

ABSTRACT

EXPLICITLY PARALLEL INSTRUCTION COMPUTING

by

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This project provides an in-depth analysis of the Explicitly Parallel Instruction Computing architecture (EPIC). First, the motivation behind developing EPIC is given to help explain the limitations of existing computer architectures. Next, some of these limitations are analyzed more deeply for two reasons. First, it helps the reader realize why architecture such as EPIC is important. Also, this analysis provides appropriate background information when examining how EPIC performs its computing tasks. After this, two chapters discuss the major EPIC features. The next chapter briefly discusses some of the limitations, which will likely be encountered by EPIC. Finally, an investigation is provided of an actual EPIC processor implementation, the Intel Itanium processor. This is provided to help “bridge the gap” between the theoretical information provided about EPIC in general, and actual implementation details based on EPIC.