



i n v e n t



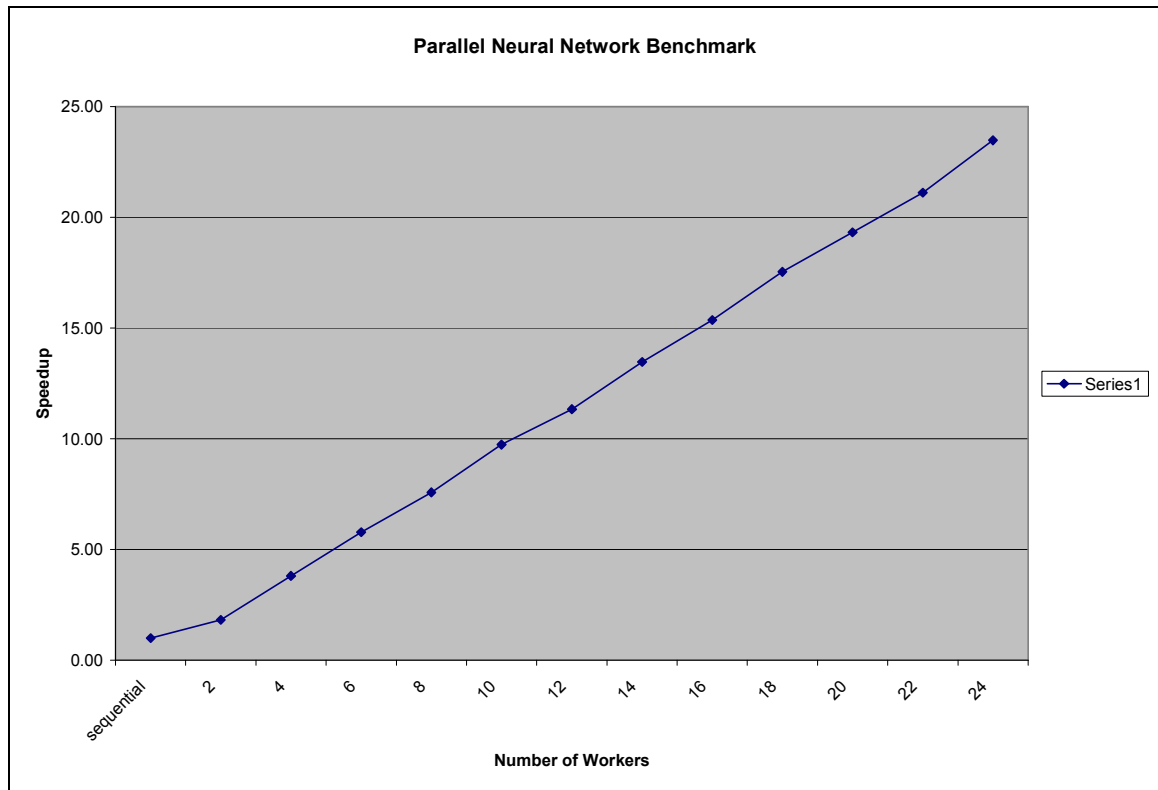
Scientific Computing Associates Delivers Software and Solutions for R- A Parallel Neural Network Benchmark on HP ProLiant and BladeSystem Clusters

Clusters of dual-core processors are increasingly popular for high performance technical computing. These benchmarks illustrate their application and performance executing a parallel data mining code for a typical problem (bank loan application classification) in Business Intelligence.

For purposes of this study we have employed the well known interactive *R* statistics computing environment and the neural network package, Nnet, that is part of the R distribution. We utilize the new parallelR™ package from Scientific Computing Associates Inc, to parallelize the optimization and training of neural networks produced by Nnet for a publicly available “German Bank” training set from the UCI data mining archive. This problem was chosen because the size and complexity of the dataset are relevant across a spectrum of scientific and commercial applications. For more details about the problem and benchmark see

http://www.lindaspaces.com/products/R_services.html

Our benchmarks show excellent scalability on a powerful AMD Dual Core Opteron based HP cluster.





