Chemical Flowsheeting and Nectar

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Introduction

- Chemical Flowsheeting
- LAP solver over large cost matrices
- Heterogenous Computing

Sample Generation

- Generate random samples.
- iWarp produces the samples and sends via HIPPI to the C90
- HIB physically connected at 4 points in the array
- Results
  1. iWarp: 1450K samples/sec
  2. alpha: 185K
  3. Sun 4/330: 20K samples/sec

Sending Data over Hippi

- iWarp $\rightarrow$ C90 — Michael Hemy's HIB routines.

- C90 $\leftrightarrow$ CM2 — PSC supplied DHSC routines.

    1. Advantages: synchronization, data conversion, moderation

    2. Disadvantages: inflexible, high latency due to PVM

Application Results

- Successful completion on small cost matrices.

- Computation limited on iWarp (6MB/s)

- Problems w/ larger cost matrices

  1. Insufficient space on C90.

  2. Pipelining

Current Plans

- Remove DHSC dependencies
- Change Data Flow