

	NSu	NSu	NSu	NSu	NSu	NSu	S	S	WS	NWS	WS
Oswaldtwistle, Fielding Lane, Plough Inn.....dep	0704	0735	0805	.....	0855	.....	1035	1135	1205	1235	.....
ALDTWISTLE, Rhyddings St. ... "	0708	0738	0808	0833	0850	0908	0938	1008	1038	1108	1138
Mill Inn	0713	0743	0813	0838	0855	0913	0943	1013	1043	1113	1143
Den Brook Inn	0718	0748	0818	0843	0900	0918	0948	1018	1048	1118	1148
LACKBURN, Railway Station ....arr	0726	0756	0826	0851	0908	0926	0956	1026	1056	1126	1156
	WS	NWS	WS	WS	NWS	WS	WS	WS	NWS	WS	NWS
Oswaldtwistle, Fielding Lane, Plough Inn.....dep	1405	1435	1505	.....	1555	.....	1735	1835	1905	1935	.....
ALDTWISTLE, Rhyddings St. ... "	1408	1438	1508	1533	1550	1608	1638	1708	1738	1808	1838
Mill Inn	1413	1443	1513	1538	1555	1613	1643	1713	1743	1813	1843
Den Brook Inn	1418	1448	1518	1543	1600	1618	1648	1718	1748	1818	1848
LACKBURN, Railway Station ....arr	1416	1426	1436	1456	1516	1526	1536	1556	1616	1636	1656
	WS	NWS	WS	WS	NWS	WS	WS	WS	NWS	WS	NWS
Oswaldtwistle, Fielding Lane, Plough Inn.....dep	1835	1905	1975	.....	2025	.....	2205	2305	2375	2405	.....
ALDTWISTLE, Rhyddings St. ... "	1838	1908	1918	1938	1958	2008	2038	2058	2108	2118	2138
Mill Inn	1843	1903	1913	1923	1943	2003	2013	2023	2043	2103	2113
Den Brook Inn	1848	1908	1918	1928	1948	2008	2018	2028	2048	2108	2118
LACKBURN, Railway Station ....arr	1856	1916	1926	1936	1956	2016	2026	2036	2056	2116	2126
	WS	NWS	WS	WS	NWS	WS	WS	WS	NWS	WS	NWS
Oswaldtwistle, Fielding Lane, Plough Inn.....dep	2157	2227	2297	.....	2347	.....	2527	2627	2697	2727	.....
ALDTWISTLE, Rhyddings St. ... "	2158	2228	2238	2258	2278	2308	2338	2408	2438	2508	2538
Mill Inn	2163	2233	2243	2263	2283	2313	2343	2413	2443	2513	2543
Den Brook Inn	2168	2238	2248	2268	2288	2318	2348	2418	2448	2518	2548
LACKBURN, Railway Station ....arr	2166	2236	2246	2266	2286	2316	2346	2416	2446	2516	2546
	WS	NWS	WS	WS	NWS	WS	WS	WS	NWS	WS	NWS
Oswaldtwistle, Fielding Lane, Plough Inn.....dep	2308	2318	2330	.....	.....	.....	.....	.....	.....	.....	.....
ALDTWISTLE, Rhyddings St. ... "	2308	2318	2330	.....	.....	.....	.....	.....	.....	.....	.....
Mill Inn	2313	2323	2335	.....	.....	.....	.....	.....	.....	.....	.....
Den Brook Inn	2318	2328	2240	.....	.....	.....	.....	.....	.....	.....	.....
LACKBURN, Railway Station ....arr	2326	2336	2348	.....	.....	.....	.....	.....	.....	.....	.....

Writing a Minimal Scheduler with eBPF, sched_ext, and C

Johannes Bechberger (SAP SE)

