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³Solid Angle

Image-parallel Ray Tracing using OpenGL Interception - Supplemental

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1 Supplemental Material - Tables for Graphs

All timings are maximum rendering times in seconds.

Nodes	1	2	4	8	16	32	62
GLuDRay	0.128	0.0699	0.0405	0.0248	0.0180	0.0106	0.0117
GPU	26.2577	14.200	1.841	0.879	0.451	0.236	0.125
GLuRay	0.14712625	0.131	0.107	0.089	0.077	0.037	0.035
Mesa	34.073	16.914	8.554	4.278	2.183	1.286	0.673

Table 1: Render Time Strong Scaling for VPIC

Nodes	1	2	4	8	16	32	62
GLuDRay	0.134327428571	0.074	0.042	0.027	0.023	0.014	0.017
GPU	28.306575	14.15	1.460	0.895	0.458	0.240	0.126
GLuRay	0.126	0.099	0.090	0.076	0.065	0.053	0.049
Mesa	18.478	10.180	5.6324	3.2096	1.7460	1.0485	0.5396

Table 2: Render Time Strong Scaling for VPIC Zoomed in

Nodes	1	2	4	8	16	32	62
GLuDRay	0.158652261905	0.058	0.031	0.021	0.015	0.013	0.016
GPU	32.345	16.72	1.947	1.122	0.546	0.289	0.151
GLuRay	0.154	0.167	0.143	0.092	0.108	0.093	0.047
Mesa	40.781	20.513	10.485	5.226	2.667	1.525	0.800

Table 3: Render Time Strong Scaling for RM

Nodes	1	2	4	8	16	32	62
GLuDRay	0.087	0.049	0.026	0.020	0.018	0.013	0.016
GPU	15.313	6.992	1.958	1.124	0.581	0.152	0.069
GLuRay	0.080	0.108	0.093	0.125	0.112	0.063	0.055
Mesa	15.978	10.251	5.768	3.160	1.824	1.006	0.606

Table 4: Render Time Strong Scaling for RM Zoomed in

Nodes	1	2	4	8	16	32	62
0cf	0.128	0.069	0.040	0.024	0.018	0.010	0.011
2cf	0.124	0.079	0.082	0.064	0.055	0.028	0.030
4cf	0.124	0.131	0.144	0.118	0.093	0.054	0.047
8cf	0.125	0.311	0.295	0.204	0.147	0.085	0.068

Table 5: Cache Fraction Scaling for VPIC

Nodes	1	2	4	8	16	32	62
0cf	0.134	0.074	0.042	0.027	0.023	0.014	0.017
2cf	0.139	0.089	0.066	0.037	0.036	0.023	0.024
4cf	0.138	0.096	0.063	0.040	0.041	0.025	0.030
8cf	0.138	0.108	0.086	0.059	0.050	0.026	0.017

Table 6: Cache Fraction Scaling for VPIC Zoomed in

Nodes	1	2	4	8	16	32	62
0cf	1.058	0.688	0.376	0.206	0.255	0.141	0.092
2cf	3.182	2.755	1.594	1.223	0.802	0.428	0.637
4cf	3.174	3.094	2.262	1.877	1.655	1.046	1.126
8cf	3.715	5.129	4.266	4.229	2.465	1.513	1.563

Table 7: Cache Fraction Scaling for VPIC with AO

Nodes	1	2	4	8	16	32	62
0cf	9.133	5.258	2.296	1.429	0.738	0.301	0.197
2cf	10.290	8.165	3.902	2.697	0.432	0.648	0.496
4cf	10.453	8.369	4.066	0.885	1.826	0.834	0.670
8cf	10.313	8.955	4.970	4.738	2.820	1.454	1.098

Table 8: Cache Fraction Scaling for VPIC with AO Zoomed in