

Compilation Tool Chains and Intermediate Representations - DTU Orbit (08/11/2017)

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In SMECY, we believe that an efficient tool chain could only be defined when the type of parallelism required by an application domain and the hardware architecture is fixed. Furthermore, we believe that once a set of tools is available, it is possible with reasonable effort to change hardware architectures or change the type of parallelism exploited.

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Whether as a smart network adapter (smartNIC) or as part of an embedded system, BlueField addresses diverse applications, including NVMe storage, security, networking, and machine learning. BlueField integrates the Mellanox ConnectX-5 network controller, 64-bit Arm cores, and PCIe switch into a single device, leveraging the broad Ethernet, InfiniBand and Arm ecosystems. The powerful Armv8 multicore processor array enables sophisticated applications and highly differentiated feature sets. By leveraging the vast ARM ecosystem, and software that is easily portable to and from x86, BlueField supports a wide range of markets, including Storage, Machine Learning, Networking and Security.