

175.vpr, Route command line

Datasets profile vs. Reference Dataset

The following are the profiles for the 175.vpr benchmark, route command line. For more details about our profile development and dataset reduction methodology, refer to the paper by AJ KleinOsowski and David J. Lilja, "MinneSPEC: A New SPEC Benchmark Workload for Simulation-Based Computer Architecture Research", Computer Architecture Letters, Volume 1, June 2002. This paper is available in electronic form at <http://www.arctic.umn.edu/~lilja/minnespec/index.html>



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Function level execution profile at optimization level O0

The following table contains function execution profiles and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the gprof profiling utility. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall execution time spent in the stated function (in the Function column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi are the terms of the chi-squared statistic for the stated function (in the function column).

Function	Ref	Train	Train Chi	Test	Test Chi	LgRed	LgRed Chi	MdRed	Mdred Chi	SmRed	SmRed Chi
get_heap_head	41.87	39.27	0.16	34.79	1.20	29.83	3.46	25.00	6.80	33.33	1.74
expand_neighbours	18.17	18.16	0.00	16.33	0.19	17.43	0.03	15.22	0.48	0.00	18.17
internal_mcount	11.56	13.24	0.24	16.67	2.26	16.98	2.54	13.04	0.19	16.67	2.26
add_to_heap	10.97	10.90	0.00	12.30	0.16	12.29	0.16	16.30	2.59	0.00	10.97
node_to_heap	3.67	4.95	0.45	4.70	0.29	5.25	0.68	3.26	0.05	0.00	3.67
route_net	3.61	3.53	0.00	3.58	0.00	3.58	0.00	3.26	0.03	0.00	3.61
alloc_heap_data	3.42	2.65	0.17	2.01	0.58	2.91	0.08	6.52	2.81	0.00	3.42
free_heap_data	2.29	1.73	0.14	1.79	0.11	1.23	0.49	0.00	2.29	0.00	2.29
alloc_linked_f_pointer	0.68	0.55	0.02	0.45	0.08	0.67	0.00	0.00	0.68	0.00	0.68
empty_heap	0.67	0.69	0.00	1.01	0.17	1.34	0.67	2.17	3.36	0.00	0.67
reset_path_costs	0.66	0.48	0.05	0.34	0.16	0.89	0.08	0.00	0.66	0.00	0.66
_mcount	0.53	0.61	0.01	0.22	0.18	0.67	0.04	1.09	0.59		0.53
add_to_mod_list	0.30	0.42	0.05	0.34	0.01	0.67	0.46	0.00	0.30	0.00	0.30
pathfinder_update_one_cost	0.21	0.22	0.00	0.11	0.05	0.22	0.00	0.00	0.21	0.00	0.21
_doprnt	0.09	0.17	0.07	0.22	0.19	0.45	1.44	0.00	0.09	0.00	0.09
check_rr_graph	0.09	0.21	0.16	0.45	1.44	0.45	1.44	1.09	11.11	0.00	0.09
add_rr_graph_C_from_switches	0.08	0.17	0.10	0.45	1.71	0.34	0.85	2.17	54.60	0.00	0.08
.rem	0.07	0.09	0.01	0.11	0.02	0.34	1.04	0.00	0.07	0.00	0.07
check_pass_transistors	0.07	0.13	0.05	0.22	0.32	0.34	1.04	1.09	14.86	0.00	0.07
get_rr_node_index	0.07	0.10	0.01	0.34	1.04	0.22	0.32	0.00	0.07	0.00	0.07
update_traceback	0.06	0.09	0.02	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
count_routing_transistors	0.06	0.12	0.06	0.34	1.31	0.22	0.43	0.00	0.06	16.67	4598.20
is_sbox	0.05	0.11	0.07	0.22	0.58	0.11	0.07	0.00	0.05	0.00	0.05
pathfinder_update_cost	0.05	0.07	0.01	0.00	0.05	0.11	0.07	0.00	0.05	0.00	0.05
check_node	0.03	0.05	0.01	0.00	0.03	0.00	0.03	1.09	37.45	0.00	0.03
alloc_and_load_edges_and_switches	0.03	0.06	0.03	0.11	0.21	0.34	3.20	1.09	37.45	0.00	0.03
get_xtrack_to_ytracks	0.03	0.02	0.00	0.00	0.03	0.11	0.21	0.00	0.03	0.00	0.03
alloc_trace_data	0.03	0.02	0.00	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
get_ytrack_to_xtracks	0.02	0.01	0.01	0.22	2.00	0.00	0.02	0.00	0.02	0.00	0.02
insert_in_edge_list	0.02	0.02	0.00	0.11	0.41	0.22	2.00	1.09	57.25	0.00	0.02
memcpy	0.02	0.07	0.13	0.00	0.02	0.11	0.41	0.00	0.02	0.00	0.02
get_switch_type	0.02	0.03	0.00	0.00	0.02	0.11	0.41	1.09	57.25	0.00	0.02
get_switch_box_tracks	0.02	0.05	0.05	0.22	2.00	0.22	2.00	0.00	0.02	0.00	0.02
strpbrk	0.02	0.07	0.13	0.22	2.00	0.00	0.02	0.00	0.02	16.67	13861.13
check_adjacent	0.02	0.01	0.01	0.22	2.00	0.11	0.41	0.00	0.02	0.00	0.02
my_fgets	0.02	0.03	0.00	0.11	0.41	0.22	2.00	0.00	0.02	0.00	0.02
feasible_routing	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
get_sbox_side	0.02	0.07	0.13	0.11	0.41	0.00	0.02	0.00	0.02	0.00	0.02
.umul	0.02	0.02	0.00	0.00	0.02	0.11	0.41	0.00	0.02	0.00	0.02
_brk_unlocked	0.01	0.02	0.01	0.11	1.00		0.01		0.01		0.01

