## DIFFERENT APPROACHES TO ADD RECONFIGURABILITY IN A SoC ARCHITECTURE

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Dynamically reprogrammable hardware has been advocated in the academic research community as the next hot area in system design for some time now. The lack of integrated systems in the marketplace that incorporate dynamic reprogramming stands at contrast to the enthusiasm of the research community for the topic. We would like to offer as a middle ground several examples of dynamic reprogramming in working silicon that might help to illuminate the path towards the future of SoCs. In our research at STMicroelectronics, we have built two independent SoCs that utilize embedded FPGAs to provide the dynamic reprogramming capability. The benefit of the embedded FPGA has been demonstrated to range from application acceleration to augmenting functionality and providing silicon area reuse. The first system to be described is intended for image processing and biometric recognition. The second system is aimed at wireless LAN baseband processing.