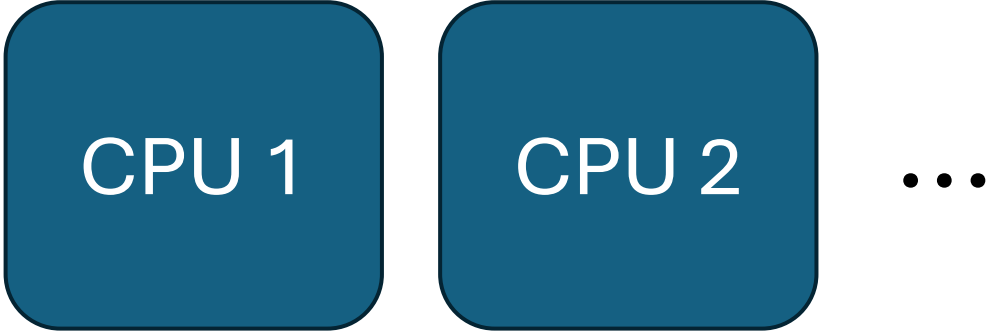
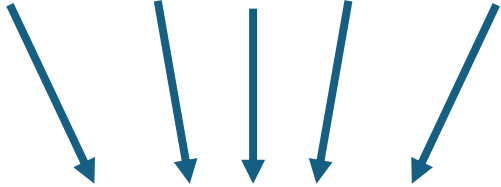
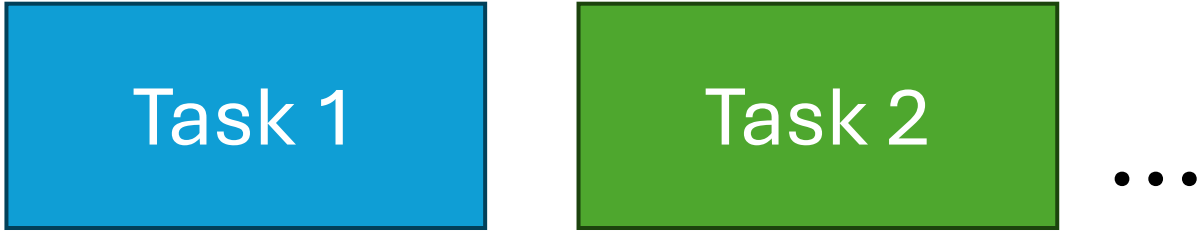


E
 -Tues., Fris. and Suns. only.
 -Weds., Sats. only.
 -Sats. only.
 -Not Weds. or Sats.

NS—Not Sats.
 NSSu—Not Sats. or Suns.
 NSu—Not Suns.
 ≡—Adjoining or near Railway Station.
 †—From Black Dog only.

†—Tues., Fris., Sats. only.
 †—Works service subject to suspension if required.
 Local passengers are not permitted to pass the Borough of Knuzden Brook and Black Dog Railway Station.

THROUGH SERVICE BETWEEN OSWALDTWISTLE AND SOUTHPORT, SEE TABLE 2



Task 1

Task 2



CPU

Time



Task 1

Task 2

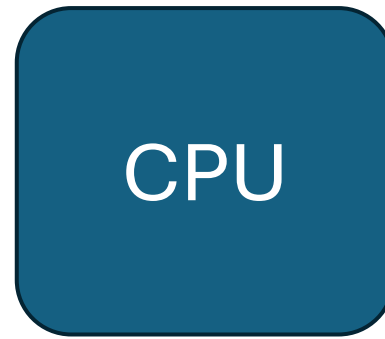
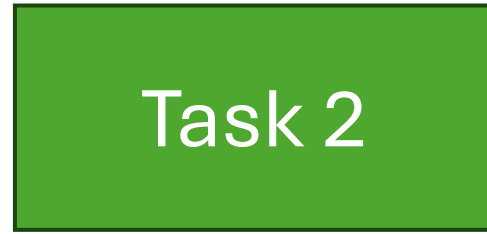