get_closest_seg_start	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_clb_ipin_edges	0.01	0.05	0.16	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
check_sink	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
expand_trace_segment	0.01	0.02	0.01	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01
build_rr_ychan	0.01	0.02	0.01	0.22	4.41	0.00	0.01	0.00	0.01	0.00	0.01
print_route	0.01	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_clb_ipin_edges	0.01	0.04	0.09	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_ytrack	0.01	0.02	0.01	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01
mark_ends	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
free_linked_edge_soft	0.01	0.03	0.04	0.11	1.00	0.11	1.00	0.00	0.01	0.00	0.01
seg_index_of_cblock	0.01	0.05	0.16	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01
get_segment_usage_stats	0.01	0.02	0.01	0.11	1.00	0.11	1.00	0.00	0.01	0.00	0.01
recompute_occupancy_from_scratch	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_serial_num	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
load_channel_occupancies	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
free_traceback	0.01	0.02	0.01	0.11	1.00	0.00	0.01	0.00	0.01	0.00	0.01
get_num_bends_and_length	0.01	0.01	0.00	0.11	1.00	0.00	0.01	0.00	0.01	0.00	0.01
_write	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
_realbufend	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strcmp	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
seg_index_of_sblock	0.01	0.01	0.00	0.00	0.01	0.00	0.01	1.09	116.64	0.00	0.01
build_rr_xchan	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
my_chunk_malloc	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_clb	0.01	0.04	0.09	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01
alloc_and_load_rr_node_route_structs	0.01	0.01	0.00	0.00	0.01	0.11	1.00	0.00	0.01	0.00	0.01
Sum	99.90	99.74	3.04	99.19	32.34	98.86	33.81	95.66	408.59	83.34	18509.72
	Ref	Train	Train	Test	Test	LgRed	LgRed	MdRed	Mdred	SmRed	SmRed
			Chi	Chi	Chi		Chi		Chi		Chi

90% Confidence level (65 entries) = 78.860

175.vpr, Route command line

Function level execution profile at optimization level O1

The following table contains function execution profiles and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the gprof profiling utility. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall execution time spent in the stated function (in the Function column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi are the terms of the chi-squared statistic for the stated function (in the function column).

