Smoke Past Sphere 768^3 PCG Iteration Breakdown

PCG Iteration Substep	1-core	16-core	Speedup
(Re-)Initialization*	13s 200ms	2s 370ms	5.6
V-Cycle (finest level breakdown)			
Int. Smoothing and Residuals	7s 990ms	1s 170ms	6.8
Bdry. Smoothing and Residuals	0s 983ms	0s 160ms	6.1
Restriction	3s 430ms	0s 287ms	12.0
Prolongation	2s 950ms	0s 398ms	7.4
Bdry. Smooth (upstroke)	0s 719ms	0s 103ms	7.0
Int. Smooth (upstroke)	11s 700ms	1s 150ms	10.2
V-Cycle total (1 iteration)	32s 200ms	3s 910ms	8.2
PCG, line 6	11s 600ms	0s 895ms	13.0
PCG, line 8	2s 270ms	0s 453ms	5.0
PCG, line 13 (inc. V-Cycle)	32s 200ms	3s 910ms	8.2
PCG, line 16	5s 160ms	828ms	6.2
PCG total (1 iteration)	51s 300ms	6s 90ms	8.4

Cost of 1 PCG Iteration By Simulation

Simulation and Resolution	1-core	16-core	Speedup
Smoke flow past sphere			
64x64x64	39ms	23ms	1.7
96x96x96	127ms	47ms	2.7
128x128x128	299ms	67ms	4.5
192x192x192	983ms	167ms	5.9
256x256x256	2s 110ms	289ms	7.3
384x384x384	7s 380ms	875ms	8.4
512x512x512	15s 500ms	1s 930ms	8.0
768x768x768	51s 300ms	6s 90ms	8.4
768x768x1152	76s 800ms	9s 120ms	8.4
Smoke past car			
768x768x768	51s 200ms	6s 70ms	8.4
Free-surface water			
512x512x512	12s 900ms	1s 940ms	6.6