HNCO
Dynamics of performances
of various black box optimization algorithms

November 4, 2017

Contents

1 Plan


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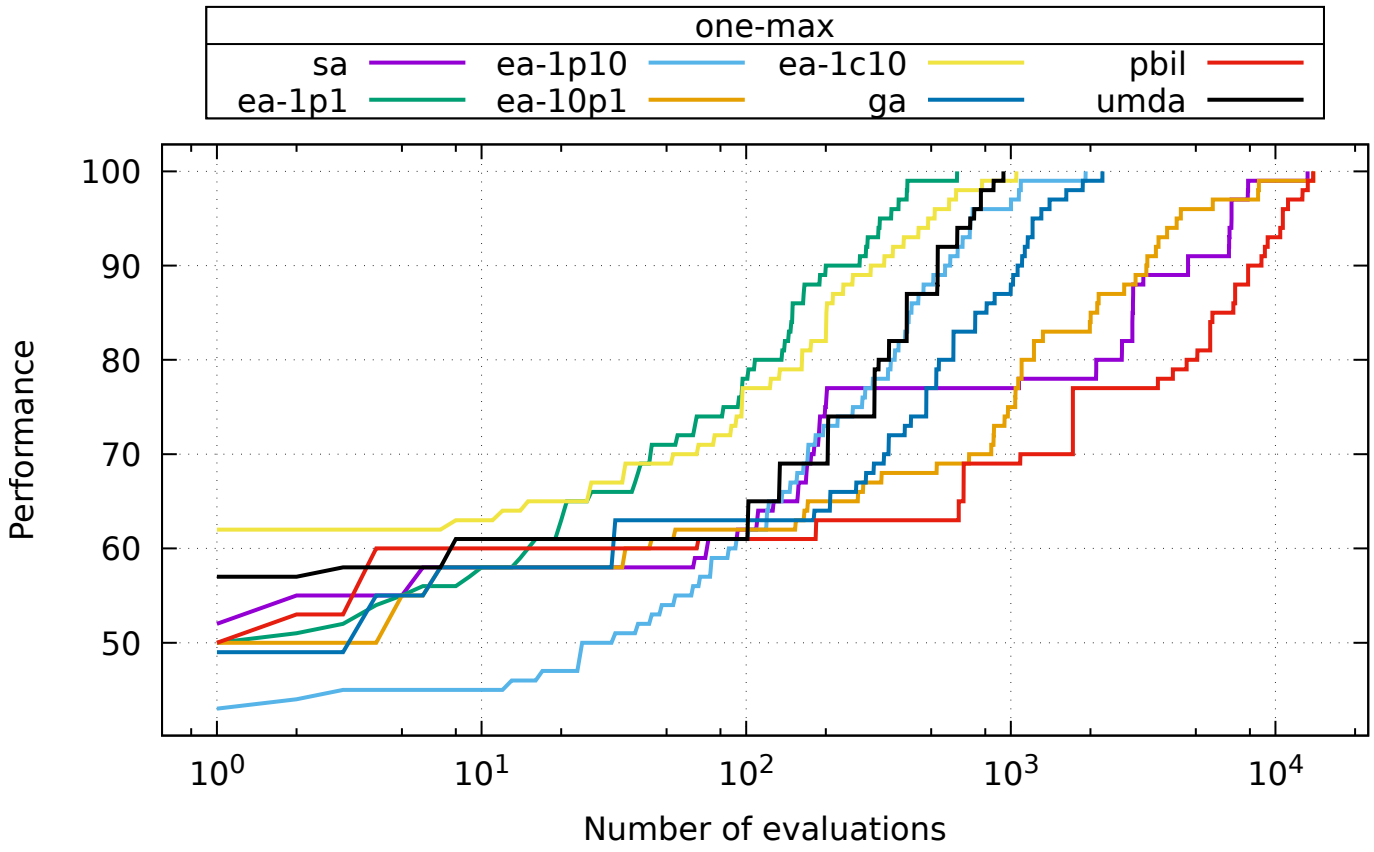
2 one-max



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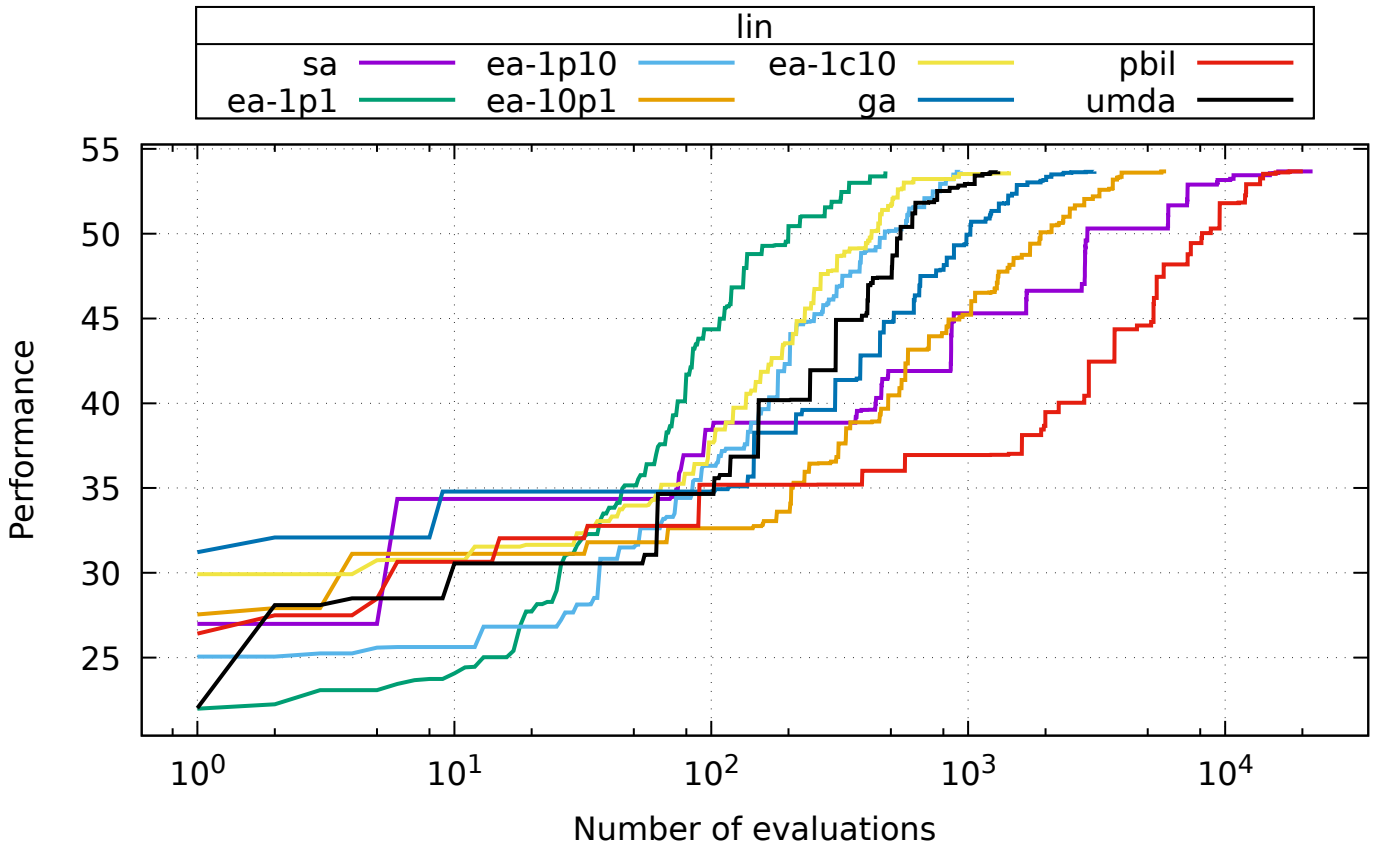