Function	Ref	Train	Train Chi	Test	Test Chi	LgRed	LgRed Chi	MdRed	Mdred	SmRed	SmRed Chi
get_heap_head	27.48	21.44	1.33	16.40	4.47	17.59	3.56	6.52	15.99	0.00	27.48
internal_mcount	20.92	28.55	2.78	36.26	11.25	37.96	13.88	39.13	15.85	100.00	298.93
expand_neighbours	19.88	20.11	0.00	15.94	0.78	13.43	2.09	15.22	1.09	0.00	19.88
add_to_heap	9.60	8.93	0.05	7.16	0.62	8.33	0.17	4.35	2.87	0.00	9.60
alloc_heap_data	5.23	3.73	0.43	4.39	0.13	2.55	1.37	0.00	5.23	0.00	5.23
node_to_heap	4.46	4.51	0.00	6.70	1.13	5.09	0.09	8.70	4.03	0.00	4.46
route_net	3.53	3.66	0.00	2.54	0.28	3.01	0.08	4.35	0.19	0.00	3.53
free_heap_data	3.17	2.21	0.29	2.54	0.13	2.55	0.12	4.35	0.44	0.00	3.17
_mcount	1.21	1.49	0.06	2.08	0.63	2.08	0.63		1.21		1.21
alloc_linked_f_pointer	1.07	1.07	0.00	0.46	0.35	0.69	0.13	0.00	1.07	0.00	1.07
reset_path_costs	0.93	0.43	0.27	0.23	0.53	0.23	0.53	0.00	0.93	0.00	0.93
empty_heap	0.48	0.40	0.01	0.23	0.13	0.00	0.48	0.00	0.48	0.00	0.48
add_to_mod_list	0.33	0.38	0.01	0.23	0.03	0.46	0.05	0.00	0.33	0.00	0.33
pathfinder_update_one_cost	0.30	0.40	0.03	0.00	0.30	0.23	0.02	0.00	0.30	0.00	0.30
_doprnt	0.15	0.28	0.11	0.46	0.64	0.23	0.04	2.17	27.20	0.00	0.15
update_traceback	0.09	0.05	0.02	0.00	0.09	0.46	1.52	0.00	0.09	0.00	0.09
.rem	0.07	0.12	0.04	0.00	0.07	0.00	0.07	0.00	0.07	0.00	0.07
get_rr_node_index	0.07	0.08	0.00	0.46	2.17	0.69	5.49	4.35	261.69	0.00	0.07
add_rr_graph_C_from_switches	0.06	0.17	0.20	0.23	0.48	0.23	0.48	0.00	0.06	0.00	0.06
check_pass_transistors	0.05	0.03	0.01	0.00	0.05	0.46	3.36	0.00	0.05	0.00	0.05
check_rr_graph	0.05	0.18	0.34	0.23	0.65	0.00	0.05	2.17	89.89	0.00	0.05
count_routing_transistors	0.05	0.12	0.10	0.23	0.65	0.00	0.05	0.00	0.05	0.00	0.05
pathfinder_update_cost	0.03	0.05	0.01	0.23	1.33	0.00	0.03	0.00	0.03	0.00	0.03
is_sbox	0.03	0.13	0.33	0.00	0.03	0.23	1.33	0.00	0.03	0.00	0.03
alloc_trace_data	0.03	0.03	0.00	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
get_xtrack_to_ytracks	0.03	0.02	0.00	0.00	0.03	0.23	1.33	0.00	0.03	0.00	0.03
.umul	0.02	0.02	0.00	0.00	0.02	0.00	0.02	2.17	231.13	0.00	0.02
get_sbox_side	0.02	0.03	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
memcpy	0.02	0.02	0.00	0.00	0.02	0.23	2.21	0.00	0.02	0.00	0.02
check_node	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
alloc_and_load_edges_and_switches	0.02	0.08	0.18	0.23	2.21	0.00	0.02	0.00	0.02	0.00	0.02
get_ytrack_to_xtracks	0.02	0.03	0.00	0.23	2.21	0.00	0.02	0.00	0.02	0.00	0.02
strpbrk	0.02	0.02	0.00	0.23	2.21	0.00	0.02	2.17	231.13	0.00	0.02
_brk_unlocked	0.02	0.08	0.18	0.23	2.21		0.02		0.02		0.02
_realbufend	0.02	0.03	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
feasible_routing	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
get_switch_box_tracks	0.02	0.05	0.05	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
__iswctype_std	0.02	0.03	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
check_sink	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
insert_in_edge_list	0.01	0.10	0.81	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01

get_closest_seg_start	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
seg_index_of_cblock	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
mark_ends	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
free_linked_edge_soft	0.01	0.02	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
fprintf	0.01	0.05	0.16	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_clb_ipin_edges	0.01	0.03	0.04	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
check_adjacent	0.01	0.02	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
build_rr_xchan	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
print_route	0.01	0.08	0.49	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
recompute_occupancy_from_scratch	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_switch_type	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strspn	0.01	0.02	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
add_source_to_heap	0.01	0.00	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
build_rr_ychan	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
_write	0.01	0.02	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
free_trace_data	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01		0.01
expand_trace_segment	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
__mbstowcs_sb	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
my_fgets	0.01	0.02	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
get_num_bends_and_length	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
alloc_and_load_rr_node_route_structs	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
get_segment_usage_stats	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
load_channel_occupancies	0.01	0.02	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
strcmp	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_xtrack	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
iswprint	0.01	0.00	0.01	0.23	4.84	0.23	4.84	0.00	0.01	0.00	0.01
is_cbox	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strlen	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_seg_end	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
wcswidth	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_clb_ipin_edges	0.01	0.00	0.01	0.00	0.01	0.00	0.01	2.17	466.56	0.00	0.01
get_ytrack_to_ytrack	0.01	0.00	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
hash_value	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
memccpy	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
_free_unlocked	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_clb	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_serial_num	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Sum	99.94	99.72	8.90	99.53	70.15	98.34	68.80	97.82	1358.63	100.00	377.95
	Ref	Train	Train	Test	Test	LgRed	LgRed	MdRed	Mdred	SmRed	SmRed
			Chi		Chi		Chi		Chi		Chi

90% Confidence level (77 entries) = 92.166

175.vpr, Route command line

Function level execution profile at optimization level O2

The following table contains function execution profiles and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) is the same as the test dataset for this benchmark. This data was gathered with the gprof profiling utility.

