
The study of the structure processor performance in the computer system with multiple-instruction streams and single-data stream

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The project of the Computer Systems and Networks Department is targeted on the implementation of a new system architecture based on the principles of data structures processing. The data access mechanisms in the computer systems with multiple-instruction streams and single-data stream architecture are based on the dedicated hardware unit, named Structure Processor, which operates under the control of the low-level instructions: adding, deleting, searching, union, intersection, complementation and others. This paper describes the data access fundamentals in a such system. The performance testing of operations for the Structure Processor are shown. The hardware complexity of the Structure Processor with universal microprocessors, used for the same problem decision, compared.

Keywords: *data structure, computer system, MISD, processor, structure processing, B+ tree.*

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