CPU

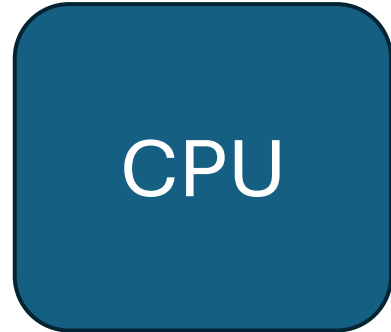


Time

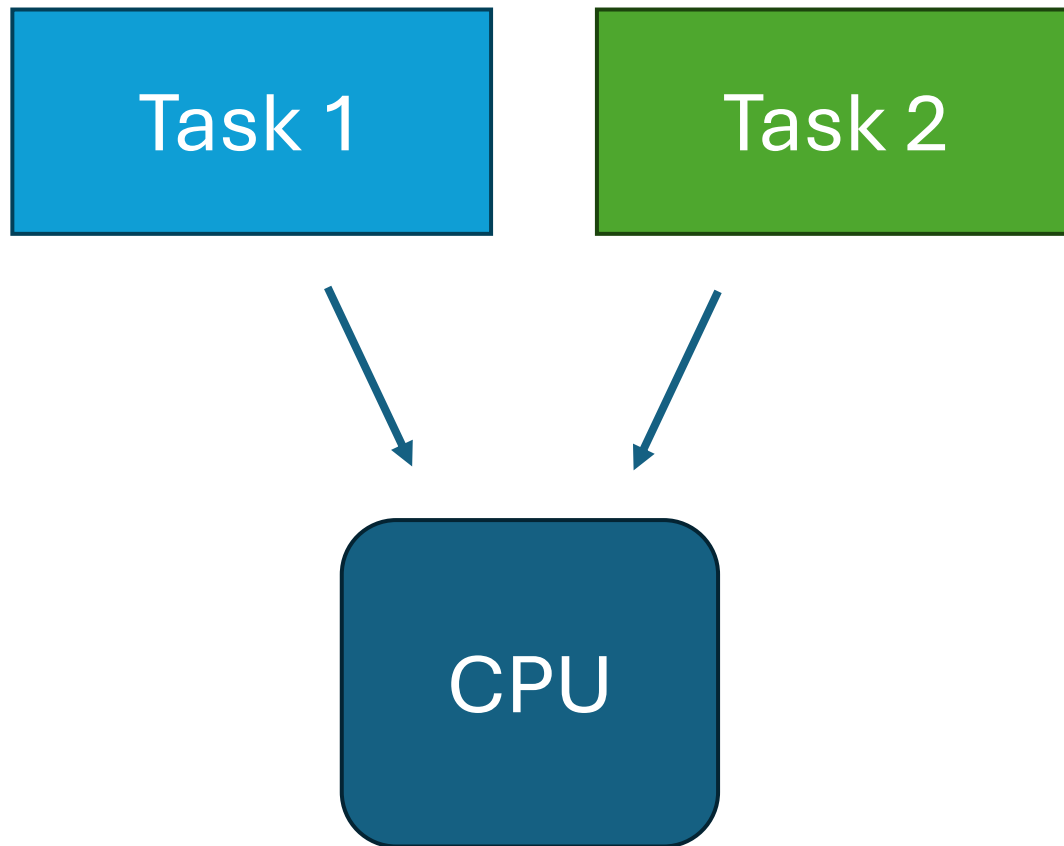




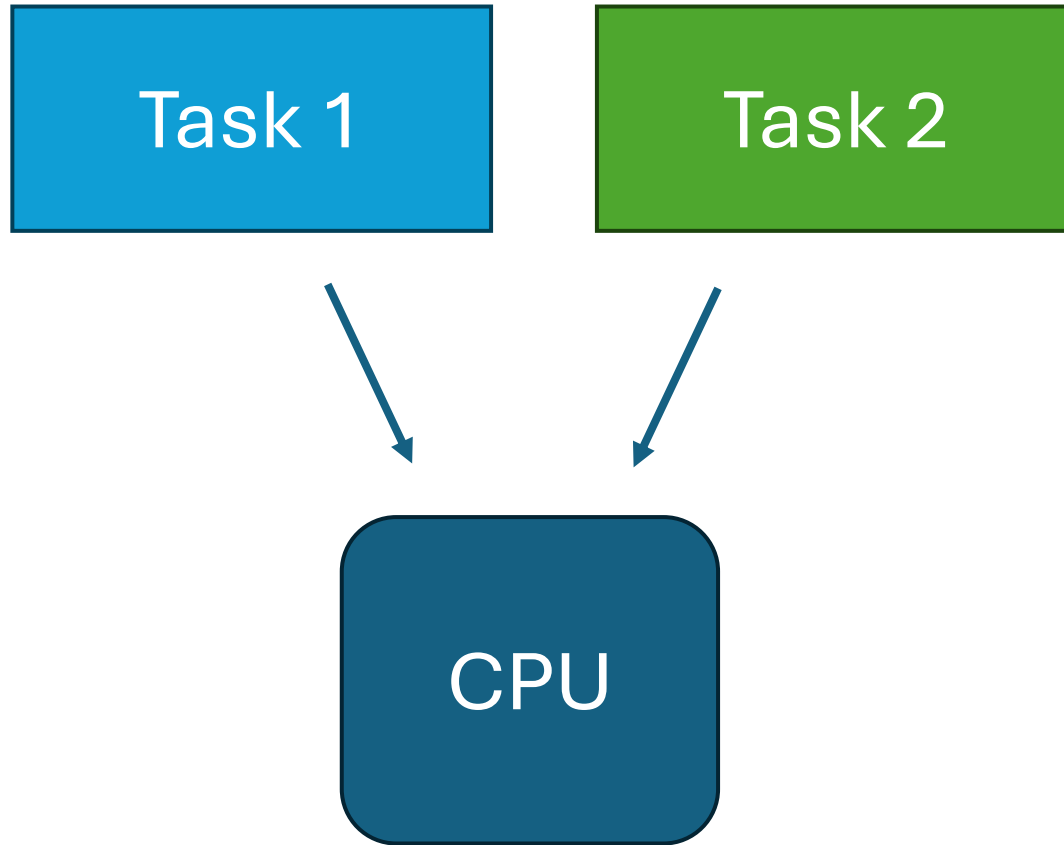