*90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level.

Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall execution time spent in the stated function (in the Function column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi are the terms of the chi-squared statistic for the stated function (in the function column).

Function	Ref	Train	Train Chi	Test	Test Chi	LgRed	LgRed Chi	MdRed	Mdred Chi	SmRed	SmRed Chi
get_heap_head	27.55	22.87	0.80	17.34	3.78	14.75	5.95	20.00	2.07	0.00	27.55
internal_mcount	21.45	28.02	2.01	33.73	7.03	35.13	8.72	33.33	6.58	33.33	6.58
expand_neighbours	19.61	18.89	0.03	16.63	0.45	16.39	0.53	11.11	3.68	33.33	9.60
add_to_heap	8.95	9.15	0.00	9.74	0.07	10.54	0.28	4.44	2.27	0.00	8.95
alloc_heap_data	5.57	3.79	0.57	4.51	0.20	2.81	1.37	2.22	2.01	0.00	5.57
node_to_heap	4.64	4.76	0.00	5.46	0.14	4.68	0.00	4.44	0.01	0.00	4.64
route_net	3.55	3.67	0.00	1.90	0.77	3.75	0.01	2.22	0.50	0.00	3.55
free_heap_data	3.19	2.43	0.18	1.66	0.73	1.87	0.55	0.00	3.19	0.00	3.19
_mcount	1.14	1.63	0.21	1.43	0.07	1.41	0.06		1.14		1.14
alloc_linked_f_pointer	1.13	0.77	0.11	0.48	0.37	0.47	0.39	0.00	1.13	0.00	1.13
reset_path_costs	0.96	0.38	0.35	0.48	0.24	0.23	0.56	2.22	1.65	0.00	0.96
pathfinder_update_one_cost	0.31	0.27	0.01	0.24	0.02	0.23	0.02	0.00	0.31	0.00	0.31
add_to_mod_list	0.30	0.31	0.00	0.48	0.11	0.47	0.10	0.00	0.30	0.00	0.30
empty_heap	0.26	0.41	0.09	0.48	0.19	0.70	0.74	0.00	0.26	0.00	0.26
_doprnt	0.14	0.34	0.29	0.71	2.32	1.17	7.58	0.00	0.14	0.00	0.14
.rem	0.09	0.17	0.07	0.00	0.09	0.47	1.60	0.00	0.09	0.00	0.09
update_traceback	0.08	0.09	0.00	0.00	0.08	0.23	0.28	0.00	0.08	0.00	0.08
add_rr_graph_C_from_switches	0.06	0.14	0.11	0.24	0.54	0.47	2.80	0.00	0.06	0.00	0.06
check_rr_graph	0.06	0.14	0.11	0.71	7.04	0.47	2.80	0.00	0.06	0.00	0.06
get_rr_node_index	0.05	0.12	0.10	0.24	0.72	0.00	0.05	4.44	385.44	0.00	0.05
count_routing_transistors	0.05	0.09	0.03	0.24	0.72	0.23	0.65	0.00	0.05	0.00	0.05
check_pass_transistors	0.04	0.14	0.25	0.00	0.04	0.00	0.04	2.22	118.81	0.00	0.04
pathfinder_update_cost	0.04	0.02	0.01	0.24	1.00	0.23	0.90	0.00	0.04	0.00	0.04
check_node	0.03	0.03	0.00	0.00	0.03	0.23	1.33	0.00	0.03	0.00	0.03
is_sbox	0.03	0.07	0.05	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
alloc_trace_data	0.03	0.00	0.03	0.00	0.03	0.23	1.33	0.00	0.03	0.00	0.03
get_sbox_side	0.03	0.07	0.05	0.00	0.03	0.23	1.33	0.00	0.03	0.00	0.03
.umul	0.03	0.05	0.01	0.00	0.03	0.47	6.45	2.22	159.87	0.00	0.03
_brk_unlocked	0.02	0.05	0.05		0.02		0.02		0.02		0.02
memcpy	0.02	0.05	0.05	0.48	10.58	0.23	2.21	0.00	0.02	0.00	0.02
strpbrk	0.02	0.05	0.05	0.48	10.58	0.00	0.02	2.22	242.00	0.00	0.02
_realbufend	0.02	0.05	0.05	0.00	0.02	0.00	0.02	2.22	242.00	33.33	55477.81
print_route	0.02	0.03	0.00	0.00	0.02	0.23	2.21	0.00	0.02	0.00	0.02
get_switch_box_tracks	0.02	0.07	0.13	0.24	2.42	0.00	0.02	0.00	0.02	0.00	0.02
alloc_and_load_edges_and_switches	0.02	0.00	0.02	0.24	2.42	0.23	2.21	2.22	242.00	0.00	0.02
get_ytrack_to_xtracks	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
strlen	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
free_linked_edge_soft	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strcmp	0.01	0.02	0.01	0.24	5.29	0.00	0.01	0.00	0.01	0.00	0.01
__iswctype_std	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01

