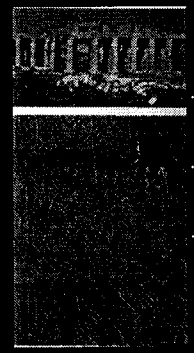
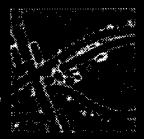
HTMT

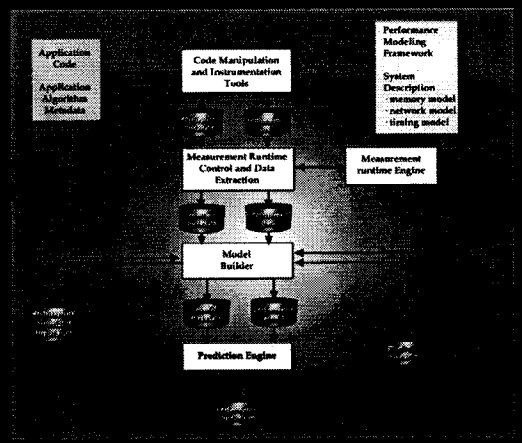
APPLICATIONS BENCHMARKING

Applications for HTMT





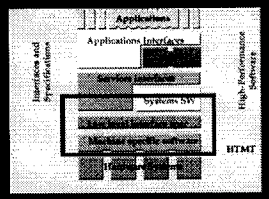
- Whole Internet Simulation
- Biological CAD:
  Tools for BioDesign
- Building a Virtual Biosphere 2:
  Understanding Closed Ecosystems
  Space Travel and Managing the Earth
- Million Person Virtual Theme Parks
  New Directions in Computer Based Entertainment
- Computational Astrobiology
  Using Computation to Investigate the Origin of Life in the Universe
- Digital Archeology:
  Preserving the Cultural Heritage of Mankind



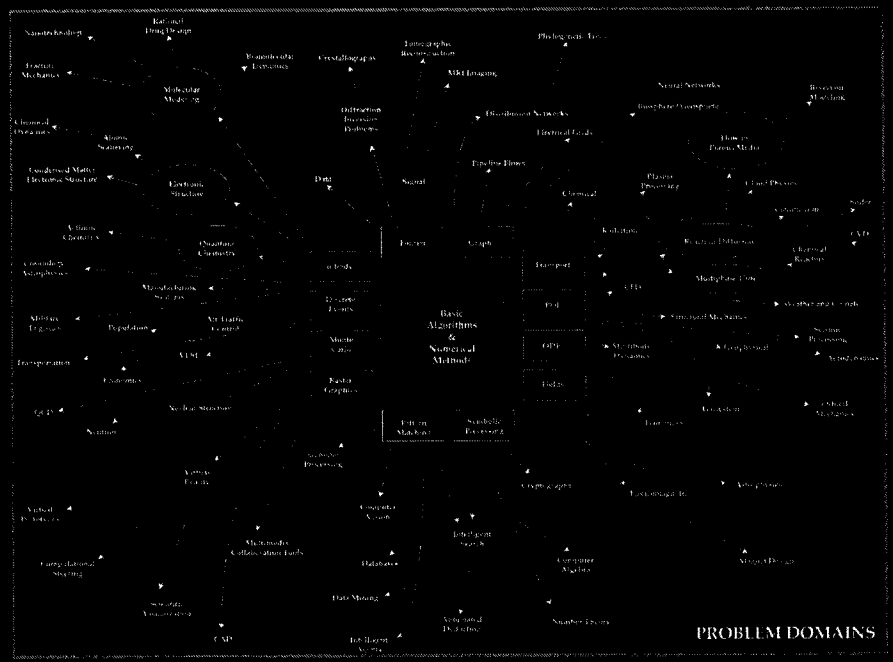
A model for a flexible application performance analysis system. It includes components for measurement of kernel performance, architecture and runtime description, and model construction.

Application Performance Study

- Model of an HTMT slice as seen by the application programmer
  - enables identification of key hardware performance parameters
  - drives definition of critical operating system model



- Manual performance profiling of application codes
  - volume rendering visualization, synthetic aperture radar, plasma PIC simulation, cryptographic numerical manipulations, large N-body simulation
- New application analysis and evaluation strategy
  - for new and future complex computer designs
  - combines measurement, simulation, and statistical techniques
  - enables comparison between real and imagined architectures



PROBLEM DOMAINS