Ctrl-A Minute talks
Towards context-awareness for HPC resources management: models, software architectures, . . .

Raphaël Bleuse
raphael.bleuse@inria.fr
https://research.bleuse.net

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How to model parallel systems w.r.t. context?

- **Platform** (resources)
- **Tasks/Jobs**
- **Objective**

$$\Rightarrow \text{where? & when?}$$
Affinity \( \text{aff} : \text{node} \times \text{task} \mapsto \mathbb{R}^+ \)

Consider each resource: abstract score (e.g., data to transfer)

**Performance / GFlop/s**
- Higher is better

**Data Transfers / GB**
- Lower is better
Changing/Augmenting the Model? (again?)

**Geometric constraints**

- Bring context-awareness
- Keep model simple (i.e., tractable)

Diagram:

- **Contiguity**
- **Connectivity, convexity**
- **Locality**
Changing *how*!

Closing the loop.