check_adjacent	0.01	0.02	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
free_trace_data	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
iswprint	0.01	0.03	0.04	0.24	5.29	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_ytracks	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
mark_ends	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
feasible_routing	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
recompute_occupancy_											
from_scratch	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
.mul	0.03	0.05	0.01	0.00	0.03	0.47	6.45	2.22	159.87	0.00	0.03
strspn	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_clb_ipin											
_edges	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_xtrack	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
check_sink	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_num_bends_and_le											
ngth	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
seg_index_of_cblock	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
fprintf	0.01	0.07	0.36	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_clb_ipin											
_edges	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_ytrack	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_xchan	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
_write	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
load_channel_occupanc											
ies	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
insert_in_edge_list	0.01	0.03	0.04	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
is_cbox	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strtok_r	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
memcpy	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_ychan	0.01	0.03	0.04	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01
get_segment_usage_sta											
ts	0.01	0.02	0.01	0.00	0.01	0.00	0.01	2.22	488.41	0.00	0.01
get_serial_num	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
try_route	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
my_chunk_malloc	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
expand_trace_segment	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
__mbstowcs_sb	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
hash_value	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
add_source_to_heap	0.01	0.03	0.04	0.00	0.01	0.00	0.01	2.22	488.41	0.00	0.01
add_net	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
my_fgets	0.01	0.05	0.16	0.24	5.29	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_clb	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
alloc_and_load_rr_nod											
e_route_structs	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Sum	99.97	99.82	6.96	99.10	69.25	99.71	74.53	102.18	2553.05	99.99	55552.87
	Ref	Train	Train	Test	Test	LgRed	LgRed	MdRed	Mdred	SmRed	SmRed
			Chi		Chi		Chi		Chi		Chi

90% Confidence level (77 entries) = 92.166

175.vpr, Route command line

Function level execution profile at optimization level O3

The following table contains function execution profiles and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) is the same as the test dataset for this benchmark. This data was gathered with the gprof profiling utility.

*90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level.

Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall execution time spent in the stated function (in the Function column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi are the terms of the chi-squared statistic for the stated function (in the function column).

