

# Application *(what you test)*

- ▶ Actors (C/C++/Java)
- ▶ MPI Legacy Code  
As is or Optimized
- ▶ Offline Traces
- ▶ Centralized Algo



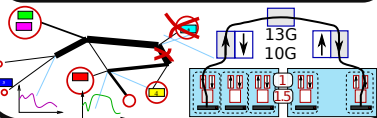
# Experimental Setup

## Virtual Platform

- ▶ Components  
CPU, Links, Disks
- ▶ Routing Paths
- ▶ External Events

## App Deployment

## Configuration



# Simulation

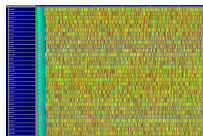
## Models

- ▶ Raw Perf.  
Time, Energy
- ▶ Contention
- ▶ Collectives

## Plugins

- Your code deep inside*
- ▶ Signals
- ▶ Extensions

```
0.0000 | Treadmy-macros | Get 3 workers and 6 tasks to process
0.0000 | Treadmy-macros | Sending Task_0 to 'Fafard'
0.0000 | Treadmy-macros | Sending Task_1 to 'Fafard'
0.0000 | Treadmy-macros | Sending Task_2 to 'G-netter'
0.0000 | Fafard-actor | Processing Task_0
0.0000 | Fafard-actor | Processing Task_1
0.0000 | Treadmy-macros | Sending Task_3 to 'Jupiter'
0.0000 | G-netter-actor | Processing Task_2
0.0000 | J-actor | Task_0 done
0.0000 | Treadmy-macros | Sending Task_4 to 'Fafard'
0.0000 | J-actor | Task_1 done
0.0000 | Fafard-actor | Processing Task_3
0.0000 | Treadmy-macros | Sending Task_5 to 'G-netter'
0.0000 | Fafard-actor | Processing Task_4
0.0000 | G-netter-actor | Task_2 done
0.0000 | J-actor | Task_3 done
0.0000 | Treadmy-macros | All Tasks dispatched. Let's stop workers
0.0000 | G-netter-actor | Processing Task_5
0.0000 | J-actor | Task_4 done
0.0000 | Fafard-actor | Task_5 done
0.0000 | Fafard-actor | I'm done. See you!
0.0000 | G-netter-actor | Task_5 done
0.0000 | Treadmy-macros | Simulation end
0.0000 | G-netter-actor | I'm done. See you!
0.0000 | G-netter-actor | Simulation time 3.0000
```



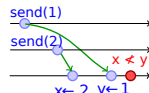
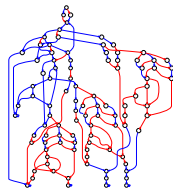
# Model Checking

## Property

- ▶ Safety
- ▶ Liveness
- ▶ Patterns

## Reduction

- ▶ DPOR
- ▶ State Equality



*(highly experimental)*

HPC

Grids

Clouds

P2P

Scheduling

Workflows

