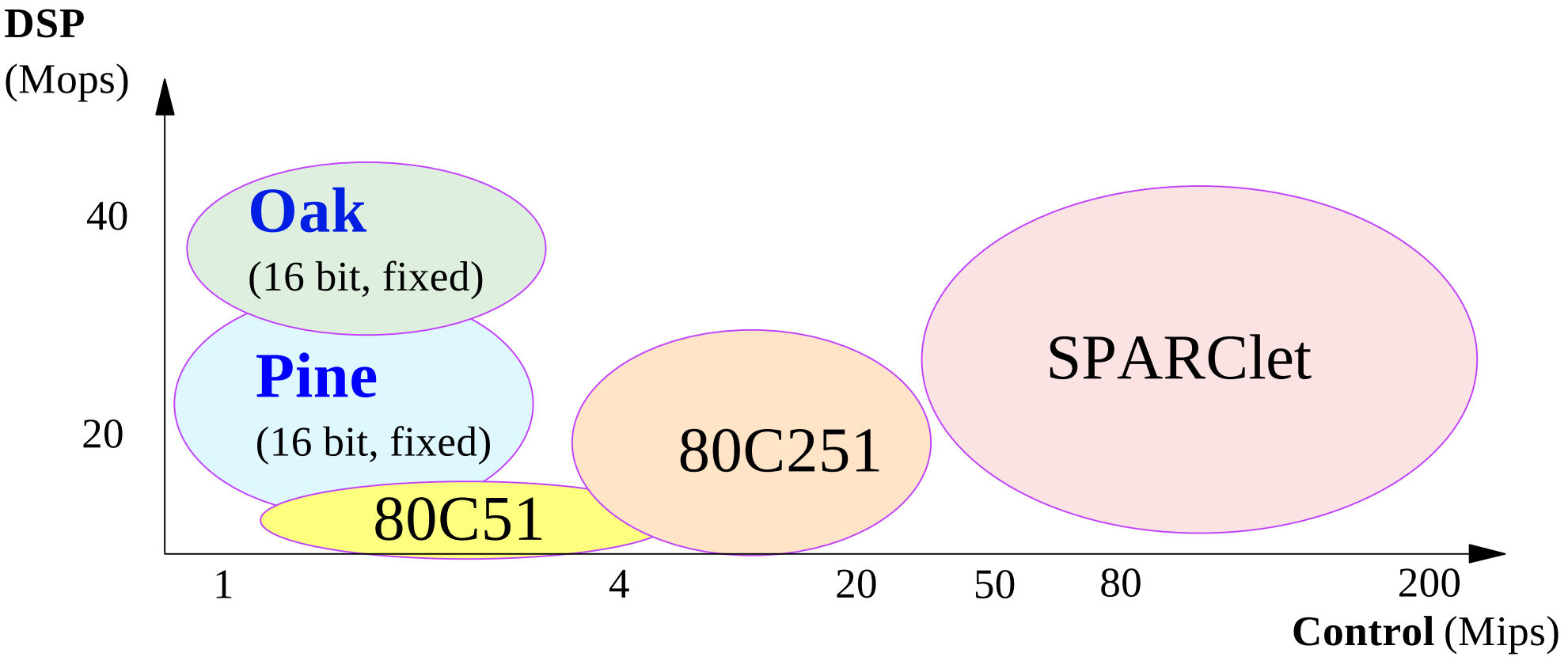
Glue logic

Memory

Communication cell

ASIC methodology

Micro engine positionning

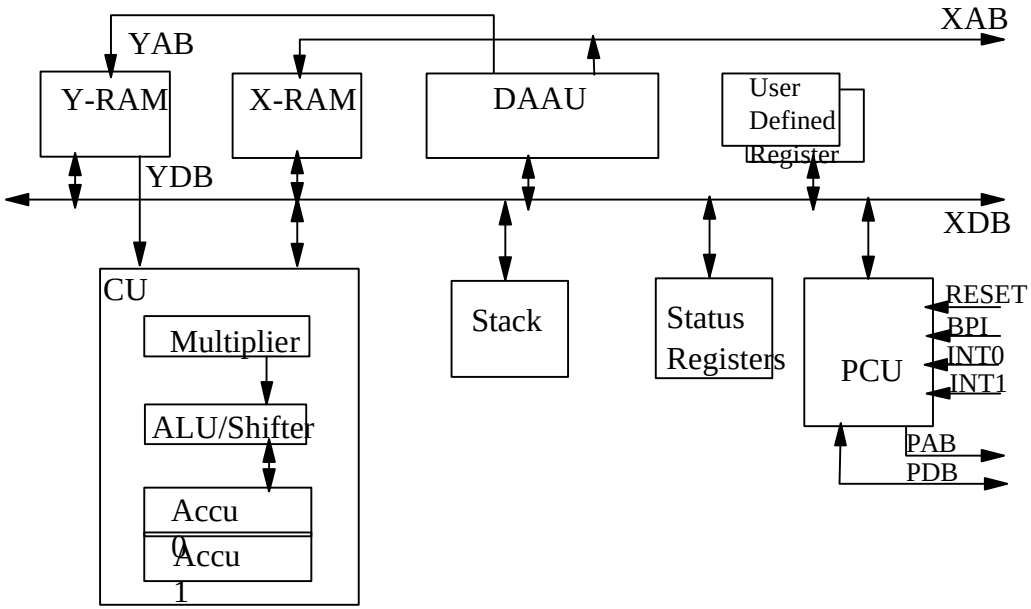


16 bit, fixed point, DSP cores

- Licence from DSP Group for PINE and OAK
- Supports TrueSpeech and other software
- Highly modular for ASIC & ASSP optimization
- Full development system with h/w and s/w
- Expandable RAM/ROM, up to 64K x 16 each
- User defined registers
- 16*16 parallel multiplier
- 36 bit ALU

16 bit DSP PINE

- 3 to 5.5. Volt
- 25 ns - 40 Mips @ 5V
- 2mA / Mips
- Power reduction modes down to 1µA
- 5.6 mm2 core in 0.6µ



16 bit DSP OAK

- 25 ns - 40 Mips
- 40 mA @ 5V
- Bit operator (Viterbi accelerator)
- 32 bit barrel shifter
- Shadow registers
- Software stack
- Context switching