

A Timed Petri Net Approach for Verification of Territorial Healthcare Information Systems

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This paper addresses the performance evaluation and verification of territorial healthcare information systems. For this purpose, we propose a new class of timed Petri nets, called THIS nets (Territorial Healthcare Information Systems), which formally describe patient care-pathways, relevant information flows and their interactions. THIS nets are then used for verification of the health information systems and evaluation of performances such as cycle time distribution and probability of information availability at some target time. A real example of cancer patient healthcare information system is used to illustrate the usefulness of the proposed approach.