

IPC 2023 – HTN Tracks

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History

The 2nd ('00) and 3rd ('02) IPC had tracks on “Hand Tailored Systems”.

Among them HTN planners participated.

⇒ Comparison between quality of the HTN structure

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- ⇒ Comparison between quality of the HTN structure
- ⇒ IPC 2020: How well can your planner exploit a **given** HTN structure?

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Among them HTN planners participated.

- ⇒ Comparison between quality of the HTN structure
- ⇒ IPC 2020: How well can your planner exploit a **given** HTN structure?
- ⇒ IPC 2023: Second Edition!

Setting

- All planners receive the **HTN** structure

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- Common output format and verifier (solution must respect HTN structure)

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- 8GB of RAM and 30 minutes of runtime per instance

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Six Tracks:

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Six Tracks:

Total Order

Partial Order

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Six Tracks:

Total Order

Agile $\min\{1, 1 - \log(t)/\log(1800)\}$

Satisficing C^*/C

Optimal 0/1

Partial Order

Agile $\min\{1, 1 - \log(t)/\log(1800)\}$

Satisficing C^*/C

Optimal 0/1

Participants

- Aries (Arthur Bit-Monnot)
- SIADEX (Ignacio Vellido Expósito, Jorge Soler-Padial, Juan Fernández Olivares, Luis Castillo)
- Lifted-Linear, Linear-Simple, Linear-Complex (Ying Xian Wu, Conny Olz, Songtuan Lin, Pascal Bercher)
- PandaPro (Daniel Höller)
- TOAD (Daniel Höller)
- PandaDealer (Conny Olz, Daniel Höller, Pascal Bercher)
- PDDL4J/LiftedTreePath (Gaspard Quenard, Oleksandr Firsov, Damien Pellier, Humbert Fiorino)

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Each competitor was allowed up to three configurations per track.

New Domains

Total Order

- SharpSAT (Dominik Schreiber)
- Lamps (Gregor Behnke)

Partial Order

- Ultralight-Cockpit (Jane Jean Kiam)
- Colouring (Gregor Behnke)

TO Satisficing Track

<u>planner</u>	<u>total (max 22)</u>
	15.28808
	15.15338
	14.89349
	14.87160
	13.62710
	11.34366
	10.92964
	10.43419
	10.23798
	7.12610
	3.45194
	3.19394
	0.72308

TO Satisficing Track

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TO Agile Track

<u>planner</u>	<u>total (max 22)</u>
	11.74366
	11.68335
	11.45496
	11.29298
	11.15163
	11.04744
	8.24055
	8.05728
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PandaDealer-agile-2	11.29298
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SIADEx	3.65923
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OptiPlan	0.40067

TO Optimal Track

planner	total (max 22)
	8.33212
	7.82008
	6.76565
	6.27969
	0.15000

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	8.33212
	7.82008
	6.76565
	6.27969
aries-opt	0.15000

TO Optimal Track

planner	total (max 22)
	8.33212
	7.82008
	6.76565
ppro-xo-opt-as-dof-ao	6.27969
aries-opt	0.15000

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	8.33212
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ppro-xo-opt-as-dof-lmc	6.76565
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planner	total (max 22)
PandaDealer-optimal	8.33212
ppro-xo-opt-as-lmc	7.82008
ppro-xo-opt-as-dof-lmc	6.76565
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PO Satisficing Track

planner	total (max 10)
	8.10517
	7.60238
	7.47407
	7.47253
	6.96385
	6.92736
	6.76902
	6.46739
	6.30870
	6.28603
	4.73026
	2.17641

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LinearSimple-sat-2	6.96385
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LinearComplex-sat-2	7.47407
LinearSimple-sat-1	7.47253
LinearSimple-sat-2	6.96385
LinearComplex-sat-3	6.92736
LinearSimple-sat-3	6.76902
lamda-po-agl-gas-ao	6.46739
ppro-po-sat-gas-ff	6.30870
lamda-po-agl-gas-lmc	6.28603
aries-sat	4.73026
SIADEx	2.17641

PO Satisficing Track

planner	total (max 10)
LinearComplex-agile-3	8.10517
LinearComplex-sat-1	7.60238
LinearComplex-sat-2	7.47407
LinearSimple-sat-1	7.47253
LinearSimple-sat-2	6.96385
LinearComplex-sat-3	6.92736
LinearSimple-sat-3	6.76902
lamda-po-agl-gas-ao	6.46739
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PO Agile Track

<u>planner</u>	<u>total (max 10)</u>
	7.03533
	7.01996
	6.89761
	6.89485
	6.81972
	6.65585
	6.64191
	6.24541
	5.20113
	5.01524
	5.00565
	4.95080
	3.22657
	3.03256

PO Agile Track

<u>planner</u>	<u>total (max 10)</u>
----------------	-----------------------

7.03533

7.01996

6.89761

6.89485

6.81972

6.65585

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PO Agile Track

<u>planner</u>	<u>total (max 10)</u>
	7.03533
	7.01996
	6.89761
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	6.64191
	6.24541
	5.20113
	5.01524
	5.00565
	4.95080
aries-agile	3.22657
SIADEx	3.03256

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LiftedLinear-3	5.20113
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lamda-po-agl-gas-lmc	4.95080
aries-agile	3.22657
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PO Optimal Track

planner	total (max 10)
	5.30353
	3.89560
	3.74560
	2.10517

PO Optimal Track

planner	total (max 10)
	5.30353
	3.89560
	3.74560
aries-opt	2.10517

PO Optimal Track

planner	total (max 10)
	5.30353
	3.89560
ppro-xo-opt-as-dof-ao	3.74560
aries-opt	2.10517

PO Optimal Track

planner	total (max 10)
	5.30353
ppro-xo-opt-as-dof-lmc	3.89560
ppro-xo-opt-as-dof-ao	3.74560
aries-opt	2.10517

PO Optimal Track

planner	total (max 10)
ppro-xo-opt-as-lmc	5.30353
ppro-xo-opt-as-dof-lmc	3.89560
ppro-xo-opt-as-dof-ao	3.74560
aries-opt	2.10517

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Except for ppro-*-dof-* (CPLEX)
- Domains and instances will be available at <https://github.com/ipc2023-htn/ipc2023-domains>

Fun Facts!

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- 531 discord messages

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- Last run finished July 6th, 11:46