NEW GENERATION OF COMPUTING HARDWARE FOR BIOINFORMATICS

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Today, innovative work in bioinformatics and computational biology is directly linked to high quality and best performance computing resources and, of course, their intelligent use.

In order to make the most efficient use of computing, it is necessary to have a reasonably broad understanding of the range of modern computing systems, their structure, and the optimal scenarios for their use as laid down by their creators.

The report attempts to present in simple words the latest advances in bioinformatics and computational biology, and beyond (applicable in general to science with a strong connection). We will discuss the latest processor and GPU accelerator types, storage elements and systems, server platforms, and computing networks from the perspective and intention of their developers. In addition, issues of constructing competent computing systems from these components and a user-friendly software stack will be highlighted.