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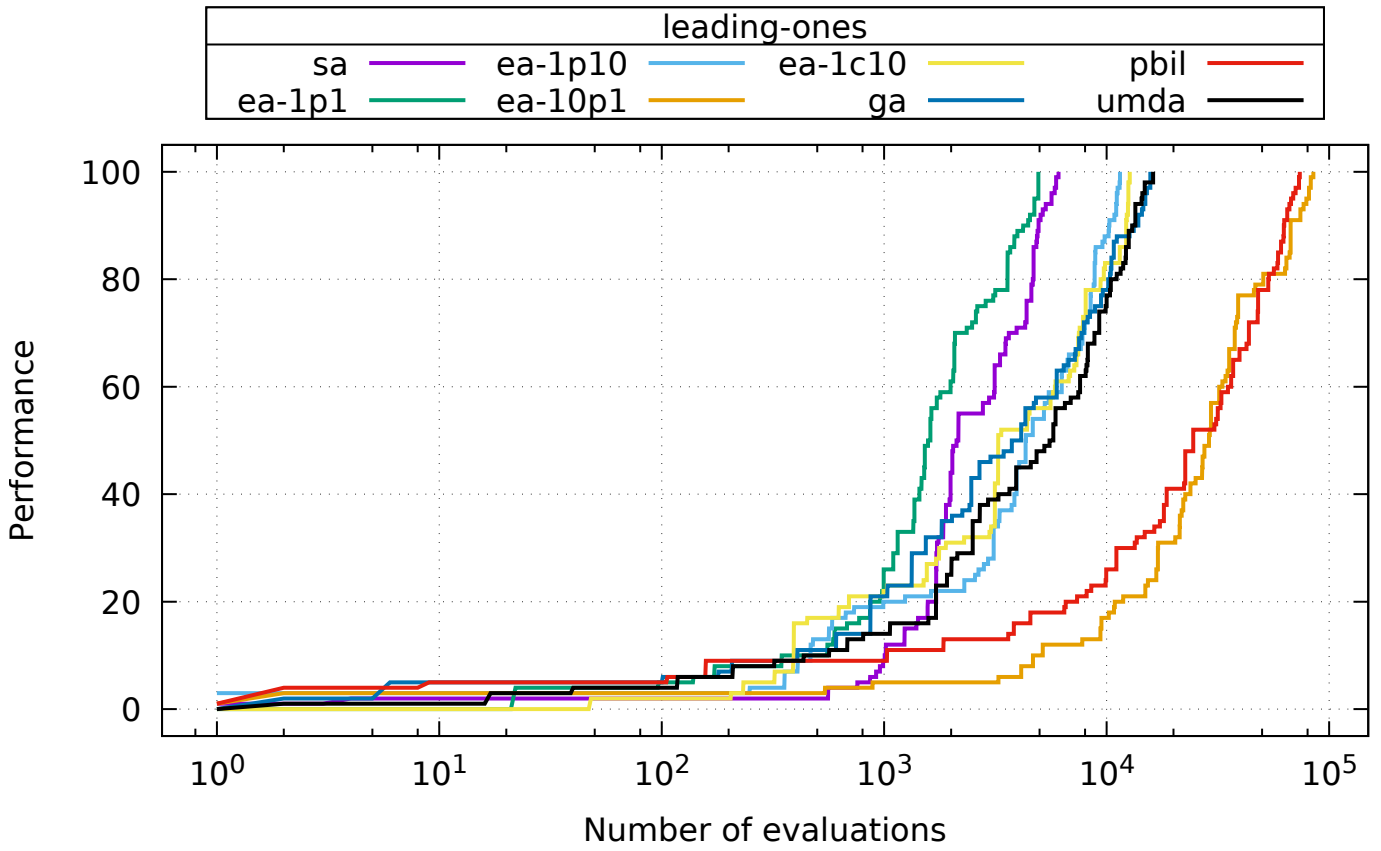

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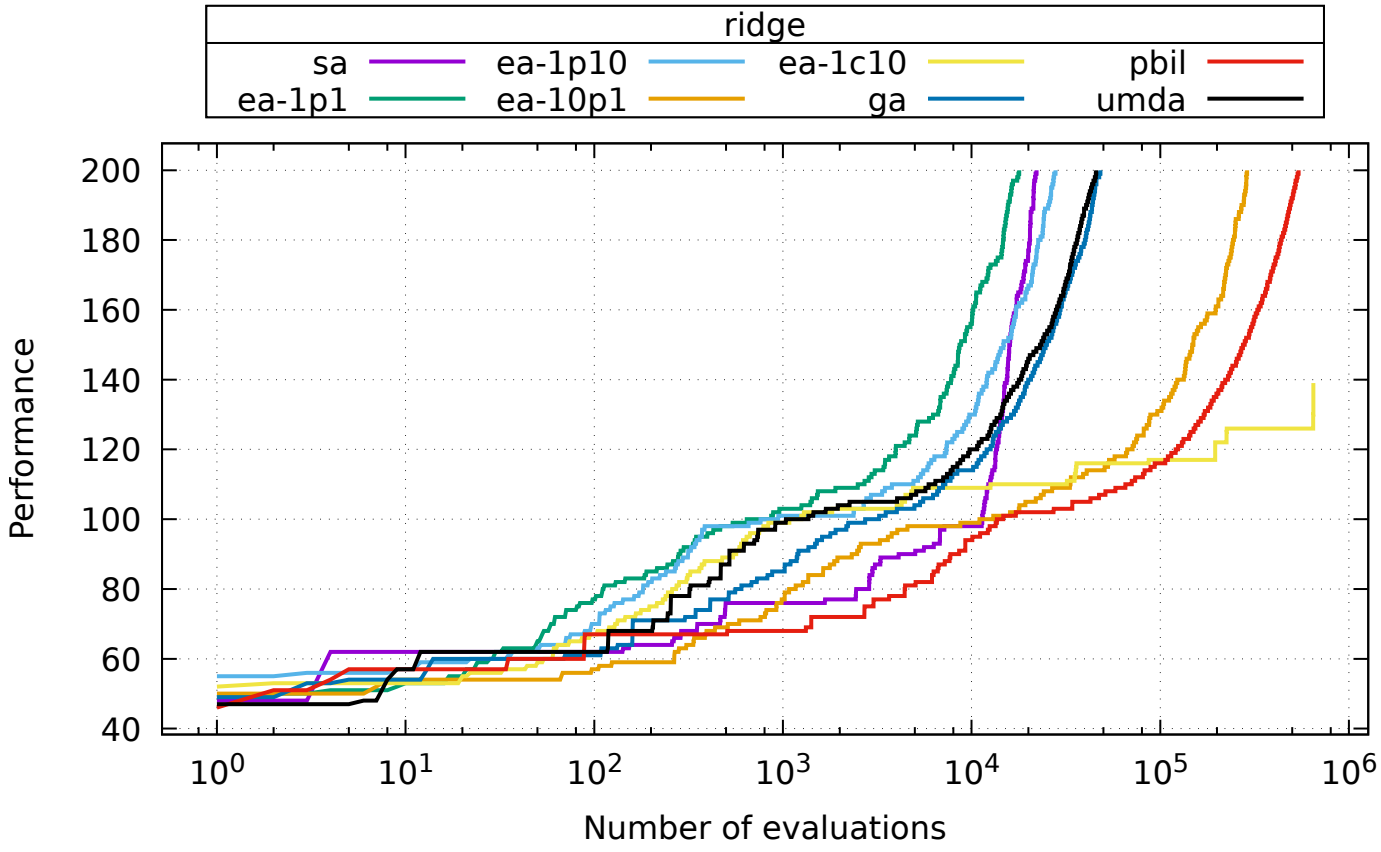

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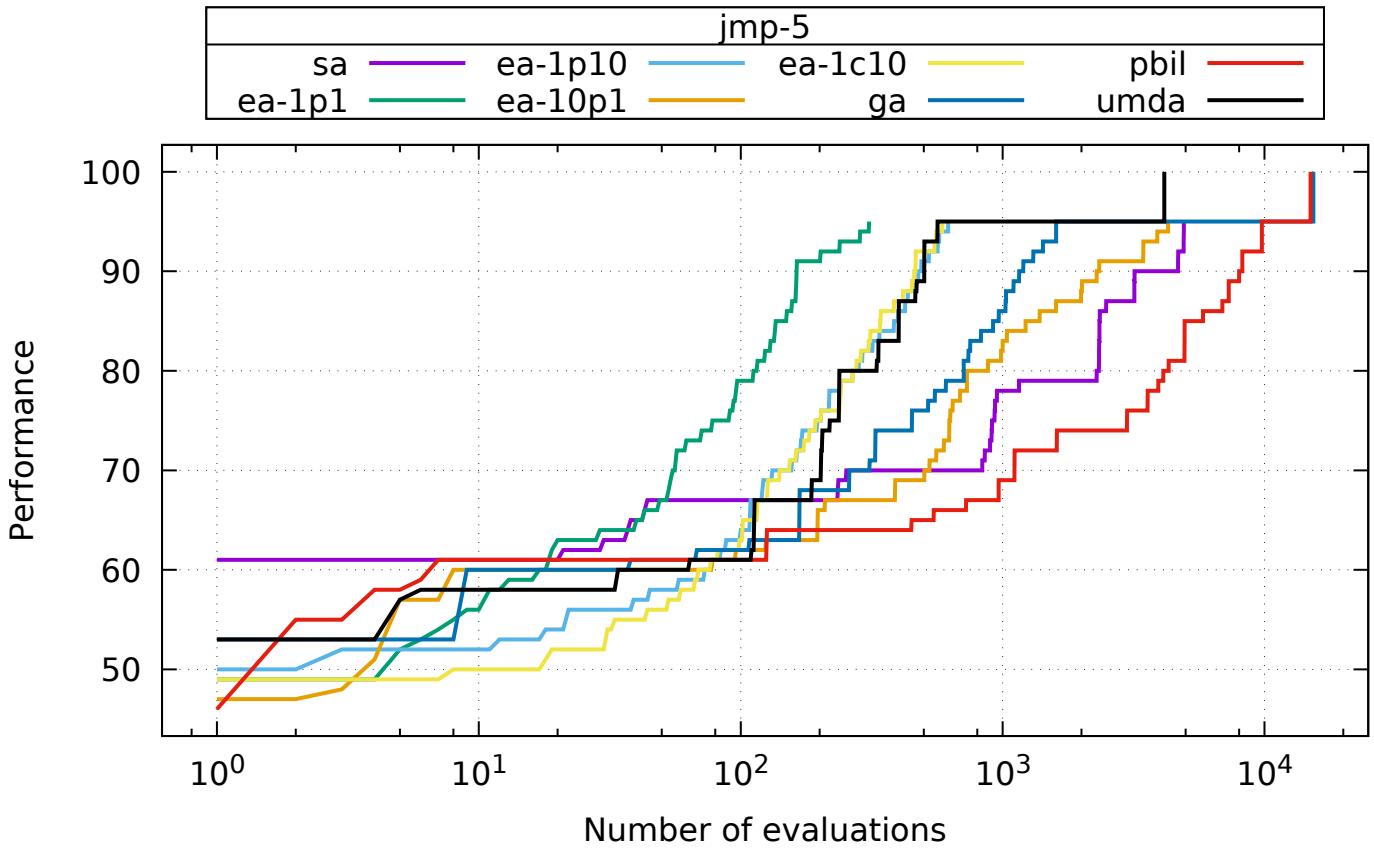