Function	Ref	Train	Train Chi	Test	Test Chi	LgRed	LgRed Chi	MdRed	Mdred Chi	SmRed	SmRed Chi
get_heap_head	27.94	22.18	1.19	19.68	2.44	18.48	3.20	8.89	12.99	0.00	27.94
internal_mcount	21.62	28.60	2.25	33.56	6.59	32.23	5.21	26.67	1.18	25.00	0.53
expand_neighbours	19.09	19.60	0.01	14.35	1.18	19.43	0.01	17.78	0.09	25.00	1.83
add_to_heap	9.14	8.38	0.06	9.95	0.07	8.53	0.04	8.89	0.01	0.00	9.14
alloc_heap_data	5.22	4.06	0.26	2.08	1.89	3.32	0.69	6.67	0.40	0.00	5.22
node_to_heap	4.50	4.81	0.02	6.02	0.51	5.45	0.20	4.44	0.00	0.00	4.50
route_net	3.72	3.81	0.00	3.94	0.01	3.32	0.04	2.22	0.60	0.00	3.72
free_heap_data	3.28	2.05	0.46	1.62	0.84	1.90	0.58	2.22	0.34	0.00	3.28
_mcount	1.24	1.26	0.00	1.16	0.01	1.66	0.14	6.67	23.78		1.24
alloc_linked_f_pointer	1.04	1.04	0.00	0.46	0.32	0.00	1.04	2.22	1.34	0.00	1.04
reset_path_costs	0.96	0.41	0.32	0.46	0.26	0.00	0.96	0.00	0.96	0.00	0.96
empty_heap	0.35	0.43	0.02	0.23	0.04	0.00	0.35	0.00	0.35	0.00	0.35
pathfinder_update_one_cost	0.32	0.32	0.00	0.00	0.32	0.47	0.07	0.00	0.32	0.00	0.32
add_to_mod_list	0.28	0.26	0.00	0.46	0.12	0.00	0.28	0.00	0.28	0.00	0.28
_doprnt	0.13	0.32	0.28	0.69	2.41	0.47	0.89	0.00	0.13	0.00	0.13
.rem	0.09	0.27	0.36	0.46	1.52	0.00	0.09	0.00	0.09	0.00	0.09
update_traceback	0.07	0.15	0.09	0.00	0.07	0.00	0.07	0.00	0.07	0.00	0.07
add_rr_graph_C_from_switches	0.06	0.10	0.03	0.23	0.48	0.24	0.54	0.00	0.06	0.00	0.06
get_rr_node_index	0.05	0.05	0.00	0.23	0.65	0.24	0.72	4.44	385.44	0.00	0.05
check_pass_transistors	0.05	0.07	0.01	0.23	0.65	0.24	0.72	0.00	0.05	0.00	0.05
count_routing_transistors	0.05	0.03	0.01	0.46	3.36	0.24	0.72	2.22	94.18	0.00	0.05
check_rr_graph	0.05	0.12	0.10	0.23	0.65	0.00	0.05	2.22	94.18	0.00	0.05
alloc_trace_data	0.05	0.07	0.01	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
is_sbox	0.04	0.10	0.09	0.23	0.90	0.71	11.22	0.00	0.04	0.00	0.04
pathfinder_update_cost	0.04	0.03	0.00	0.00	0.04	0.24	1.00	0.00	0.04	0.00	0.04
.umul	0.03	0.05	0.01	0.46	6.16	0.00	0.03	0.00	0.03	0.00	0.03
get_switch_box_tracks	0.03	0.09	0.12	0.00	0.03	0.24	1.47	0.00	0.03	0.00	0.03
strpbrk	0.03	0.07	0.05	0.00	0.03	0.00	0.03	2.22	159.87	0.00	0.03
get_ytrack_to_xtracks	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
memcpy	0.02	0.09	0.25	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
_brk_unlocked	0.02	0.07	0.13	0.46	9.68		0.02		0.02	50.00	124900.02
alloc_and_load_edges_and_switches	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
get_sbox_side	0.02	0.03	0.00	0.00	0.02	0.24	2.42	0.00	0.02	0.00	0.02
_realbufend	0.02	0.07	0.13	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
check_node	0.02	0.05	0.05	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
insert_in_edge_list	0.02	0.00	0.02	0.23	2.21	0.00	0.02	0.00	0.02	0.00	0.02
feasible_routing	0.02	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
mark_ends	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_ytracks	0.01	0.05	0.16	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
free_trace_data	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
strcmp	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01

get_xtrack_to_clb_ipin											
_edges	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
check_adjacent	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
check_sink	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
recompute_occupancy_											
from_scratch	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_switch_type	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_ytrack_to_ytrack	0.01	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
print_route	0.01	0.03	0.04	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
__iswctype_std	0.01	0.05	0.16	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
iswprint	0.01	0.03	0.04	0.00	0.01	0.47	21.16	0.00	0.01	0.00	0.01
get_num_bends_and_le											
ngth	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_segment_usage_sta											
ts	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
load_channel_occupan											
cies	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
free_linked_edge_soft	0.01	0.02	0.01	0.46	20.25	0.00	0.01	0.00	0.01	0.00	0.01
seg_index_of_cblock	0.01	0.05	0.16	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
fprintf	0.01	0.00	0.01	0.00	0.01	0.24	5.29	0.00	0.01	0.00	0.01
.mul	0.03	0.05	0.01	0.46	6.16	0.00	0.03	0.00	0.03	0.00	0.03
expand_trace_segment	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
get_xtrack_to_xtrack	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
my_fgets	0.01	0.05	0.16	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
build_rr_ychan	0.01	0.00	0.01	0.23	4.84	0.00	0.01	0.00	0.01	0.00	0.01
_libc_write	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
alloc_and_load_rr_nod											
e_route_structs	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
check_route	0.01	0.00	0.01	0.00	0.01	0.24	5.29	0.00	0.01	0.00	0.01
__mbstowcs_sb	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
add_source_to_heap	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
memset	0.01	0.02	0.01	0.23	4.84	0.24	5.29	0.00	0.01	0.00	0.01
Sum	99.97	99.67	7.34	99.72	89.65	98.84	70.31	97.77	777.40	100.00	124961.62
	Ref	Train	Train	Test	Test	LgRed	LgRed	MdRed	Mdred	SmRed	SmRed
			Chi		Chi		Chi		Chi		Chi

90% Confidence level (67 entries) = 81.086

175.vpr, Route command line

Instruction Mix profile at optimization level o0

The following table contains instruction mix breakdown and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets , as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the sim-profile simulator for the SimpleScalar suite. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall instructions of the stated instruction type (in the Inst Type column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi columns are the terms of the chi-squared statistic for the stated instruction type (in the Inst Type column).

