A Mathematical Specification for the Mach Kernel

William R. Bevier
Lawrence M. Smith

Computational Logic, Incorporated
1717 West Sixth Street, Suite 290
Austin, Texas 78703-4776
Email: bevier@cli.com, lsmith@cli.com.

Motivation

- Mach-like kernels will likely be a part of some trusted distributed systems.
- It is important to understand their behavior at a level of abstraction above the code.
- Some standardization of Mach features is desirable.
- To this end, we have constructed a detailed specification for the Mach kernel.

What is Mach?

- A kernel on which to build operating systems (e.g., Unix)
- Typical OS functions are out of the kernel:
  - **Memory Management**
  - Network Service
  - File Systems
- Despite this, Mach is large and complex.
  - Multiprocessor implementation.
- Developed at CMU.
- TMach designed at TIS.
- DTMach designed at SCC.
- OSF is doing a kernel re-implementation.

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