ParslFest 2023

Multi-User Endpoints

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- Instead, an MEP
  - starts UEPs
  - (Slightly more precisely, fork, drop privileges, exec)
  - Manages their lifecycle (okay, `os.fork()` and `os.waitpid()`)

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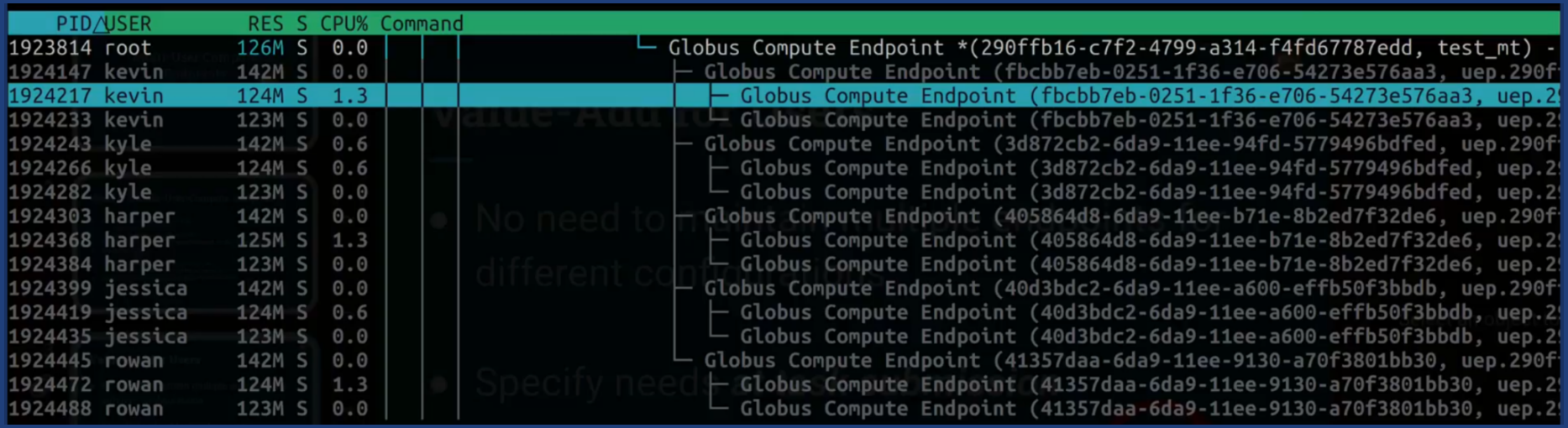
- In contrast to a “normal” compute endpoint, an MEP **does not run tasks**.
- Instead, an MEP
  - starts UEPs
  - (Slightly more precisely, fork, drop privileges, exec)
  - Manages their lifecycle (okay, `os.fork()` and `os.waitpid()`)
- Receives start UEP commands from the web-service

htop screen recording



PDF NOTE: Original presentation had a live screen recording, showing the values updating in real time as “presentation-proof” that the software exists (if not yet released). See speaker notes.

Video of original presentation linked via the ParslFest 2023 list of presentations.
(`https://parsl-project.org/parslfest/parslfest2023.html`)

How do we *do* it?

Admin Writes/Controls

```
engine:
 type: GlobusComputeEngine

 provider:
   type: SlurmProvider
   partition: cpu
   account: {{ ACCOUNT_ID }}

   launcher:
     type: SrunLauncher

   walltime: {{ walltime|default("00:30:00") }}
```

user_config_template.yaml

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User Script

```
import globus_compute_sdk as GC

uep_conf = {
   "ACCOUNT_ID": "314159265",
   "walltime": "00:02:00"
}

with GC.Executor(
  endpoint_id=mep_id,
  user_endpoint_config=uep_conf
) as gce:
    fut = gce.submit(some_func)
    res = fut.result()
```

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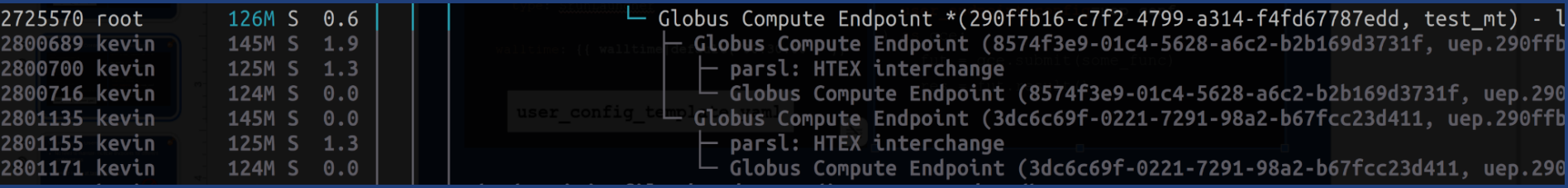
User Script

```
import globus_compute_sdk as GC

uep_conf = {
   "ACCOUNT_ID": "543126688"
}


with GC.Executor(
  endpoint_id=mep_id,
  user_endpoint_config=uep_conf
) as gce:
    fut = gce.submit(some_func)
    res = fut.result()
```

Two different configurations; same user!



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- Specify needs **at task submission**
- No need to log in to the terminal

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- Standard Globus Identity Mapping
- **Lower barrier for users**

Current status

- We’re buttoning up a few details
- Have not yet written any documentation
- Looking for brave volunteers to give it go

Thank You!

- **Questions?**
- **Comments?**
- **Synergistic thoughts?**