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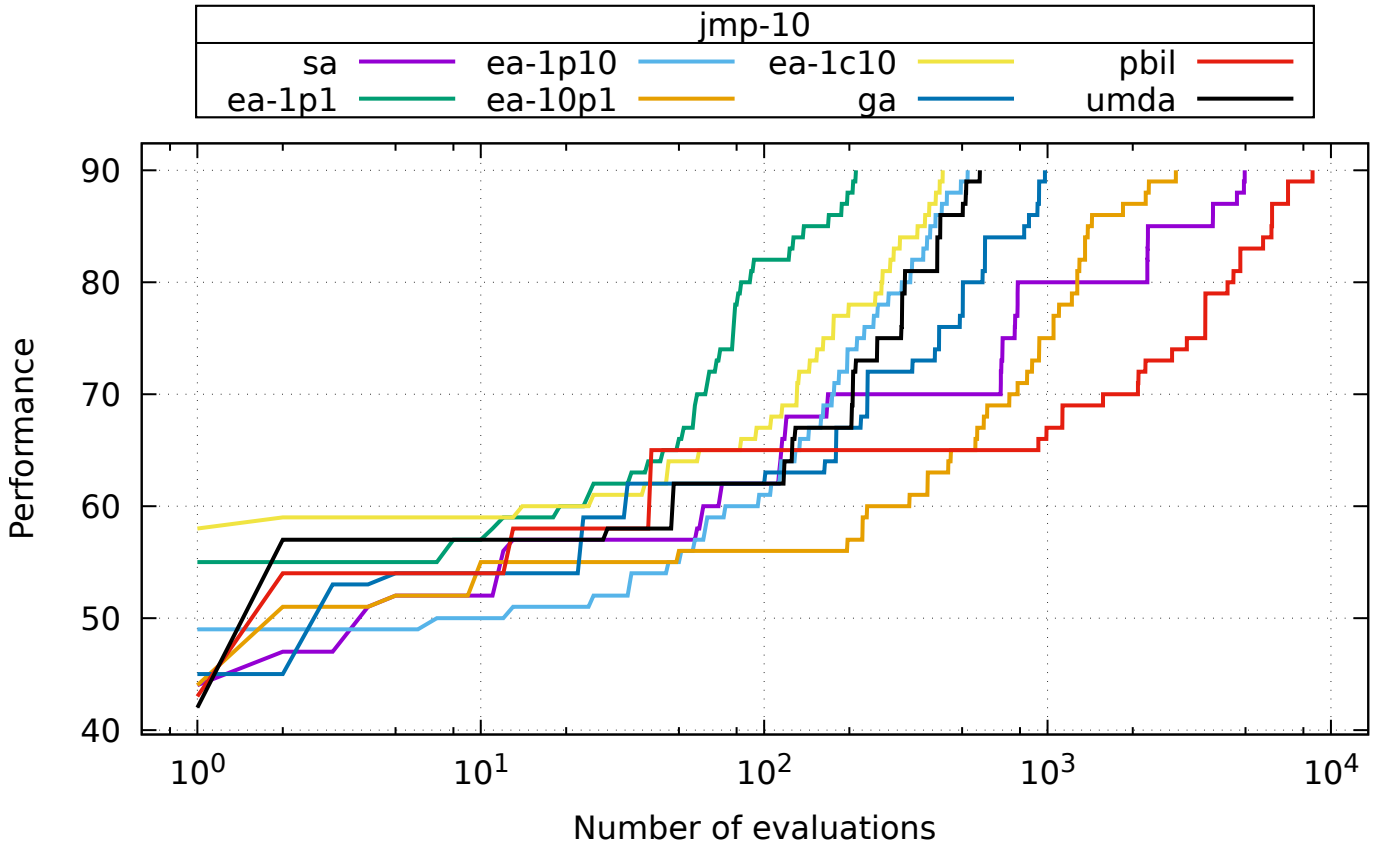

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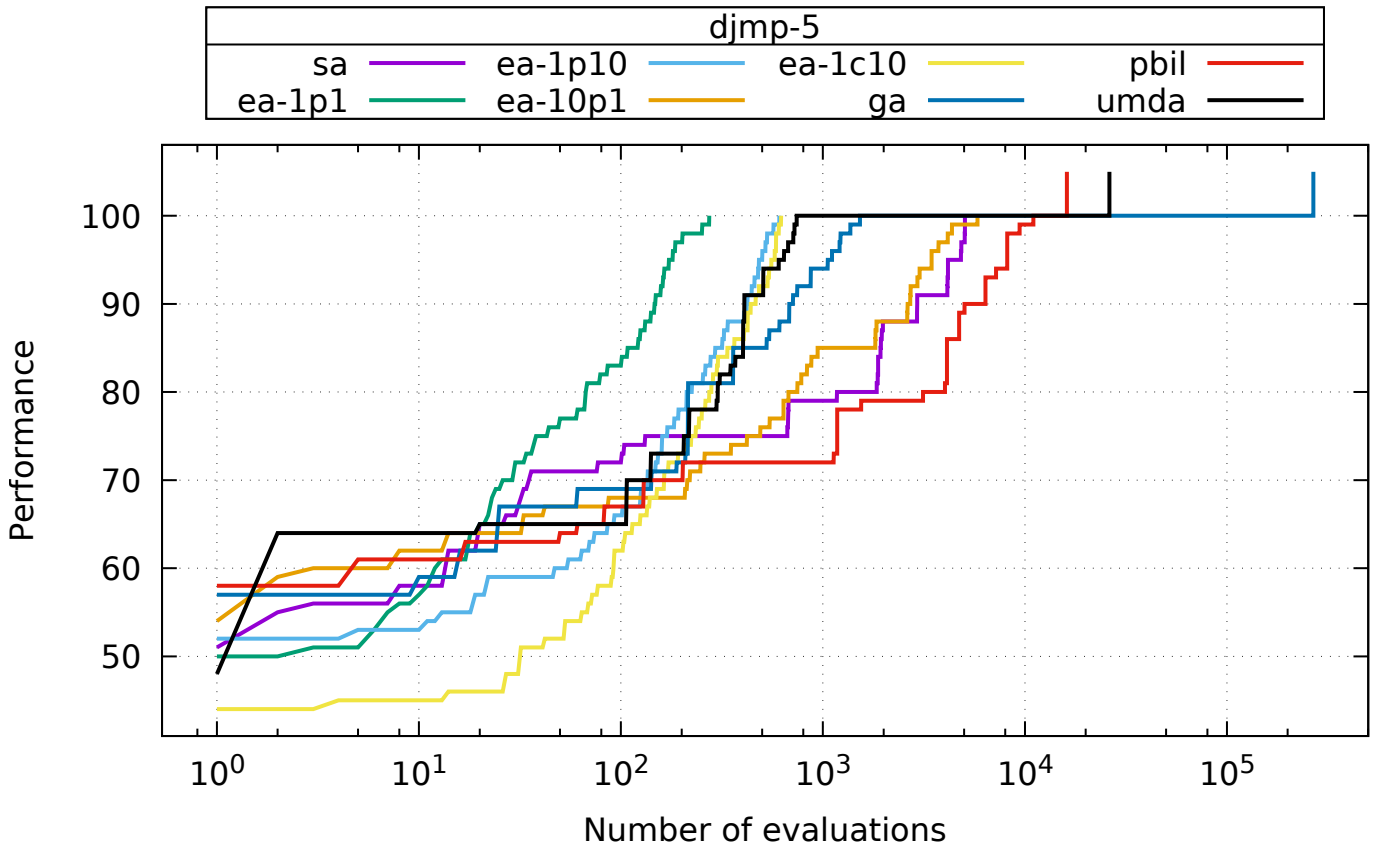