Time



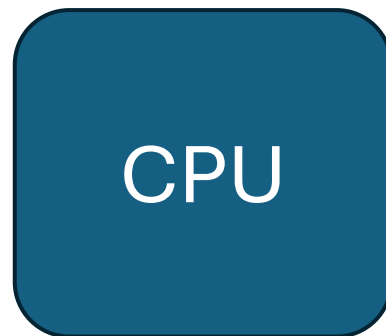
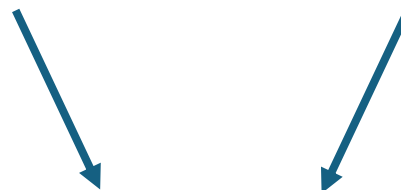
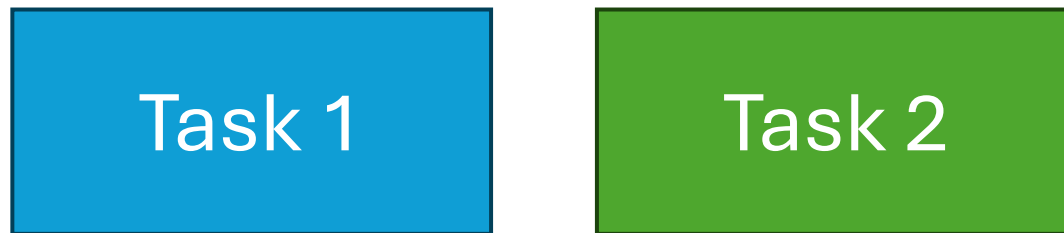
Time



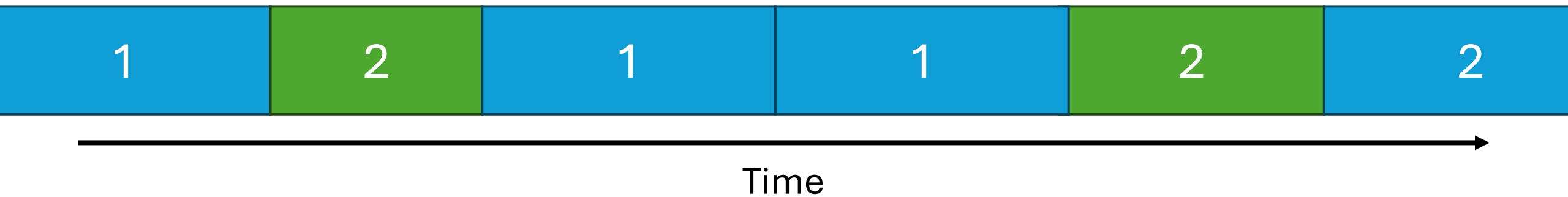
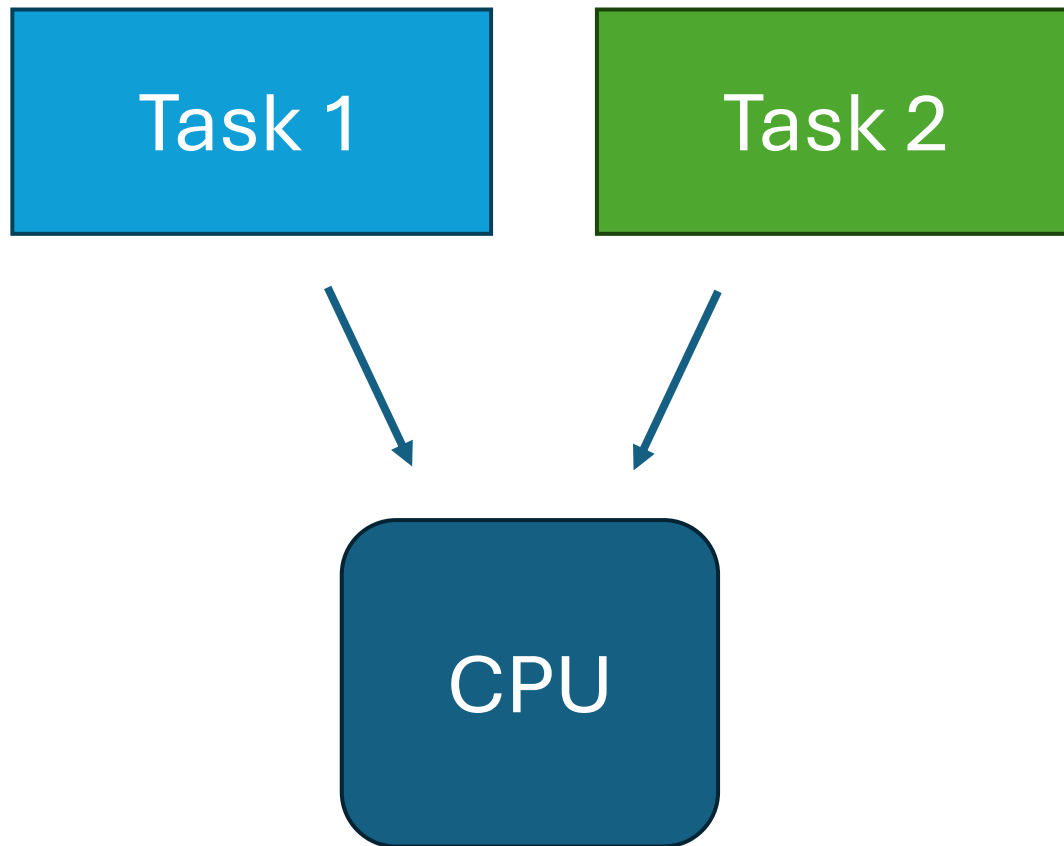
Time



