

## DESIGN OF LOW-LATENCY ASYNCHRONOUS WRAPPER FOR GALS SYSTEMS

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**Abstract:** An interesting style for SoC (Systems-on-Chip) circuit design is the GALS (Globally Asynchronous, Locally Synchronous) paradigm. The major drawback in the design of a GALS system shows to be the asynchronous interfaces. The interface increases the cost of communication and also increases the area. The asynchronous interfaces found in literature are based on controller ports, being known as asynchronous wrapper (AW). They are responsible for data communication between locally synchronous modules, where, for each point of data communication, there is an input or an output port. This paper proposes a new asynchronous wrapper focused on GALS, in order to reduce the latency time. When compared with five AWs found in literature, the proposed AW obtained an average reduction of 44% in the latency time.