Parallel System Software for Multi-Core and Many-Core

Team Leader:

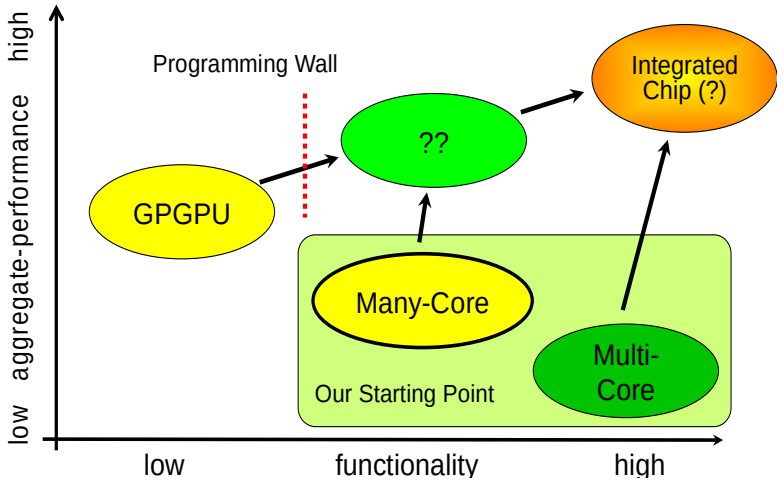
Atsushi HORI, RIKEN/AICS

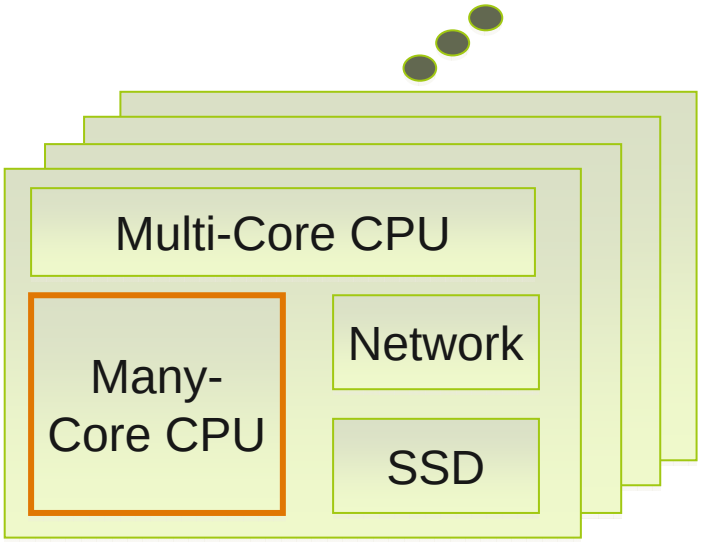
Background and Motivation

Assuming the H/W architecture combining multi-core and many-core CPUs will be the key technology for the exa-scale computing, the OS development for such architecture is important.

Although the architecture combining multi-core and many-core is an infant technology, we shall start R&D for such OS, since the software development often takes several years.

The OS R&D will be started with the cluster consisting of the compute nodes having many-core accelerator.





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- Research Topics
  - Many-Core OS Kernel
  - Communication and I/O
  - Light-Weight Thread Lib.
  - Fault Resilience Infrastructure
- Outcome
  - Integrated Software Package
    - Free and open source
- Research Groups
  - RIKEN/AICS
  - Tokyo Univ. of Agriculture and Technology
  - Kinki Univ.
  - ORNL