

## An Indirect Threaded Code Organization to Support Dynamic Memory Management

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A major advantage of Forth systems is the development environment they offer a programmer. A difficulty is the lack of convenient facilities for revising or removing definitions. Memory management in current implementations of Forth systems, especially on small computers, is limited because of the lack of hardware support. We describe a scheme that simplifies the problems associated with relocation and redefinition. It provides a more convenient environment for building system prototypes. The proposed organization is a variant of the indirect threaded code mechanism and has properties related to that of token threaded schemes. The implementation allows memory to be reclaimed and code to be efficiently relocated and compacted. It can be used without hardware support to provide a virtual memory mechanism based upon Forth words.