

Table 1: Verification and grouping information on selected HWMCC benchmarks

Name	#Targets	Verification Time (secs)					Number of Groups			Grouping Time (secs)				
		One-by-one	Multiple	Level-1	Level-2	Level-3	Level-1	Level-2	Level-3	SCC	Level-1	Level-2	Level-3	Overall
6s258	85	159.31	123.1538	90.96	90.96	79.97	16	16	7	0	2.6E-05	0.000287	3.4E-05	0.000347
6s141	104	33685.11	39168.5968	15741.92	15741.92	11386.22	33	33	11	0	4.6E-05	0.000212	9.5E-05	0.000353
6s281	105	1175.87	798.1	967.58	967.58	967.58	84	84	84	4.94	0.000656	0.003723	0.000945	4.945324
pdtpmsvip	108	11922.46	1074.0384	5773.58	248.62	248.62	54	3	3	0	4E-05	0.000337	2.4E-05	0.000401
eijkbs3330	109	731.11	1493.63	400.14	400.14	294.67	53	53	23	0	5.7E-05	0.000224	6.8E-05	0.000349
6s276	113	7.33	8.0364	5.34	5.34	4.44	60	60	53	0.01	0.000103	0.000198	0.000105	0.010406
6s277	113	7.62	22.678	5.02	5.02	5.8	60	60	53	0	5.6E-05	0.000202	4.7E-05	0.000305
6s305	118	3596.6	2384.5248	2539.63	2539.63	1862.91	60	60	16	0	5.2E-05	0.000196	7.5E-05	0.000323
6s139	123	2618.47	7814.51	987.09	987.09	908.79	54	54	49	0.04	0.000201	0.001047	0.000214	0.041462
6s275	125	6.19	4.661	4.18	4.18	3.95	66	66	56	0	6.4E-05	0.000132	5.1E-05	0.000247
pdtpmssfeistel	130	2876.92	910.52	1385.95	1385.95	884	65	65	53	0	5.4E-05	0.000276	7.5E-05	0.000405
bobsmvhd3	138	15702.81	1564.72	5461.07	5461.07	3343.8	62	62	53	0	7E-05	0.000189	7.5E-05	0.000334
6s421	146	34.07	42.3144	21.11	21.11	19.59	73	73	72	0	5.8E-05	0.000134	0.00017	0.000362
6s380	149	6966.77	12.549	16.95	16.95	16.95	12	12	12	0	3E-05	0.000669	1.8E-05	0.000717
6s391	166	1872.56	791.2685	486.69	486.69	336.71	40	40	32	0	6E-05	0.000191	0.000101	0.000352
6s332	174	13515.97	21465.35	6889.28	6326.99	6326.99	87	84	84	6.24	0.001863	0.004631	0.00152	6.248014
pdtpmsvsa16a	183	4334.19	155.4	479.92	479.92	105	21	21	5	0	3.2E-05	0.000168	2.9E-05	0.000229
6s409	184	26352.05	89411.93	4554.49	4554.49	4554.49	4	4	4	0.02	4.1E-05	0.000763	1.2E-05	0.020816
6s114	200	4896.7	7114.67	2378.61	523.38	523.38	100	6	6	0.03	0.000126	0.001515	2.4E-05	0.031665
bob12s08	206	46944.15	12448.34	27289.89	27289.89	24497.51	104	104	88	0	0.000108	0.000356	0.000108	0.000572
6s322	206	46958.25	45735.6773	29265.65	29265.65	25268.33	104	104	88	0	0.000108	0.000356	0.000108	0.000572
6s385	209	53343.75	27780.3832	10356.22	10356.22	8317.48	31	31	26	0.05	0.000213	0.000201	8.8E-05	0.050502
6s353	222	17443.87	17099.433	7794.18	7794.18	4384.47	63	63	15	0.05	0.000225	0.001015	0.000233	0.051473
