

Scatter plot showing the ratio of communication time to CPU time for four methods: linear, naive, sketch, and synchronous. The x-axis is labeled '(Communication time) / (CPU time)' and ranges from 0 to 40. The y-axis is unlabeled. The legend indicates: linear (blue), naive (orange), sketch (green), and synchronous (red). The synchronous method shows a sharp increase in the ratio as the number of nodes increases, reaching over 40. The other methods remain below 10.

A scatter plot comparing the accuracy of four methods: linear (blue), naive (orange), sketch (green), and synchronous (red). The x-axis represents the ratio of communication time to CPU time, ranging from 0.25 to 2.25. The y-axis represents accuracy, ranging from 0.9850 to 0.9875. The synchronous method consistently achieves the highest accuracy across the range of communication-to-CPU time ratios, while the linear method generally achieves the lowest accuracy.

Method	(Communication time) / (CPU time)	Accuracy
linear	0.48	0.9862
linear	0.48	0.9860
linear	0.48	0.9854
naive	0.18	0.9856
naive	0.18	0.9854
naive	0.18	0.9853
naive	0.32	0.9863
naive	0.32	0.9860
naive	0.32	0.9855
naive	0.32	0.9853
naive	0.32	0.9852
naive	0.82	0.9855
sketch	0.28	0.9861
sketch	0.28	0.9857
sketch	0.28	0.9855
sketch	0.28	0.9853
sketch	0.28	0.9852
sketch	0.32	0.9855
sketch	0.32	0.9852
sketch	0.32	0.9852
sketch	0.32	0.9851
sketch	0.38	0.9857
sketch	0.38	0.9854
sketch	0.38	0.9852
sketch	0.48	0.9851
synchronous	0.85	0.9860
synchronous	0.85	0.9859
synchronous	0.85	0.9857
synchronous	0.85	0.9856
synchronous	0.85	0.9850
synchronous	2.15	0.9878
synchronous	2.15	0.9862
synchronous	2.15	0.9855
synchronous	2.15	0.9854
synchronous	2.15	0.9852