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

Sample Configurations:

16 Node Single Core 2P Compute Farm			16 Node Dual Core 2P Compute Farm		
Qty	SKU	Description	Qty	SKU	Description
Head Node			Head Node		
1	399684-001	HP DL385G1 2400 DC US Svr	1	399684-001	HP DL385G1 2400 DC US Svr
1	399692-B21	HP O280 2.4/1000-1M DC DL385G1 Kit	1	399692-B21	HP O280 2.4/1000-1M DC DL385G1 Kit
3	376638-B21	HP 1GB Reg PC3200 2x512 Memory	3	376638-B21	HP 1GB Reg PC3200 2x512 Memory
2	286714-B22	HP 72GB 10K U320 Pluggable Hard Drive	2	286714-B22	HP 72GB 10K U320 Pluggable Hard Drive
Compute Nodes			Compute Nodes		
16	377887-001	HP DL145G2 2600 2G SCSI US Rck Svr AMD O252 2.6/1GHz HT-1M DL145G2 Kit	16	390845-001	HP DL145R02 2200 DC 2G SCSI US Svr
16	378690-B21	HP 2GB Reg PC3200 2x1GB Memory	16	361040-B21	Slim DVD-ROM Kit DL145 WW
16	357012-B21	HP 36GB 15K Ultra320 NHP Hard Drive	16	357012-B21	HP 36GB 15K Ultra320 NHP Hard Drive
Rack, Switch Cables and PDU			Rack, Switch Cables and PDU		
1	245163-B22	HP 10622 22U Shock Rack Pallet	2	409312-B21	SLES 9 8-License Value Pack 1YR SW
1	J4903AZ	HP Procurve 2824 GigE Switch	1	245163-B22	HP 10622 22U Shock Rack Pallet
1	356578-B21	HP Procurve Rack Mount Kit	1	J4903AZ	HP Procurve 2824 GigE Switch
1	J4900BZ	HP ProCurve 2626 10/100 Admin Switch	2	356578-B21	HP Procurve Rack Mount Kit
34	C7533A	CAT 5e Cable HP TFT5600RKM Integ 1U US KeyBrd&Monitor	1	J4900BZ	HP ProCurve 2626 10/100 Admin Switch
1	221546-001	HP 1U 10pk Universal Filler Panel	34	C7533A	CAT 5e Cable HP TFT5600RKM Integ 1U US KeyBrd&Monitor
1	AF072A	HP Rack 9000/ Rack 10000 Grounding Kit	1	221546-001	HP 1U 10pk Universal Filler Panel
1	260457-B21	HP 16A High Voltage Modular PDU	1	AF072A	HP Rack 9000/ Rack 10000 Grounding Kit
2	252663-B24	HP 16A High Voltage Modular PDU	1	260457-B21	HP 16A High Voltage Modular PDU
OS and Applications			OS and Applications		
1	366320-B21	SUSE SLES9 1Yr Base 8pk ET/Opt	2	252663-B24	HP 16A High Voltage Modular PDU
1	366321-B21	SUSE SLES9 1Yr Add-on 8pk ET/Opt	1	366320-B21	SUSE SLES9 1Yr Base 8pk ET/Opt
1	373845-B21	SUSE LX Ent SVR 9 2P 1Y DIB SW SCAI Prtel RI Pro 1st yr Sub/Support- 4 Node	1	366321-B21	SUSE SLES9 1Yr Add-on 8pk ET/Opt
4	399712-B21	SUSE LX Ent SVR 9 2P 1Y DIB SW SCAI Prtel RI Pro 1st yr Sub/Support- 4 Node	1	373845-B21	SUSE LX Ent SVR 9 2P 1Y DIB SW SCAI Prtel RI Pro 1st yr Sub/Support- 4 Node
Total Hardware and OS \$97,999.00			4	399712-B21	SUSE LX Ent SVR 9 2P 1Y DIB SW SCAI Prtel RI Pro 1st yr Sub/Support- 4 Node
			Total Hardware and OS \$87,871.00		

For more information, contact your HP representative, or contact SCAI at sales@lindaspaces.com