Slicing in 5G networks

Update 6/11/2020

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A slice simulator with MDP resolution

Last Call

- Refactoring in progress:
  - Better performances (WIP)
  - Better code maintainability & readability
  - Plot slices point of view (WIP)
  - Plot system point of view (WIP)
  - Support for different server capacity histogram for each slice (similar jobs in the same slice)

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What's new

- Refactoring in progress:
  - **Better performances** (WIP for trans/reward matrix & policy cache)
  - **Better code maintainability & readability**
  - **Plot slices point of view**
  - **Plot system point of view**
  - Support for different server capacity histogram for each slice (similar jobs in the same slice)

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Issues

- Difficulties with costs less than 1 in config (workable problem)
- Slurm: no python3.8 module (workable problem: lab-ia staff)
- State Explosion (???)

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State Explosion

ServerNum	Queue0	Queue1	Queue2	StateNum	TransNum	ActNum	RAM
1	1	1	1	32	1024	4	ok
5	5	5	5	12096	146M	56	68GB
10	10	10	10	380666	144B	286	302TB

- Switch to interval for states:
  S0={(0,0),(0,0),(0,0)}; S1={(0,Delta_server),(0,0),(0,0)}; S2={(Delta_queue0,0),(0,0),(0,0)}; ...