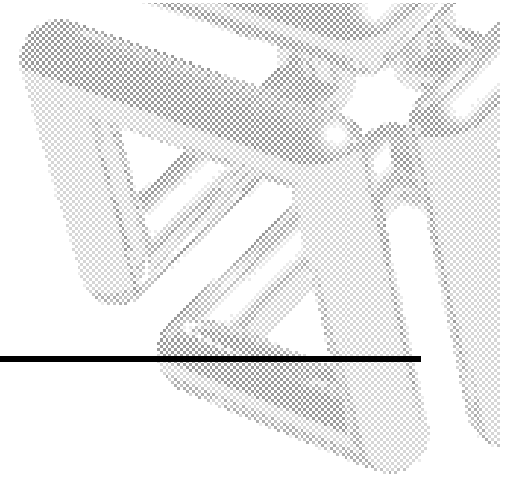


The Miser Resource Manager



Kostadis Roussos
Resource Management Group
Silicon Graphics, Inc.

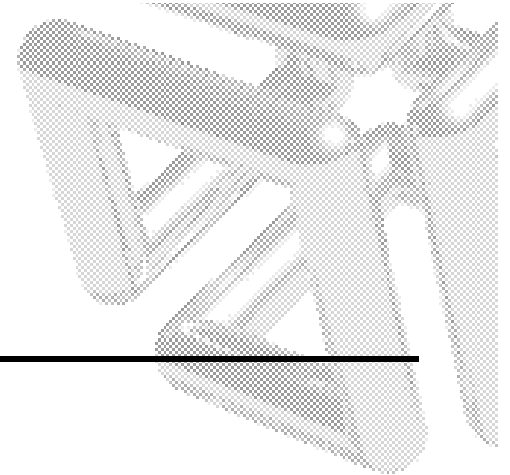
Motivation



- Customer Input
 - Inflexible machine (re)configuration
 - Inefficient use of resources
- Less use of large shared machines
 - Only need them for large memory jobs

Requirements

- Deterministic scheduling is imperative
- Resources shall not be wasted
- Flexibility in configuration
- Customer override

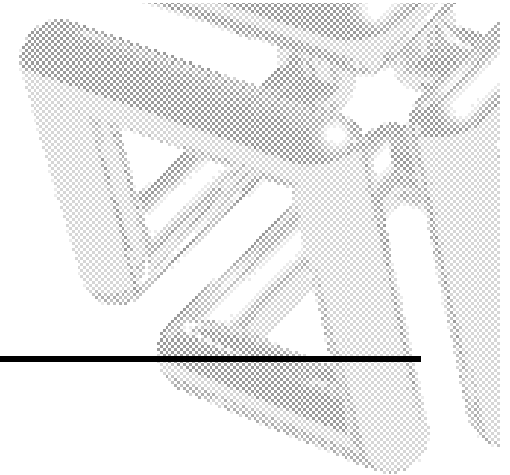


The Miser Resource Manager



- Batch Scheduling Component
 - Controls processors and memory
 - Allows quasi-static partitioning
 - Guaranteed completion times
 - Early completion possible
- Results in:
 - Determinism
 - Minimal resource waste

Example



- 16 CPUs, 1G Memory Machine

MISER

Physics



CPU Memory

2	128
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Math



3	256
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Chemistry



2	64
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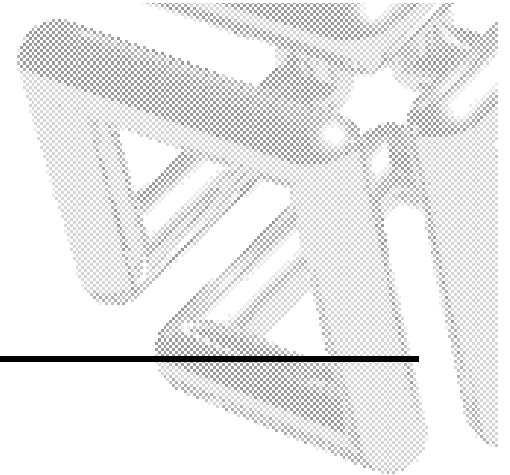
SYSTEM



9	576
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Other Features

- Resource reallocation
 - Can be time-driven
- CPUsets
 - Can be exclusive



Futures

- Better exception handling
- User-provided policies