Time



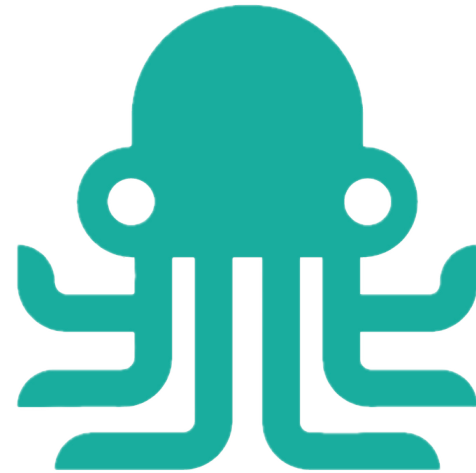
Time



Let's create our own



+

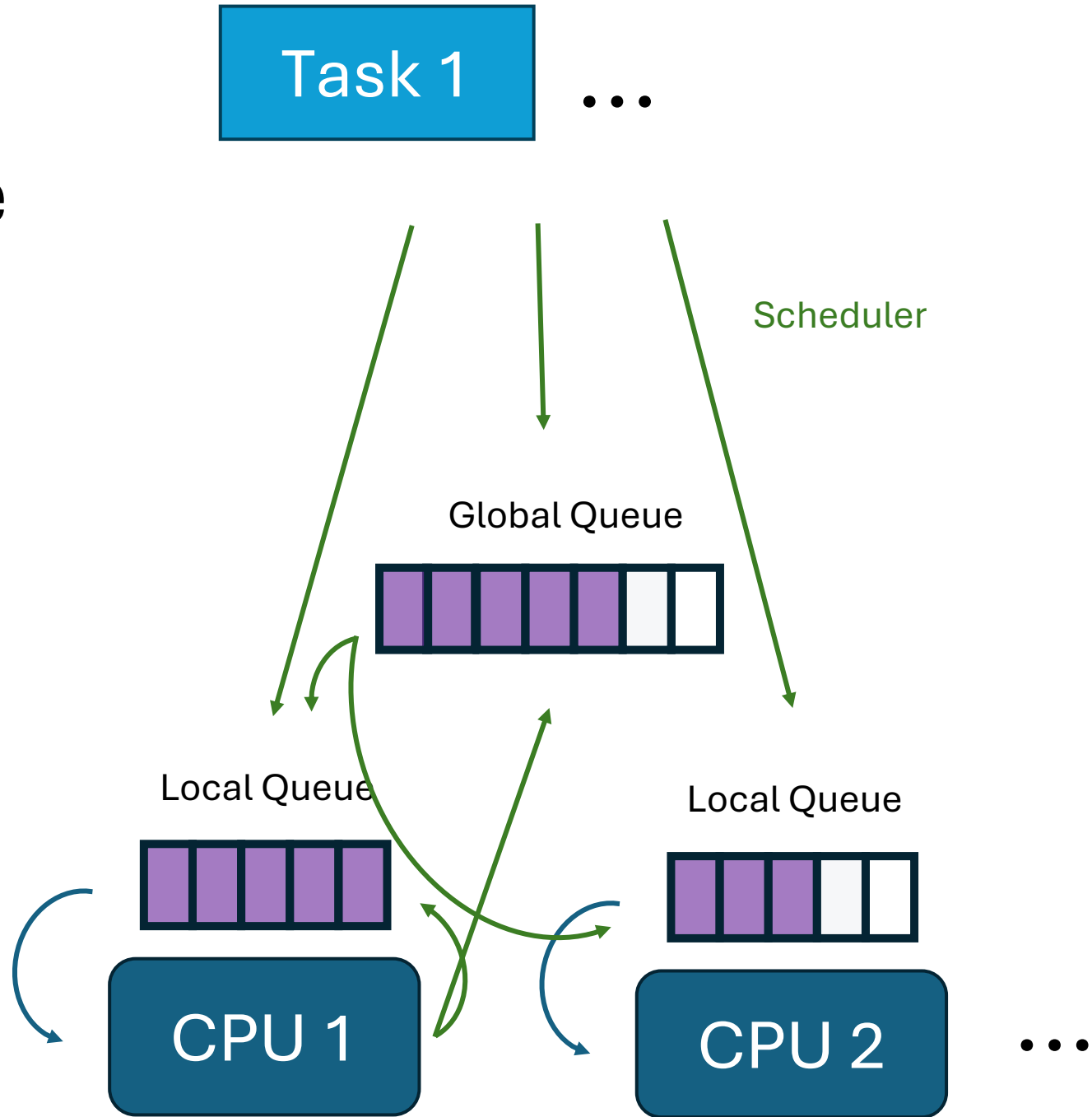


“

1. Ease of experimentation and exploration
2. Customization
3. Rapid scheduler deployments



Scheduler dance



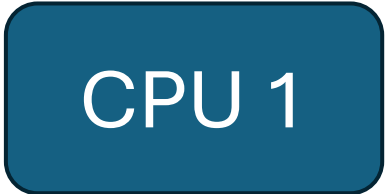


enqueue hook
enqueue task for the first time

Scheduling Queue



scx_bpf_move_to_local
CPU consumes task from queue



dispatch hook
to get a new task

enqueue hook
enqueue finished task

...

