IC Trojan horse is a serious technical problem faced by SOC developers. Most of the SOC developers use third party IP components for their design purpose. So comparing with a Trojan-less counterpart is impossible. Villasenor and Kim proposed bus architecture to detect Trojan activity where, when the circuit realizes the presence of a Trojan, it informs the CPU by an interrupt. In this paper, we are improving the bus architecture by proposing one more potential Trojan horse existence condition and also give a method to identify the exact cause that initiated the Trojan initiation. Then, we try to propose improvements to the bus architecture to make the thwarting and detection faster and efficient by using the obtained results of the above circuits.
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**Index Terms**

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**Keywords**

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