175.vpr

O0 program

Inst type	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi
load	37.88	37.70	0.00	37.28	0.01	37.28	0.01	36.55	0.05	33.51	0.50
store	9.13	9.29	0.00	9.66	0.03	9.66	0.03	9.97	0.08	10.70	0.27
unconditional branch	3.11	3.25	0.01	3.55	0.06	3.55	0.06	3.77	0.14	4.51	0.63
conditional branch	4.31	4.40	0.00	4.57	0.02	4.57	0.02	4.94	0.09	6.77	1.40
int computation	43.31	43.15	0.00	42.83	0.01	42.83	0.01	42.87	0.00	43.24	0.00
fp computation	2.25	2.21	0.00	2.11	0.01	2.11	0.01	1.90	0.05	1.26	0.44
trap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	99.99	100.00	0.01	100.00	0.13	100.00	0.13	100.00	0.42	99.99	3.24
	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi

90% Confidence level (7 entries) = 10.645

175.vpr, Route command line

Instruction Mix profile at optimization level o1

The following table contains instruction mix breakdown and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets , as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the sim-profile simulator for the SimpleScalar suite. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall instructions of the stated instruction type (in the Inst Type column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi columns are the terms of the chi-squared statistic for the stated instruction type (in the Inst Type column).

175.vpr

O1 program

Inst type	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi
load	30.71	30.48	0.00	29.88	0.02	29.88	0.02	28.78	0.12	24.53	1.24
store	10.86	10.94	0.00	11.15	0.01	11.15	0.01	10.98	0.00	10.38	0.02
unconditional branch	3.19	3.38	0.01	3.78	0.11	3.78	0.11	4.05	0.23	4.56	0.59
conditional branch	10.65	10.64	0.00	10.58	0.00	10.58	0.00	10.89	0.01	12.84	0.45
int computation	39.01	39.21	0.00	39.71	0.01	39.71	0.01	41.07	0.11	45.29	1.01
fp computation	5.57	5.36	0.01	4.90	0.08	4.90	0.08	4.22	0.33	2.41	1.79
trap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	99.99	100.01	0.02	100.00	0.23	100.00	0.23	99.99	0.80	100.01	5.11
	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi

90% Confidence level (7 entries) = 10.645

175.vpr, Route command line

Instruction Mix profile at optimization level o2

The following table contains instruction mix breakdown and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets, as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the sim-profile simulator for the SimpleScalar suite. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall instructions of the stated instruction type (in the Inst Type column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi columns are the terms of the chi-squared statistic for the stated instruction type (in the Inst Type column).

175.vpr

O2 program

Inst type	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi
load	30.02	29.78	0.00	29.20	0.02	29.20	0.02	28.27	0.10	24.52	1.01
store	10.85	10.94	0.00	11.16	0.01	11.16	0.01	11.04	0.00	10.59	0.01
unconditional branch	3.19	3.38	0.01	3.78	0.11	3.78	0.11	4.07	0.24	4.63	0.65
conditional branch	10.64	10.63	0.00	10.58	0.00	10.58	0.00	10.93	0.01	13.02	0.53
int computation	39.72	39.91	0.00	40.37	0.01	40.37	0.01	41.45	0.08	44.79	0.65
fp computation	5.57	5.36	0.01	4.90	0.08	4.90	0.08	4.24	0.32	2.45	1.75
trap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	99.99	100.00	0.02	99.99	0.23	99.99	0.23	100.00	0.75	100.00	4.59
	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi

90% Confidence level (7 entries) = 10.645

175.vpr, Route command line

Instruction Mix profile at optimization level o3

The following table contains instruction mix breakdown and goodness-of-fit chi-squared statistic values for the train, test, large (LgRed), medium (MdRed), and small (SmRed) reduced datasets, as compared to the full SPEC reference datasets. Note: the large reduced (LgRed) dataset is the same as the test dataset for this benchmark. This data was gathered with the sim-profile simulator for the SimpleScalar suite. *90% Conf = Critical value of the chi-squared statistic at the 90 percent confidence level. Numbers in the Ref, Train, Test, LgRed, MdRed, and SmRed columns are the percent of overall instructions of the stated instruction type (in the Inst Type column). Numbers in the Train Chi, Test Chi, LgRed Chi, MdRed Chi, and SmRed Chi columns are the terms of the chi-squared statistic for the stated instruction type (in the Inst Type column).

