

An Object-Compiled Forth Interpreter
with a Segmented Memory Model

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Abstract

This paper describes a Forth interpreter designed for integration into modern operating systems on 16-bit and 32-bit processors. The interpreter is built from object modules compiled from high-level Forth source code and linked with a standard operating system linker. The interpreter has a segmented run-time memory model in which logically distinct components of the system are maintained in discrete memory partitions. This design facilitates the integration of Forth modules with code written in compiled high-level languages, and allows dynamic memory allocation and protection schemes to be utilized without sacrificing the advantages of the interactive Forth environment. Initial implementations of this interpreter run on the Motorola 68000 (Unix System V), the Intel 8086 (MS-DOS) and the 80286 (protected mode XENIX).