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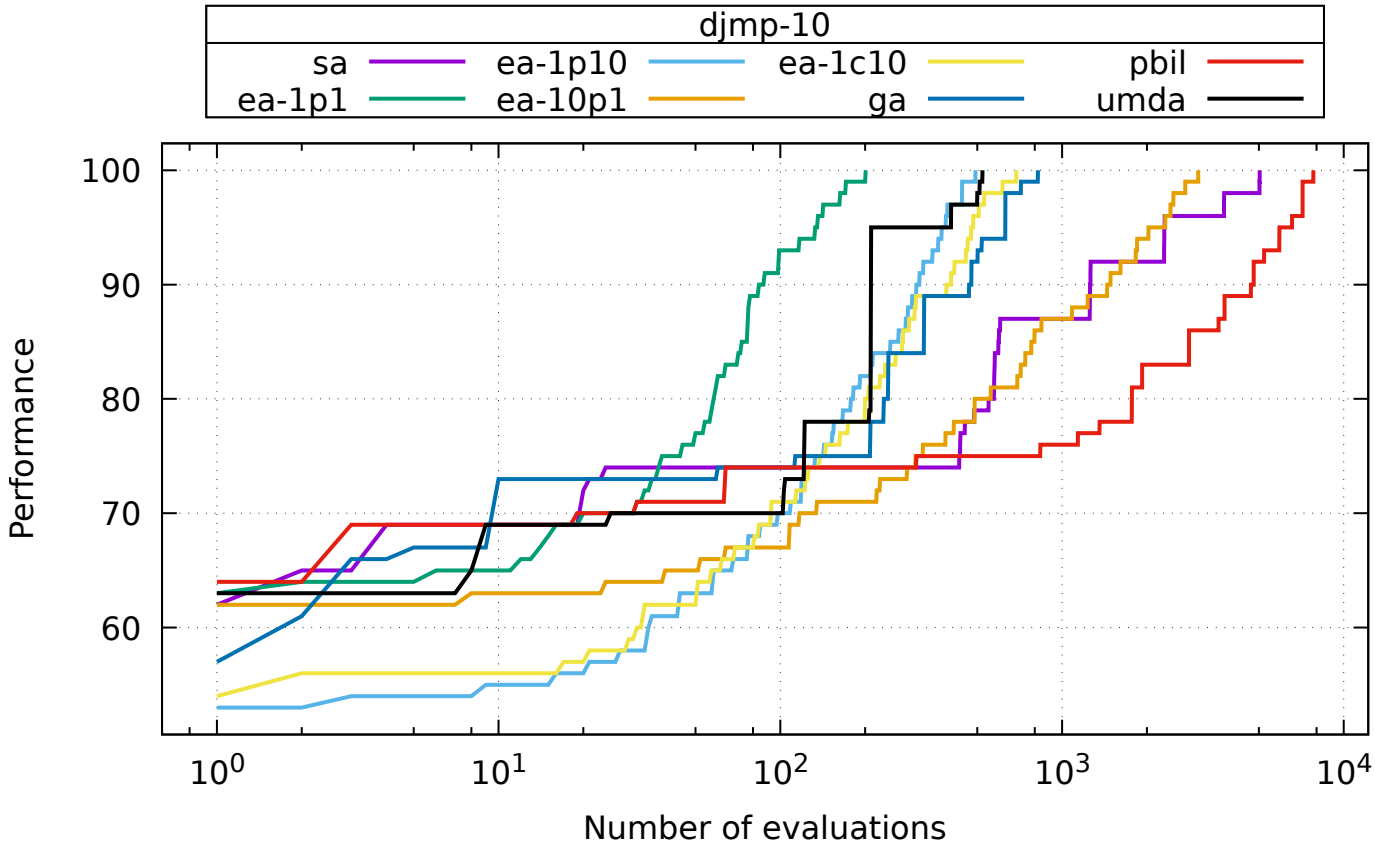

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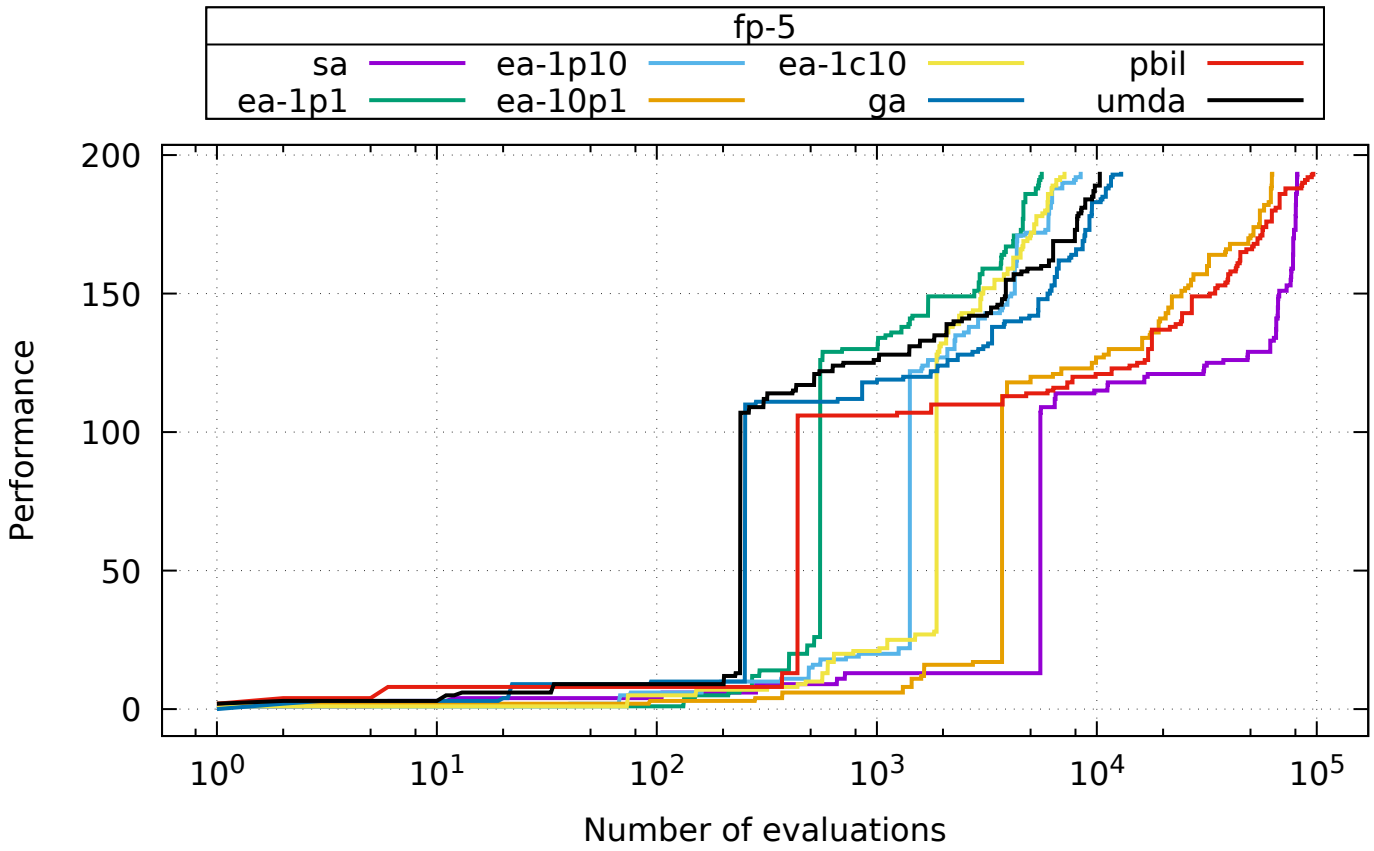

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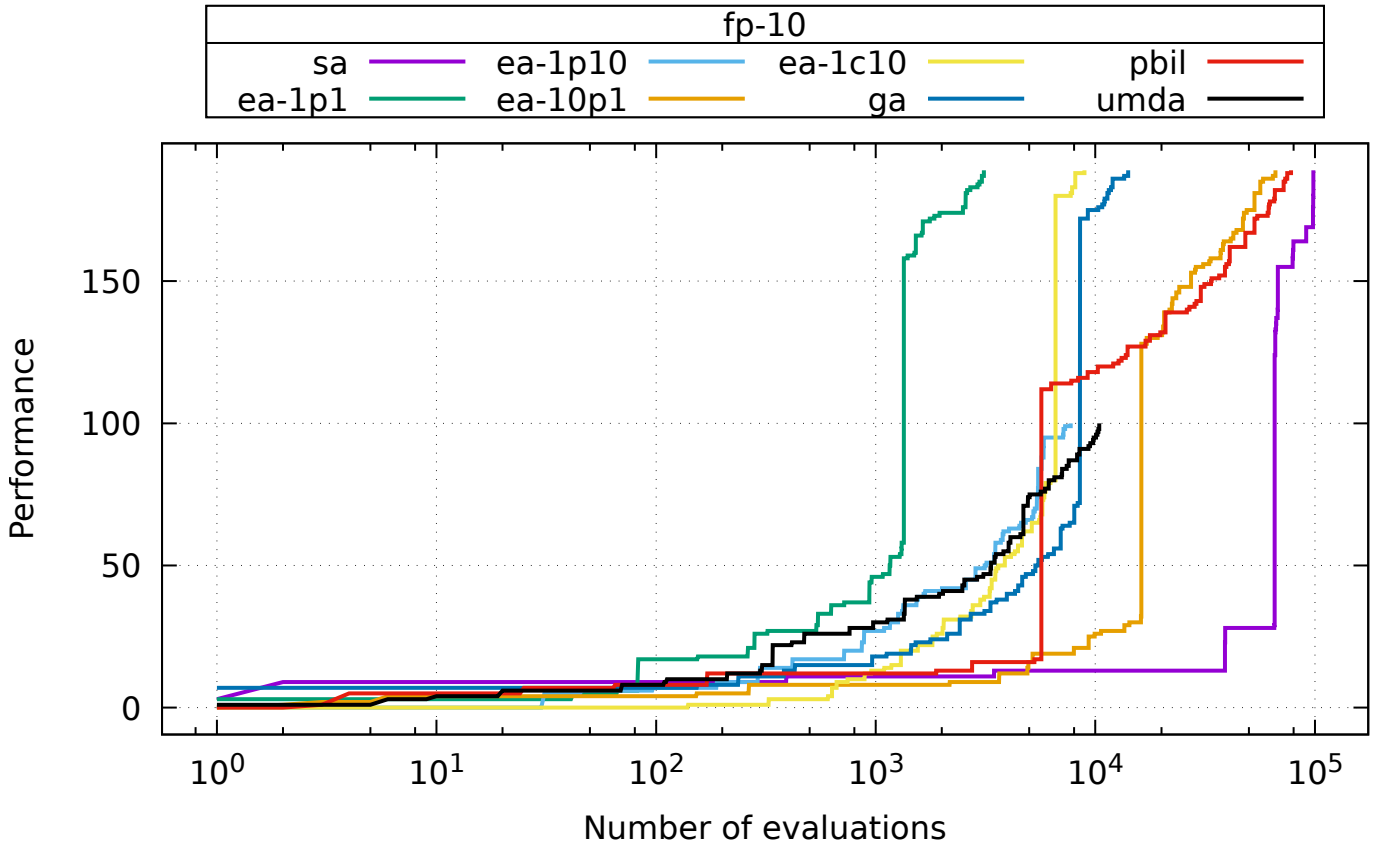