175.vpr

O3 program

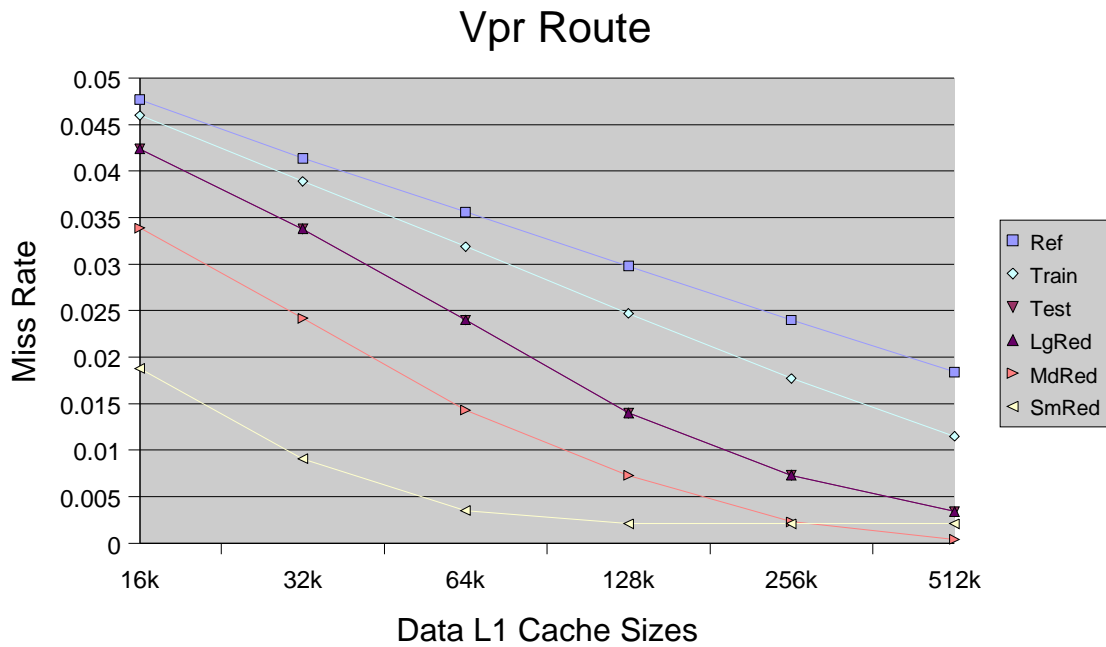
Inst type	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi
load	30.03	29.78	0.00	29.20	0.02	29.20	0.02	28.28	0.10	24.55	1.00
store	10.85	10.95	0.00	11.17	0.01	11.17	0.01	11.05	0.00	10.60	0.01
unconditional branch	3.19	3.38	0.01	3.77	0.11	3.77	0.11	4.05	0.23	4.59	0.61
conditional branch	10.64	10.64	0.00	10.59	0.00	10.59	0.00	10.94	0.01	13.05	0.55
int computation	39.72	39.90	0.00	40.37	0.01	40.37	0.01	41.43	0.07	44.76	0.64
fp computation	5.57	5.36	0.01	4.91	0.08	4.91	0.08	4.25	0.31	2.46	1.74
trap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	100.00	100.01	0.02	100.01	0.23	100.01	0.23	100.00	0.73	100.01	4.54
	Ref	Train	Train Chi	Test	Test Chi	Lgred	LgRed Chi	Mdred	MdRed Chi	Smred	Smred Chi

90% Confidence level (7 entries) = 10.645

175.vpr, Route command line

Cache profile

The following chart shows level 1 data cache miss rates for the ref, train, test, LgRed, MdRed, and SmRed datasets. Note: the large reduced (LgRed) is the same as the test dataset for this benchmark. This data was gathered with the sim-cache simulator from the SimpleScalar suite. Miss rate is stated as the ratio of level 1 misses to total level 1 accesses.



Instruction Counts for all Datasets

The following table shows the instruction counts and estimated simulation time for the reference (Ref), train, test, and large (LgRed), medium(MdRed), and small (SmRed) reduced datasets. Note: The large reduced (LgRed) is the same as the test dataset for this benchmark. Instruction counts are from the simulated benchmark, compiled at optimization level O0 and run with each input dataset. Estimated simulation times are calculated using a 45,000 instructions per second factor. This factor was determined by observing the simulation rate of a simulator similar to sim-outorder, run on a machine similar to the SPEC 2000 reference machine (a 333 Mhz Sparc).

	<u>Ref</u>	<u>Train</u>	<u>Test</u>	<u>LgRed</u>	<u>MdRed</u>	<u>SmRed</u>
Instruction Count (in millions)	240338	26047	2047	2047	209	11
Simulation Time (in hours)	1483.6	160.8	12.6	12.6	1.3	0.1