



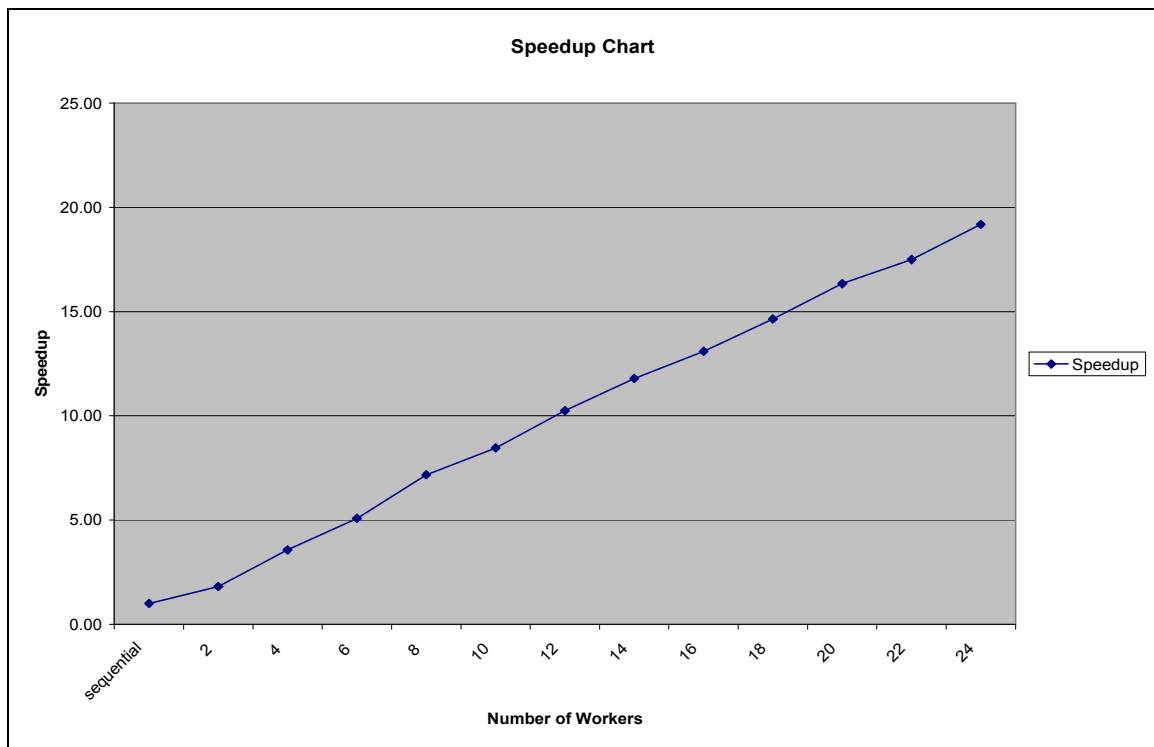
Performance of parallelR Portfolio Optimization on HP Clusters

High performance cluster systems based on dual-core processors are increasingly popular for high performance technical computing. These benchmarks illustrate their application and performance executing a parallel application for a typical problem (portfolio optimization) in Financial Services.

For purposes of this study we have employed the well-known interactive R statistics computing environment and implemented a very simple prototype portfolio optimizer based on a Monte Carlo approach.

We utilize the new parallelR package from Scientific Computing Associates Inc , (www.lindaspaces.com) to parallelize a Monte Carlo approach to computing the efficient frontier of a synthetic portfolio. This problem was chosen because the size and complexity of the dataset are relevant across a spectrum of Monte Carlo applications. For more details about the problem and benchmark see http://www.lindaspaces.com/products/R_services.html.

Our benchmarks show excellent parallel scalability on the powerful AMD Dual Core Opteron based HP ProLiant Blade clusters.





paralellR is a powerful, secure, and flexible high performance-computing solution that enables applications to be executed on multiple processors. paralellR offers end-users exponential gain in application performance, while maximizing all compute nodes.

Target Customers:

- Users of R who are looking for more standardized commercial support
- Users of R who are interested in high-performance applications and distributed execution
- Where distributed application environments need a coordinated management approach to manage IT investment
- Where laborious repetitive tasks can be automated thru parametric scheduling
- Where a mix of Linux and Windows applications need to be coordinated

Benchmark Configuration:

Qty	SKU	Description
Scientific Computing Associates Benchmark Configuration		
Blade Enclosure		
2	243564-B22	HP BLp Enhanced Enclosure
2	283192-B21	HP BLp-Class C-GbE2 Interconnect Switch
Blade Configuration		
6	397814-B21	HP BL45p 2.8GHz SC 2G 2P Svr
18	376639-B21	HP 2GB Reg PC3200 2x1GB Memory
6	286714-B22	HP 72GB 10K U320 Pluggable Hard Drive
Rack, PDU's, Monitor		
1	245163-B22	HP 10622 22U Shock Rack Pallet
1	221546-001	HP TFT5600RKM Integ 1U US KeyBrd&Monitor
2	252663-B24	HP 16A High Voltage Modular PDU
OS and Applications		
1	366320-B21	SUSE SLES9 1Yr Base 8pk ET/Opt
2	399712-B21	SCAI Prlel RI Pro 1st yr Sub/Support- 4 Node
Total Hardware and OS \$99,222.00		