Name Changes

`scx_bpf_dispatch[_vtime]()`

→ `scx_bpf_dsq_insert[_vtime]()`

`scx_bpf_consume()`

→ `scx_bpf_dsq_move_to_local()`

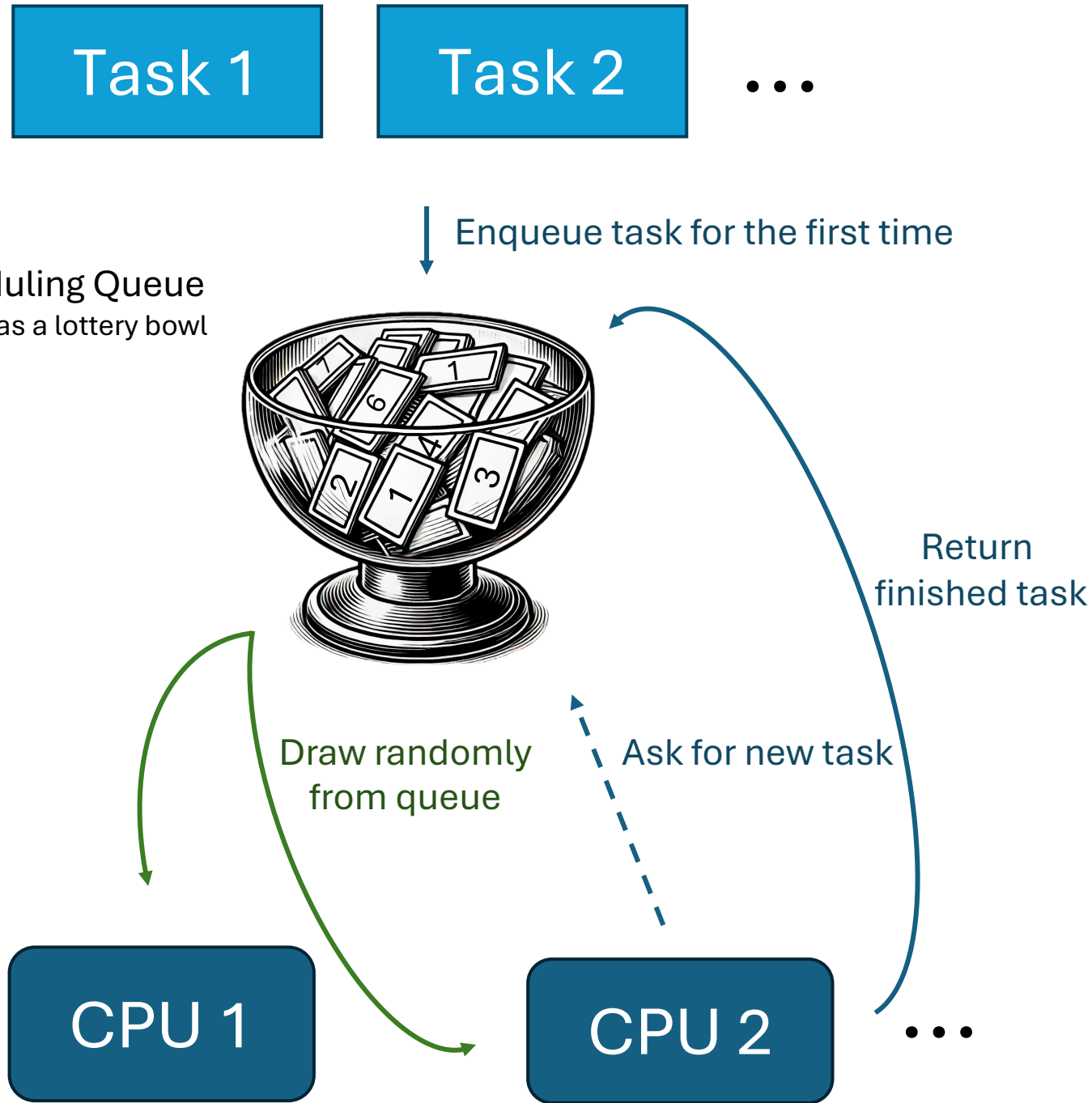
`scx_bpf_dispatch[_vtime]_from_dsq*()`

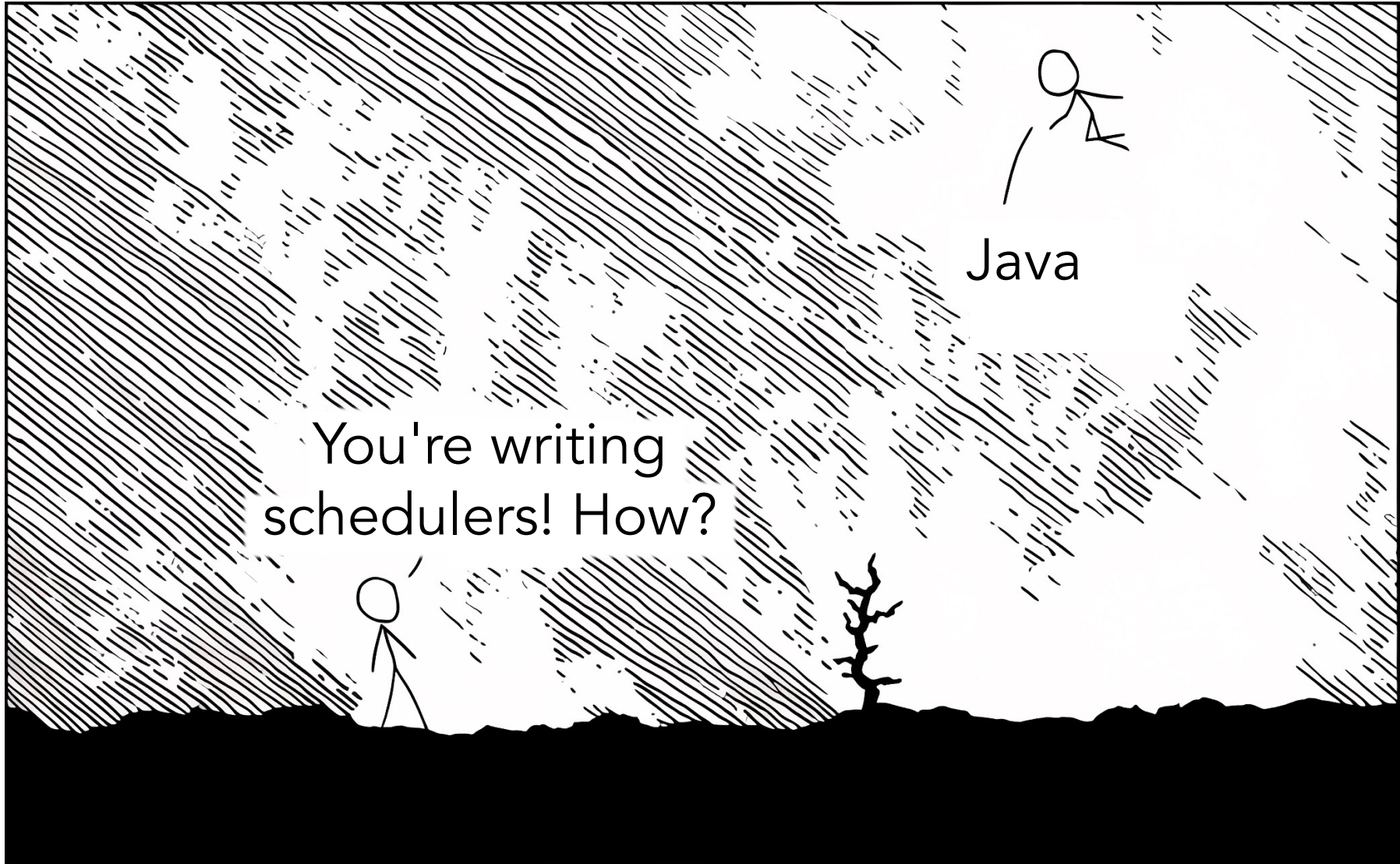
→ `scx_bpf_dsq_move[_vtime]*()`

FIFO Scheduler



Lottery Scheduler







```
@BPF(license = "GPL")
abstract class SampleScheduler
    extends BPFProgram
    implements Scheduler, Runnable {
    // ...
}
```

PID	Process Name	Enqueue Count
204358	java	102
204403	ForkJoinPool.co	78
204406	ForkJoinPool.co	76
204407	ForkJoinPool.co	75



<https://github.com/parttimenerd/hello-ebpf>

[Submission]:

Thanks for taking the time to submit a new verifier error to this collection.

First, tell us about the code:

Cause Description

Describe the issue and its context.

Provide a short explanation of the issue and its context.

Cause Code *

Code that caused the error. Mark relevant lines with comments.

