



PROGRAMME
DE RECHERCHE
NUMÉRIQUE
POUR L'EXASCALE

PEPR NumPEX – Exa-DoST – WP2 with Coddex/Dyablo

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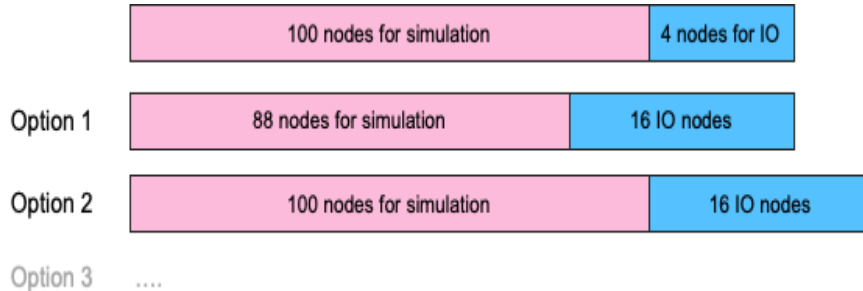
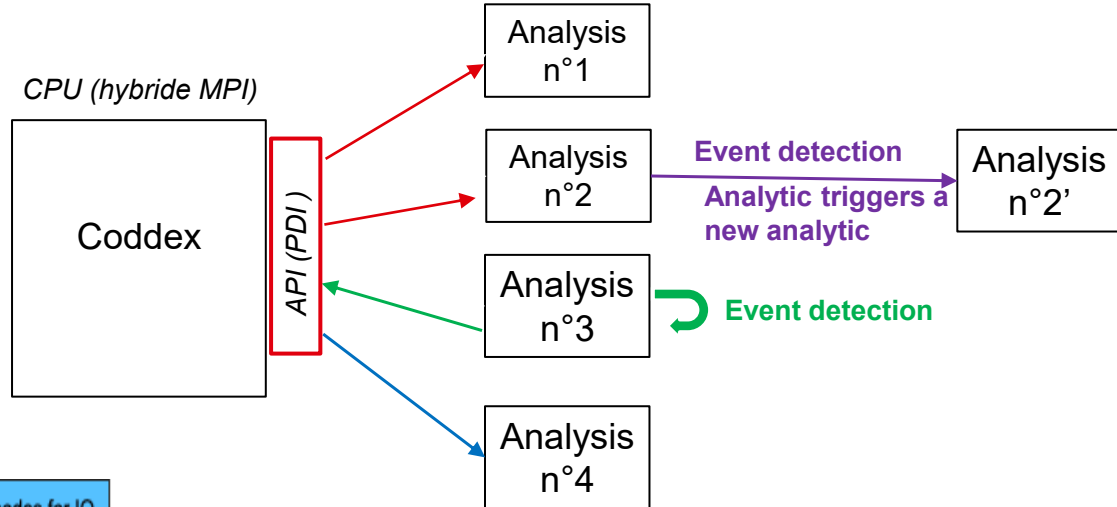
Gabriel

Silvina Caino-

WP2 for Coddex

Dynamic triggering of data analytics

- PhD of Arthur



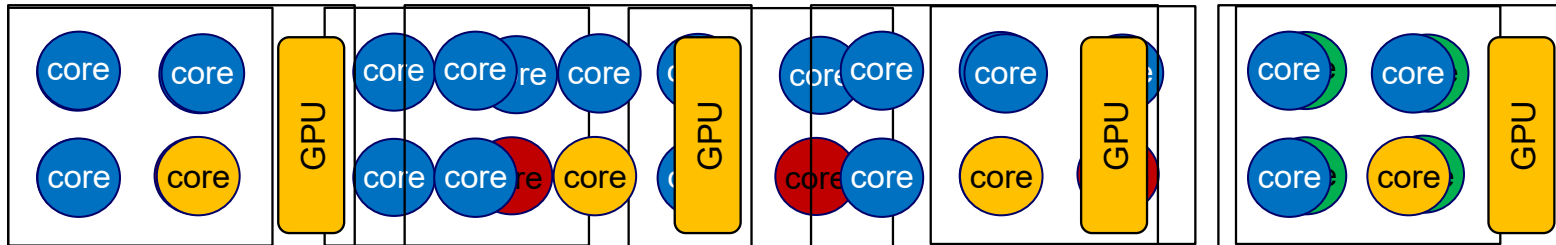
elastic load balancing => PhD of Ivan

- data analytics are not evenly distributed along the execution timeline
- Period with high demand on analytics, or none

WP2 for Coddex

Identified focus:

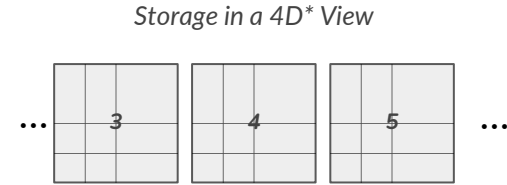
- **Feedback mechanism**, need to get information from analytics back to simulation for parameter adjustment
- Damaris : Using dedicated cores/nodes dynamically for analysis
 - Future: Coddex on CPU, use GPU for data analytics => better resource usage
 - **GPU data management**, common need for Damaris and PDI



WP2 for Dyablo

Identified focus:

- Dyablo does not have strong needs for in-situ yet, but is seeking feedback/pitfalls concerning in-situ
- Dyablo willing to adopt PDI as IO interface. IO module in Dyablo
 - Good test for PDI, to extent its functionality to AMR data
- Output AMR data
 - Not difficult for writing: PDI only ask for a raw pointer of buffer, the datatype, and the size
 - Real difficulty lies in the interpretation of data. Need to define specification for the data structure, file structure, etc.
 - contact with WP1 for the data structure => (Sylvain, describing the AMR needs)
 - **PDI plugin for metadata management**, can get inspiration from conduit
- In-situ
 - Once the data structure defined, it is straightforward for sending data to Deisa for in-situ analytics



WP2 for others

- Will there be one or more tools to help build launch scripts for different in situ scenarios PDI+DAMARIS+X... or PDI+DEISA+X...?
 - modularity / component building
 - multi environment : C/C++ + Python
 - packaging and deployment, PC5

