DEADLOCK DETECTION IN COMMUNICATING STREAM X-MACHINE SYSTEMS

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Abstract. In some previous papers, the author proposed an original way to integrate more stream X-machines with λ-transitions into a system. The communication between the components is assured by means of a communication matrix, used as a common memory. It was proved that by introducing an additional component, named *Server*, it is possible to achieve communication in a structured way, namely by channels, with select constructs appearing in each communicating state. In this paper the actions of the components and of *Server* are changed, in order to provide deadlock detection, without altering the message passing mechanism and without adding new components to the system.

Keywords: *Communicating X-machine systems, concurrent processes, communication using channels, mutual exclusion, deadlock*