Include the problematic code and mark key lines with '// here' if necessary.

Verifier Error Log *

Relevant lines of the verifier error output

Paste the relevant verifier error output here.

Solution Description *

Explain the solution to the issue.

Provide an explanation of how the issue was resolved.

Solution Code *

Fixed code that resolves the issue.

Include the corrected code here.

Please make sure that you can share the source code and give us some context on your submission:

Source

Source of the shown code

own code

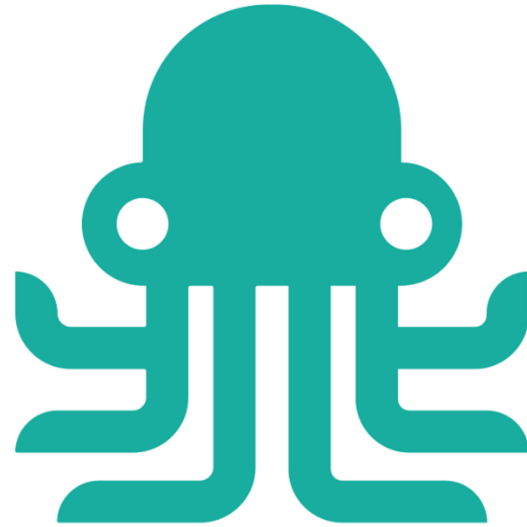
Kernel Version



<https://github.com/parttimenerd/ebpf-verifier-errors>



Fin.



Scheduler Contest

Submit your best scheduling ideas and implementations **FOSDEM'25**

github.com/sched-ext/fosdem25/

- NS—Not Sats.
- NSSu—Not Sats. or Suns.
- NSu—Not Suns.
- ⇨—Adjoining or near Railway Station.
- ‡—From Black Dog only.



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