Make Computers Cheaper and Simpler

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Abstract. It is expected that 700-800 millions of Chinese people will be connected to Internet in the next 15 years. What is really needed is reducing the cost of computers so that information services will be available for low income people rather than high performance only. In this talk, we briefly examine the research and development of computer architecture during the past decades and rethink the Moore's Law from the user's point of view. To explain the design principle of low cost and simplicity, we discuss the prospects of the new research direction by using examples from our own work, such as low cost CPU design, massive cluster computer (MCC) and reconfigurable computer system. Our research shows that it is possible to design and implement the deskside Teraflops-level supercomputer, which is less than $100K, and PC of $150 in the next 3-5 years.

P.-C. Yew and J. Xue (Eds.): ACSAC 2004, LNCS 3189, p. 373, 2004.