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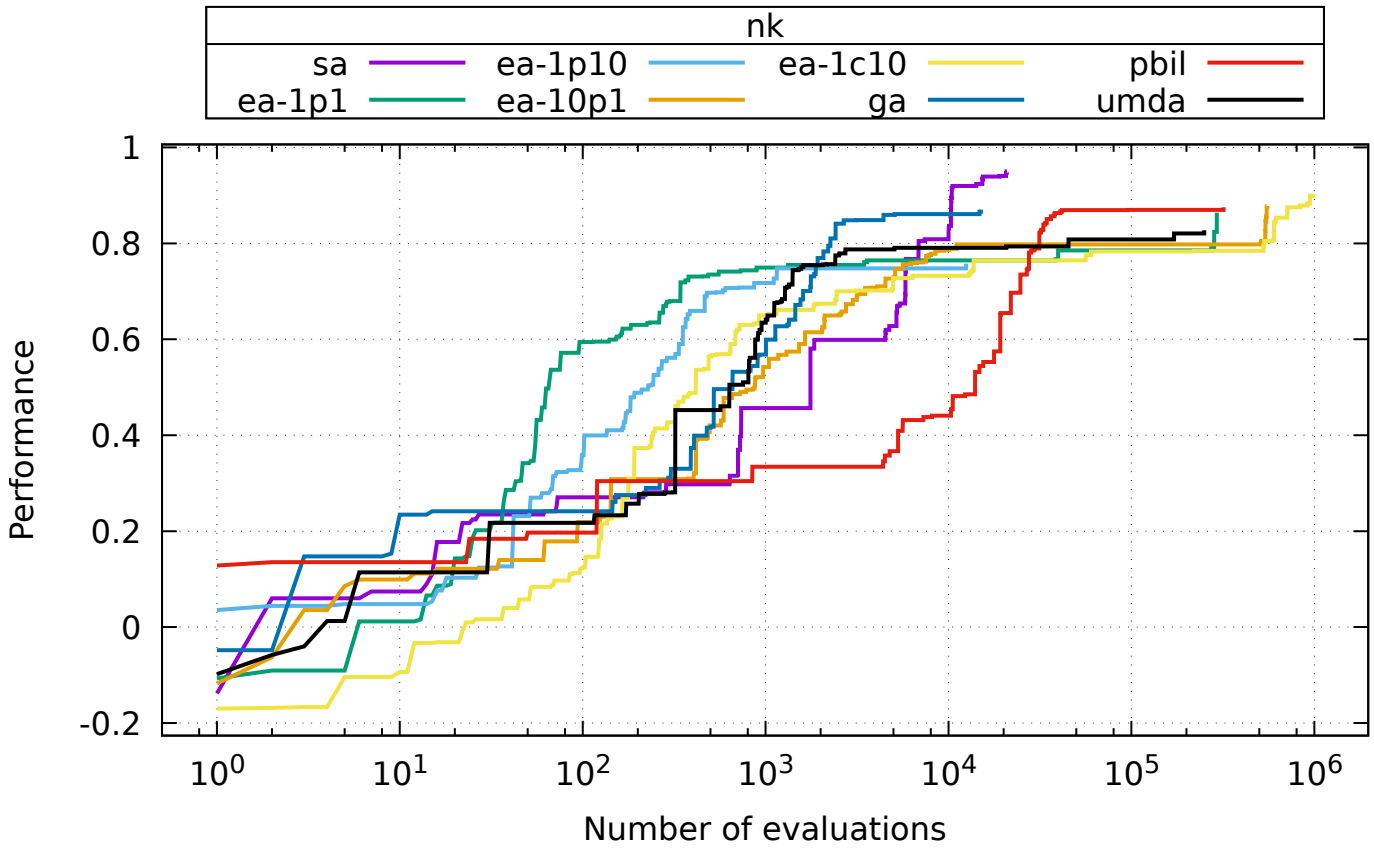
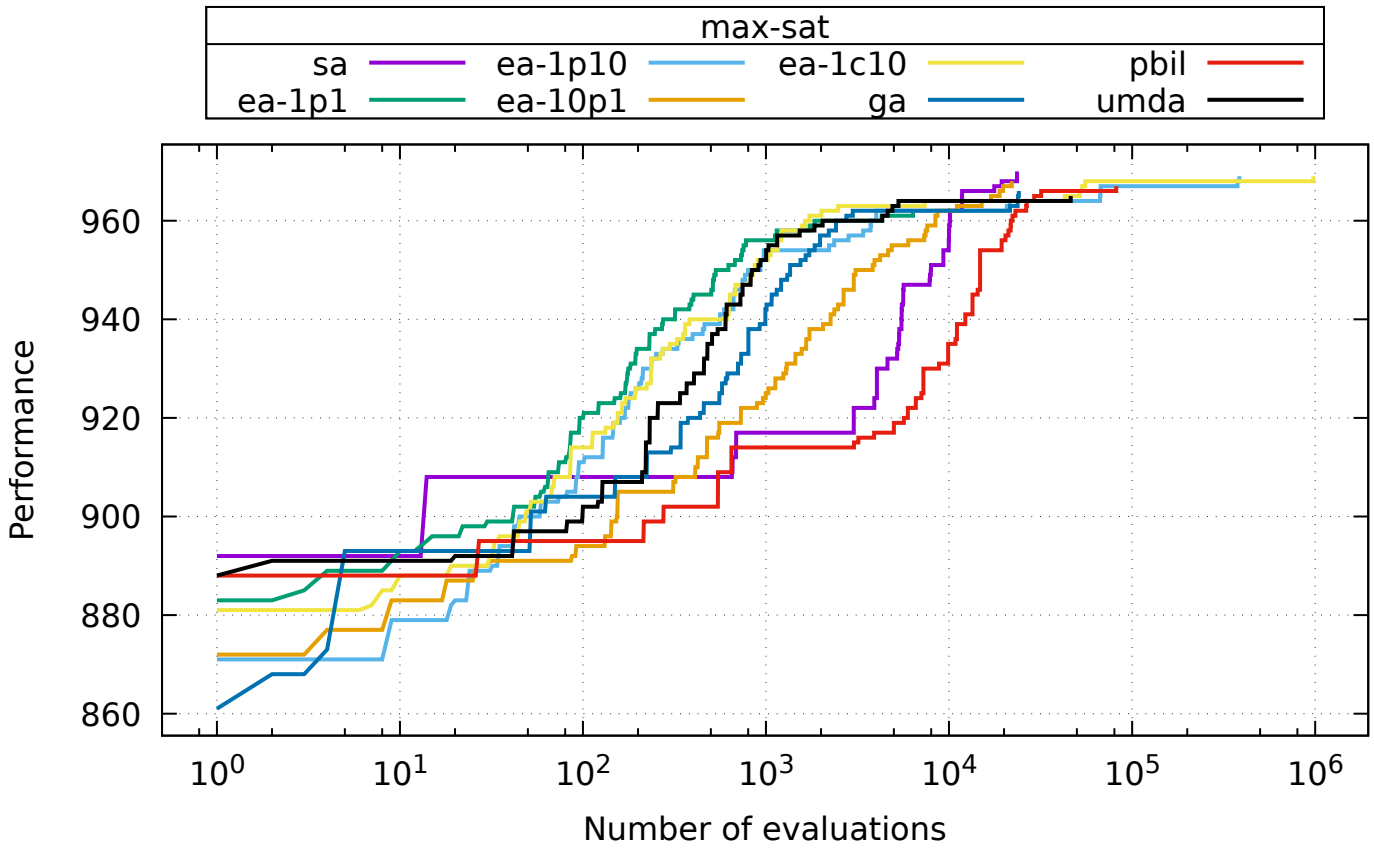
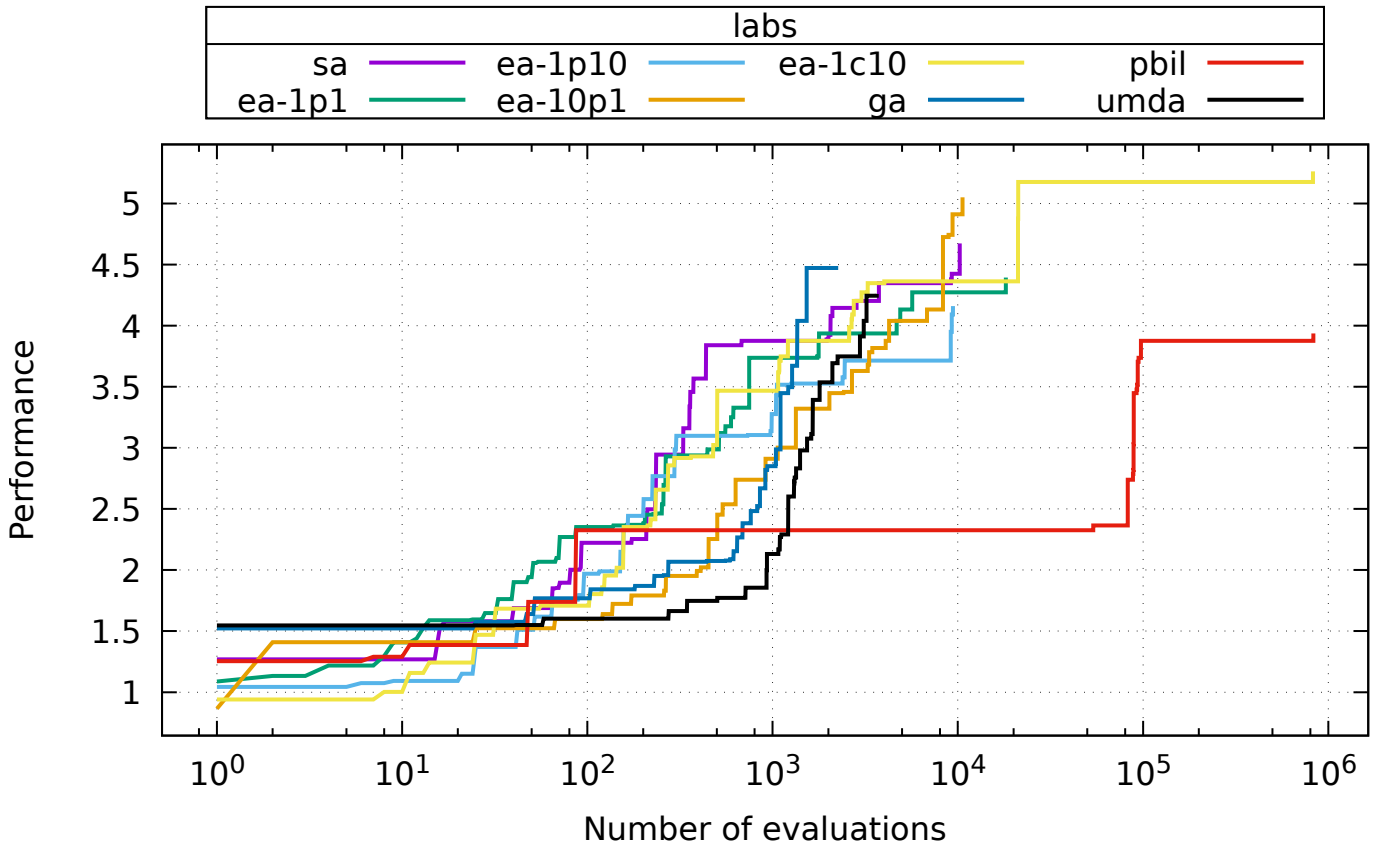


