



OCP Adoption

Astron Netherlands Foundation for Research in Astronomy; Leiden Institute of Advanced Computer Science

Since 1949, Astron (Netherlands Foundation for Research in Astronomy, www.astron.nl) has provided front-line observation capabilities for Dutch and international astronomers across a broad range of frequencies and techniques to enable discovery in astronomy. LIACS (Leiden Institute of Advanced Computer Science) is one of the forty research institutes at the University of Leiden.

Astron enables astronomical discoveries by developing a new generation of radio telescopes, LOFAR (www.lofar.org) and SKA (www.ska.nl). These systems are large-scale, massively distributed, signal processing systems. The processing capability is provided by cluster computers and dedicated SoC hardware. Re-configurable platforms such as FPGAs prove to be cost-efficient and facilitate adaptation to technology improvements. In order to benefit from technological advances, the designs must be portable and the architecture should be scalable to optimally partition the signal processing. IP-based design is a partial solution. In addition, methods are employed to integrate IP into controlled streaming data-processing platforms while maintaining portability and scalability.

Astron and LIACS are evaluating if wrapping IP modules with the standard interface provided by OCP will help close the gap to integration. This protocol could then be encapsulated in a tool that is being developed at LIACS, COMPAANLAURA, to automate the mapping of applications in FPGAs from a high-level specification.

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