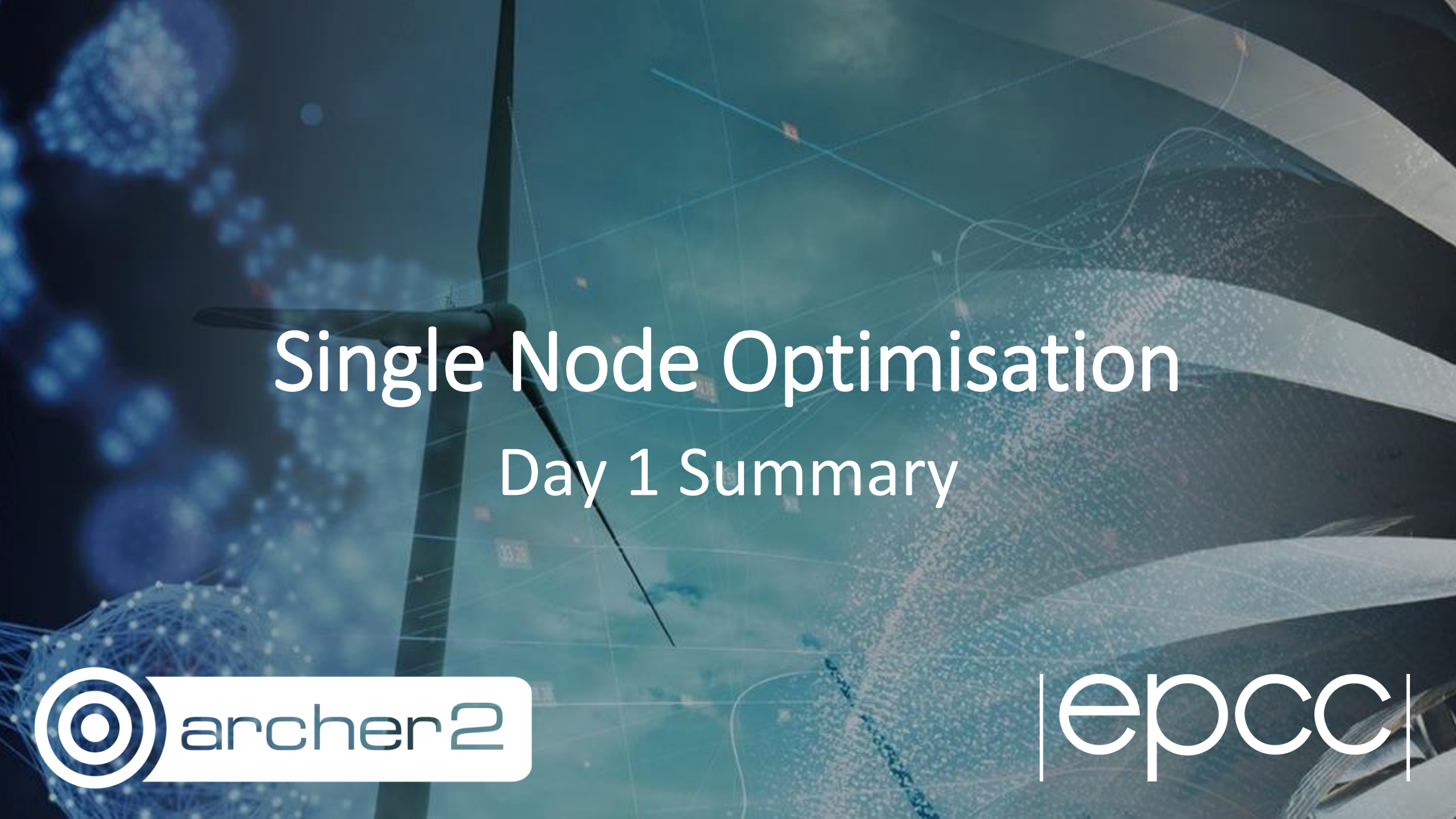

Single Node Optimisation

Day 1 Summary

archer2

epcc

Reusing this material

Summary

- Lots of complexity in computers
  - This is good, most of it works for you
- For single node performance some hardware is key
  - Processor
  - Caches
  - Memory
  - (Accelerators)
- Compiler are you friend
  - They can do lots of optimisations
  - But code structure helps/hinders the work
- Profiling and compiler reports
  - Key tools to understanding current performance and future performance potential
- More things to care about
  - Vectorisation
  - Memory optimisations
  - Shared memory parallelisation
- Feedback
  - https://www.archer2.ac.uk/training/feedback/?course=231123-performance-optimisation