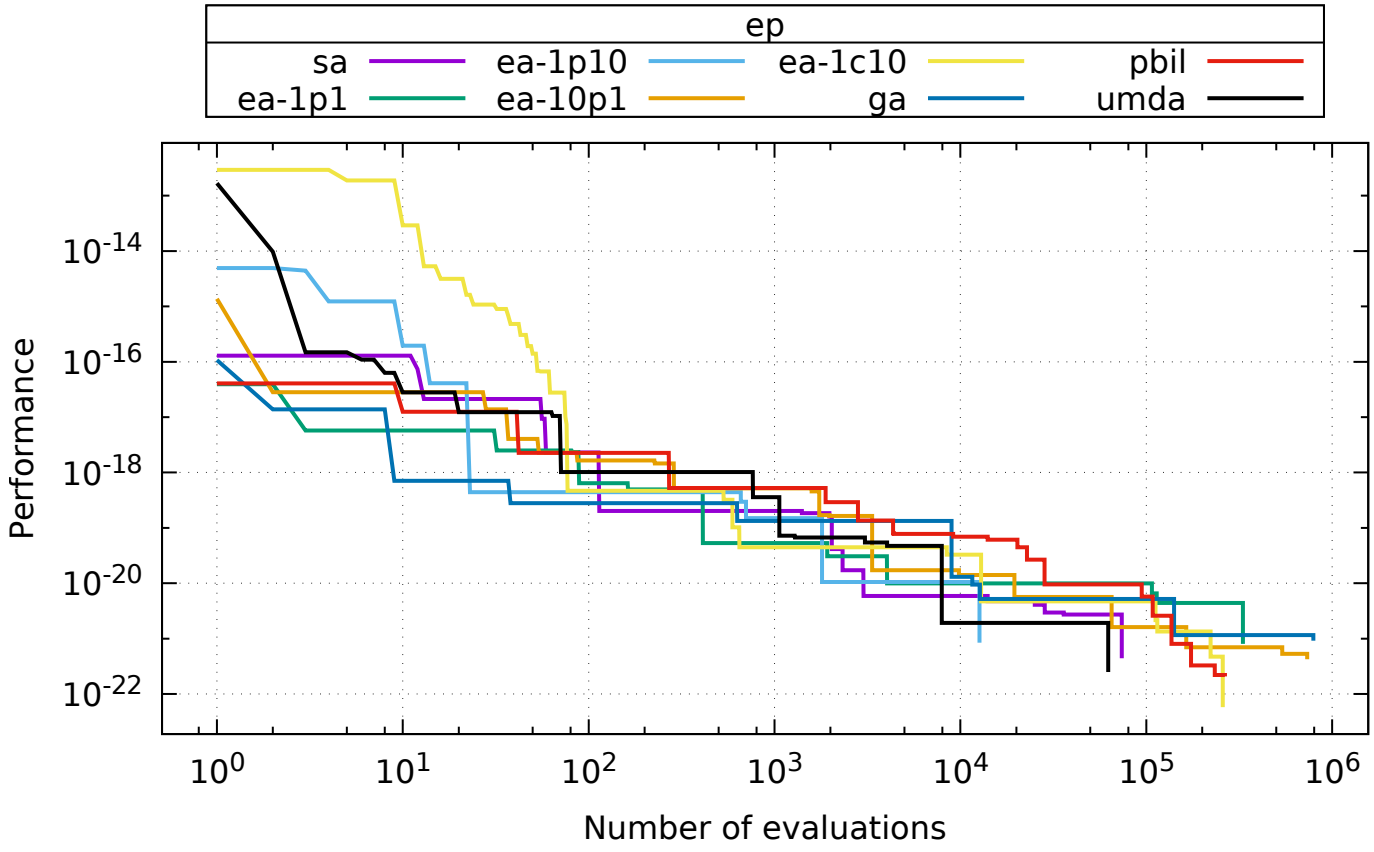
13 max-sat



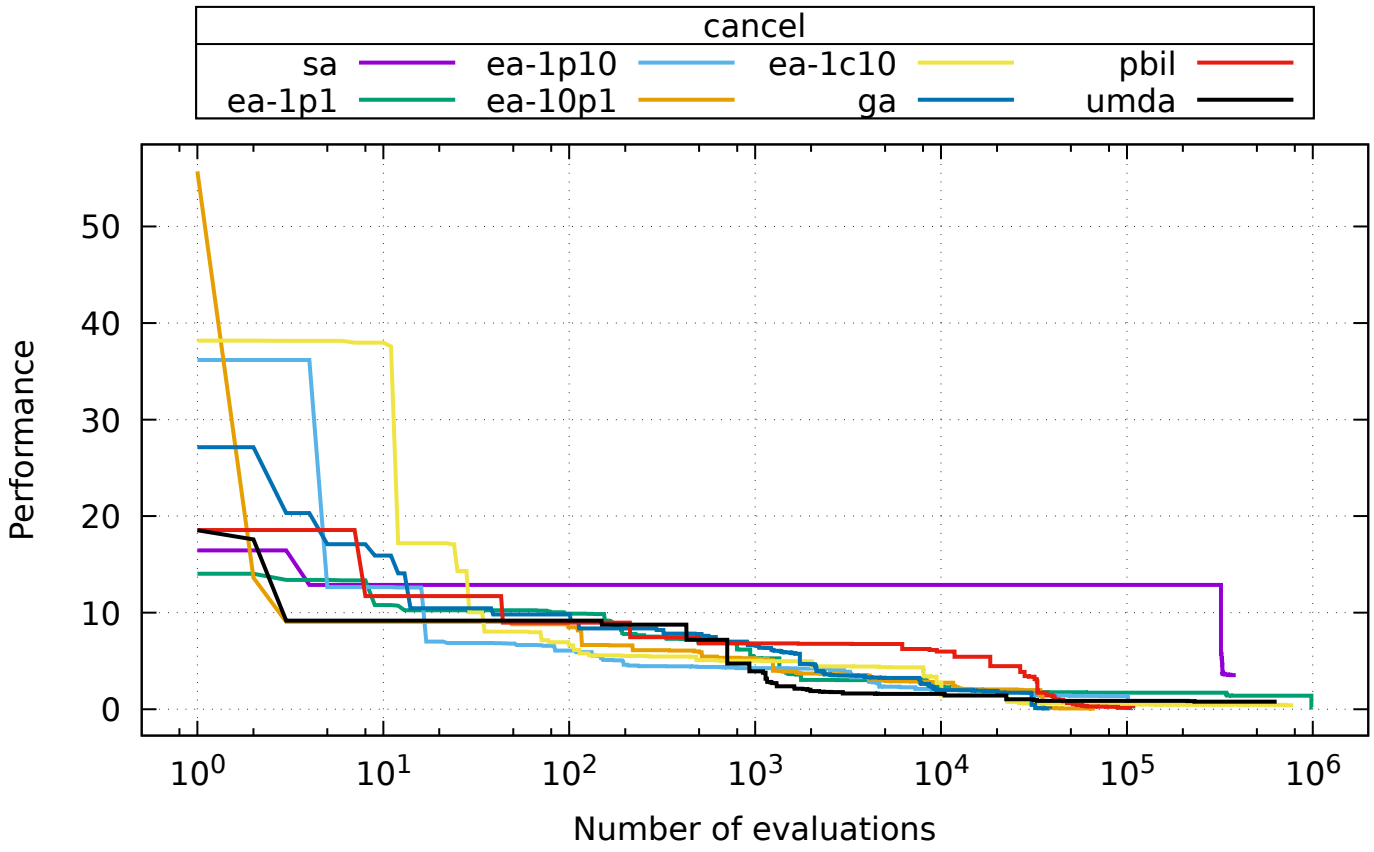
14 labs


labs
sa
ea-1p10
ea-1c10
pbil
ea-1p1
ea-10p1
ga
umda
Performance
5
4.5
4
3.5
3
2.5
2
1.5
1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
Number of evaluations

15 ep


ep
sa
ea-1p10
ea-1c10
pbil
ea-1p1
ea-10p1
ga
umda
Performance
10^{-14}
10^{-16}
10^{-18}
10^{-20}
10^{-22}
10^0
10^1
10^2
10^3
10^4
10^5
10^6
Number of evaluations

16 cancel



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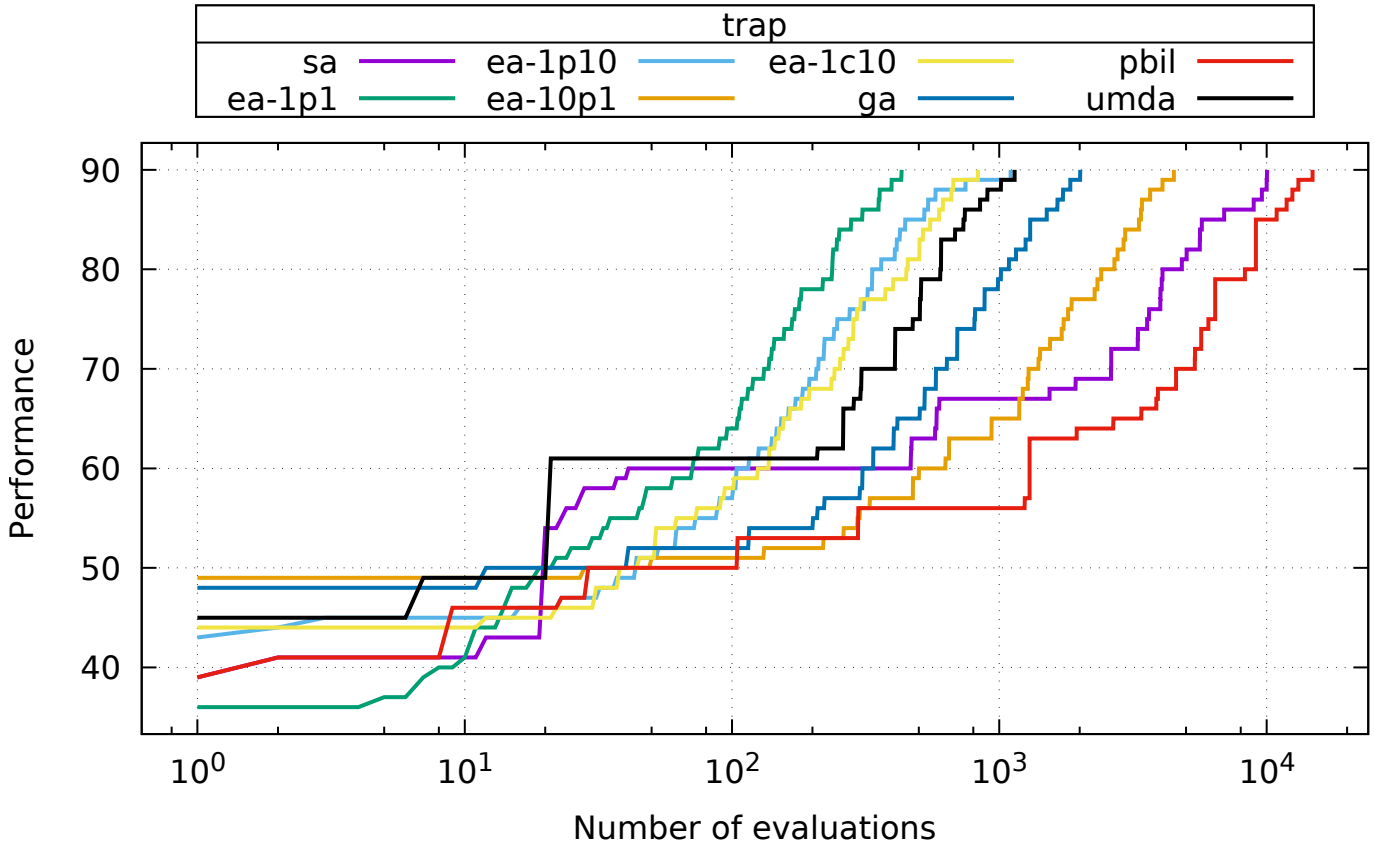

