

**Project 9904-04: Malleable Architectures for Adaptive Computing** 

Arvind, Larry Rudolph and Srinivas Devadas





- TRS
  - High Level Architecture Specification
    Language and Synthesis

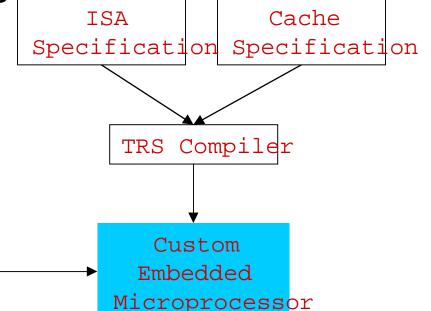
Application

**¥Real-Time** 

**¥**Multimedia

**¥**Stream

- Malleable Architectures
  - Arch. Specific ISA
  - Malleable Caches





## **Project 9904-04: Malleable Architectures for Adaptive Computing**

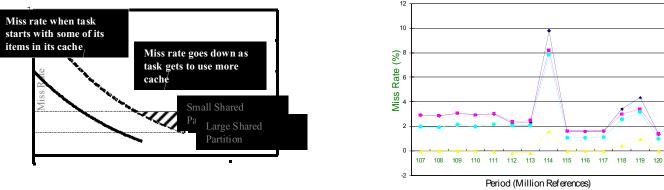
Arvind, Larry Rudolph andSrinivas Devadas





## **Progress Through December 2000**

- Analysis of Memory Behavior of Speech Applications
  - Whole system simulation (realistic environment)
  - Automatic identification of address streams
  - Improvements with manual cache partitioning
- Developed Accurate Models of Cache Behavior of Multitasking Environment



Length of Time Quantum



**Project 9904-04: Malleable Architectures for Adaptive Computing** 

Arvind, Larry Rudolph and Srinivas Devadas





**Research Plan for the Next Six Months** 

- Apply Cache Partitioning to
  - Full Speech Processing (SLS)
  - Image Understanding
- Analyze Other Apps
- Analyze Predictability

