Algoritmos Paralelos: Pthreads

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1 Matrix Multiplication Pthreads

Table 1: Run-Times and Efficiencies of Matrix-Vector Multiplication (times are in seconds)

Threads	Matrix Dimension					
	8 000 000 * 8		8000 * 8000		8*8 000 000	
	Time	Eff.	Time	Eff.	Time	Effi.
1	0.350605	0.122995	0.289046	0.083611	0.280786	0.078892
2	0.365757	0.033469	0.268410	0.018025	0.414145	0.042898
3	0.465332	0.024070	0.375598	0.015683	0.388962	0.016818

2 Calculo de Pi

Table 2: Run-Times (in Seconds) of Programs Using n = 108 Terms on a System with Two Four-Core Processors

Threads	Busy-Wait	Mutex
1	0.8467638	0.8533049
2	0.4148319	0.4376988
4	0.4050179	0.4050481
8	0.4011431	0.4009240
16	0.4525850	0.3996530
32	0.8268979	0.3989608
64	2.149486	0.4001820

3 Lista enlazada multithreading

Table 3: Linked List Times: 1000 Initial Keys, 100,000 ops, 80% Member, 10% Insert, 10% Delete

Implementation	Number of Threads			
	1	2	3	4
Read-Write Locks	2.146104	1.584512	1.504907	1.492274
One Mutex for Entire List	2.218657	2.751555	2.854512	2.835855
One Mutex per Node	6.616240	3.165623	2.949884	2.815714