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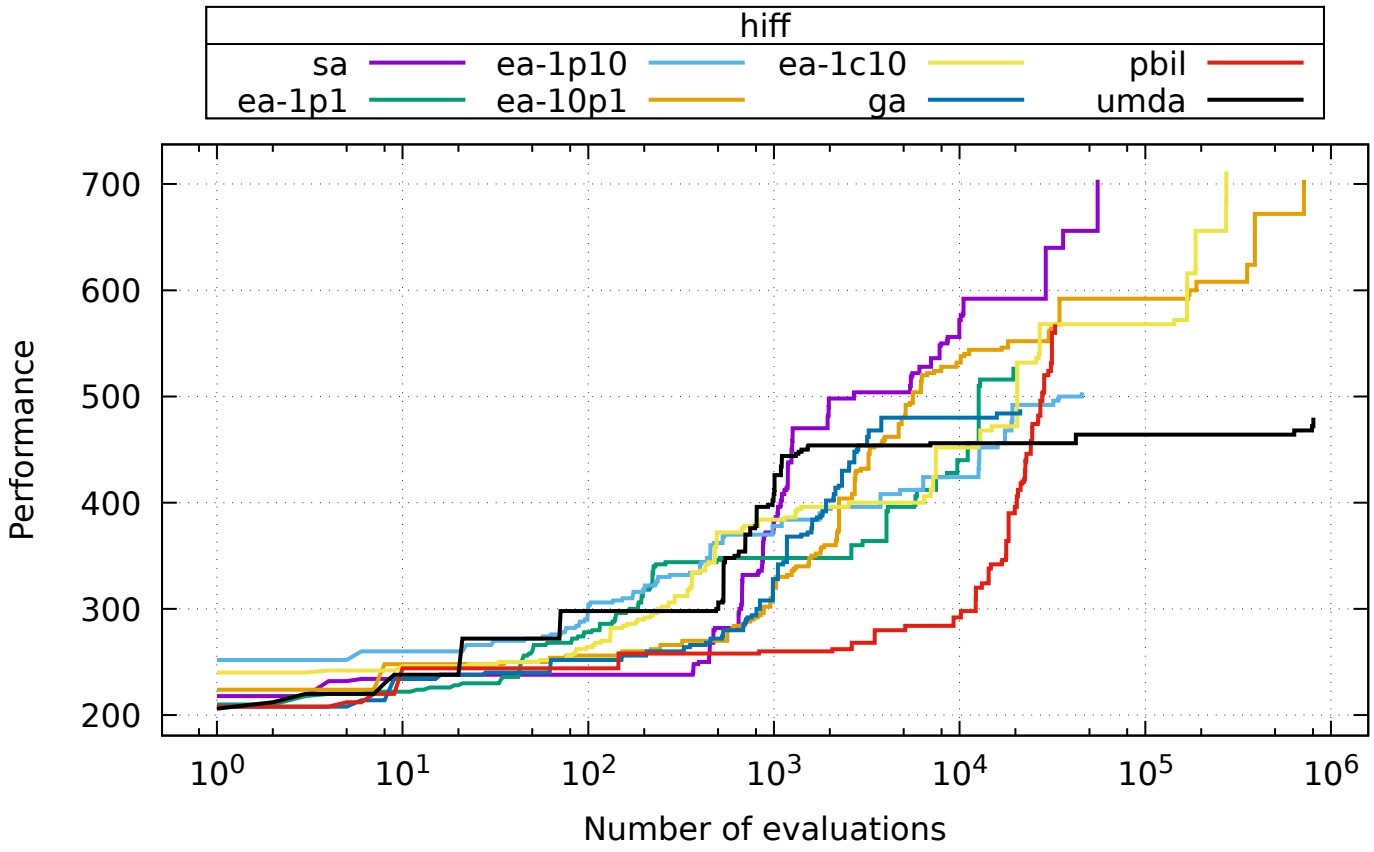
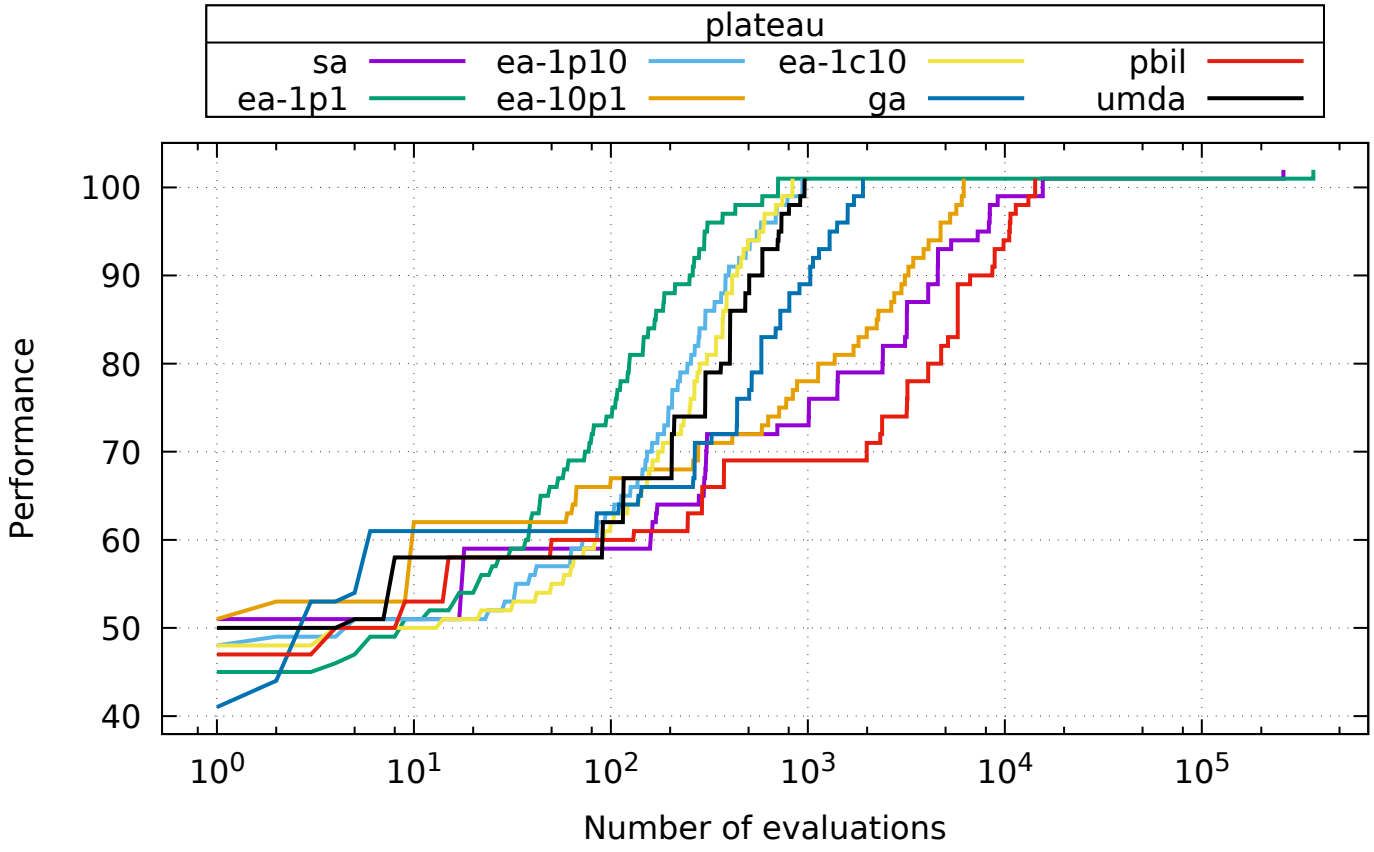
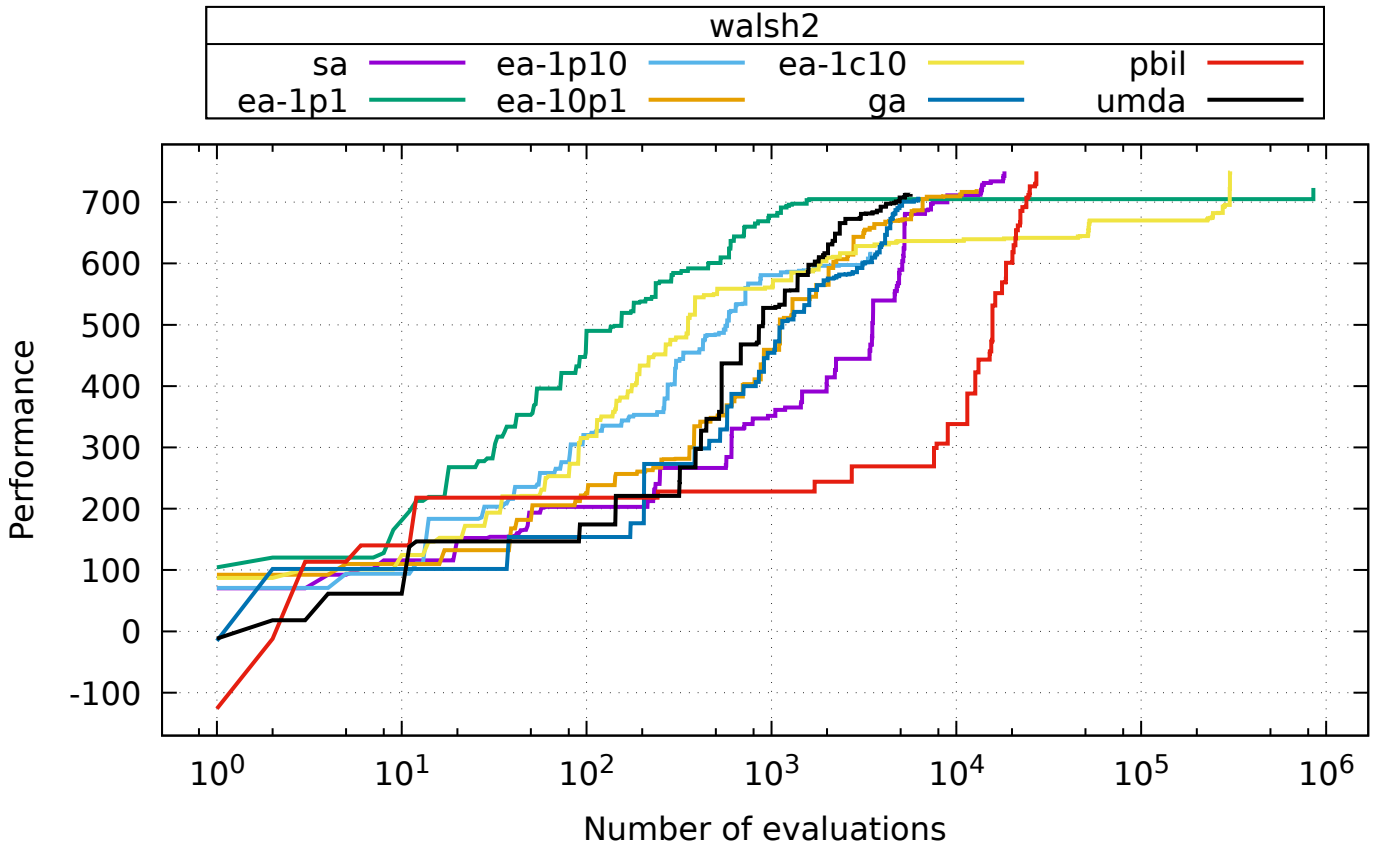


19 plateau



20 walsh2


walsh2
sa
ea-1p10
ea-1c10
pbil
ea-1p1
ea-10p1
ga
umda
Performance
700
600
500
400
300
200
100
0
-100
10^0
10^1
10^2
10^3
10^4
10^5
10^6
Number of evaluations

21 Default parameters

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# algorithm = 100
# bm_mc_reset_strategy = 1
# bm_num_gs_cycles = 1
# bm_num_gs_steps = 100
# bm_sampling = 1
# budget = 10000
# bv_size = 100
# ea_lambda = 100
# ea_mu = 10
# fun_name = noname
# fun_num_traps = 10
# fun_prefix_length = 2
# fun_threshold = 10
# function = 0
# ga_crossover_probability = 0.5
# ga_tournament_size = 10
# hea_binary_dynamics = 0
# hea_delay = 10000
# hea_num_par_updates = 1
# hea_num_seq_updates = 100
# hea_rate_strategy = 0
# hea_reset_period = 0
# hea_sampling_method = 0
# hea_time_constant = 1000
# hea_weight = 1
# learning_rate = 0.001
# map = 0
# map_input_size = 100
# map_path = nopath
# neighborhood = 0
# neighborhood_iterator = 0
# noise_stddev = 1
# num_iterations = 0
# num_threads = 1
# path = nopath
# population_size = 10
# pv_log_num_components = 5
# radius = 2
# rls_patience = 50
# sa_initial_acceptance_probability = 0.6
# sa_num_transitions = 50
# sa_num_trials = 100
# sa_rate = 1.2
# scaled_mutation_probability = 1
# seed = 0
# selection_size = 1
# target = 100
# print_default_parameters
# last_parameter
# exec_name = hnco
# version = 0.7
# Generated from hnco.json
```