

Q4

Since the ISA determines how many cycles are needed to execute a given instruction and depending on that determines the power consumption of the computation. From recent developments we can see how computers get smaller and cheaper by the effect of instruction set architecture design.

ISA will evolve in parallel instruction computing since the predication develops performance and decreases power consumption. For parallel execution many registers and many function units will be needed. Predication will enable more effective use of parallel hardware and remove the branches which constructed by control flow (if, then, else) that limits performance. Unlike current ISA's, compilers will expose, enhance and exploits parallelism in the source program and make it explicit in the machine code.