6s384	226	1530.9	239.7357	1191.07	1191.07	156.69	98	98	23	0	8.6E-05	0.000178	8.8E-05	0.000352
6s118	242	588.65	769.202	588.65	588.65	409.15	242	242	77	0	0.00012	0.00038	0.000281	0.000781
6s344	252	71436.32	96722.6265	18361.47	18361.47	8764.35	34	34	12	0	7E-05	0.000211	8.2E-05	0.000363
bobpci215	274	92.37	145.6154	53.06	53.06	44.26	232	232	98	0	8.5E-05	0.000217	0.000178	0.00048
6s400	277	44635.47	66045.1269	12717.73	7254.91	7254.91	27	8	8	0	8.8E-05	0.000329	4.3E-05	0.00046
6s428	350	45712.49	38659.914	14642.55	14642.55	9787.32	90	90	45	0	0.000113	0.000265	0.000186	0.000564
6s325	357	2545.68	569.6188	728.71	728.71	459.37	92	92	50	0	0.00011	0.000321	8.5E-05	0.000516
6s407	360	47729.59	91514.71	2918.65	1268.53	1268.53	15	9	9	0.01	7.2E-05	0.000864	2.8E-05	0.010964
6s301	361	5016.52	2276.0572	2592.5	2592.5	1835.53	127	127	55	0.01	0.000246	0.000349	0.000192	0.010787
6s355	381	38953.23	19389.4412	8349.41	4635.21	4154.62	44	13	11	0	5.3E-05	0.000266	3.1E-05	0.00035
bobsm38584	441	69225.87	41750.827	32013.41	32013.41	24559.31	145	145	87	0.01	0.000188	0.001068	0.000183	0.011439
6s292	532	10305.88	506.2438	360.24	342.97	303.14	21	20	18	0	7.4E-05	0.000282	3.1E-05	0.000387
6s405	593	10893.62	25658.19	4415.08	3922.93	3922.93	16	13	13	0.03	0.000148	0.001973	3.4E-05	0.032155
6s117	632	11170.25	19228.5632	6776.11	5462.66	5462.66	264	15	15	0.02	0.000247	0.001147	2.8E-05	0.021422
6s410	735	32810.32	56193.29	2454.13	2454.13	2454.13	15	15	15	0.02	0.00015	0.000812	3.9E-05	0.021001
bobaesdinvdmit	788	155046.7	75837.972	72474	72474	45141.65	264	264	144	0.01	0.000427	0.000296	0.000248	0.010971
6s403	940	9025.91	26184.37	2692.73	2682.94	1282.94	133	132	72	0.08	0.000545	0.001699	0.000235	0.082479
6s408	940	11088.4	4437.4874	5184.4	3926.98	3926.98	261	21	21	0.23	0.001397	0.00167	0.000148	0.233215
6s413	1192	49245.33	37298.6653	24561.35	24561.35	12474.47	593	593	439	0.03	0.001335	0.000385	0.001512	0.033232
6s124	1225	38081.05	69971.3546	21220.1	12571.62	8727.37	606	52	50	0.01	0.000548	0.000683	8.6E-05	0.011317
6s176	1310	176443.45	37249.7622	103163.19	103163.19	32675.23	653	653	89	0.01	0.00075	0.000749	0.000786	0.012285
6s250	1327	156783.33	180255.508	65724.48	65724.48	41248.4	195	195	141	0	0.000403	0.000478	0.00016	0.001041
6s110	1372	33359.66	3933.4937	6166.91	6166.91	1976.63	196	196	39	0	0.000386	0.000274	0.000137	0.000797
6s381	1506	66975.07	5200.85	30769.35	30769.35	17170.62	492	492	192	0.03	0.002588	0.001509	0.001836	0.035933
6s361	2653	3349.02	3143.89	1842.76	557.48	355.76	1327	228	84	0.09	0.003019	0.008985	0.000708	0.102712