

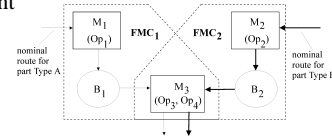
Supervisory Control of DEDS

Chairs: Beno Benhabib, Elsbiet Roszkowska

Supervisory Control of Multi-Workcell Manufacturing Systems with Shared Resources

A. Ramirez-Serrano and B. Benhabib
University of Toronto

- Purpose and Problem Statement
- Methodology
- New Aspects of Work
- Results and Conclusions



Some Improvements to the Banker's Algorithm Based on the Process Structure

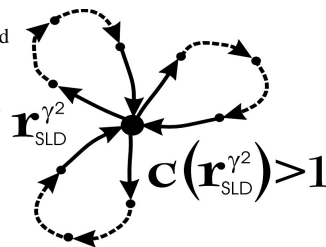
F. Tricas, J. M. Colom and J. Ezpeleta
Universidad de Zaragoza

- Deadlock problems in concurrent systems are difficult to manage
- Petri nets are used to model the system
- Based on the model, a deadlock avoidance approach is adopted
- The control is based on two improvements of the Banker's algorithm

Preventing Second Level and Avoiding First Level Deadlocks in FMS

E. Roszkowska
Wroclaw University of Technology

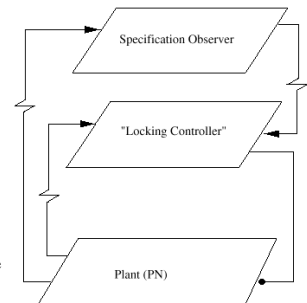
- Optimal DAP for a less constrained system
- Second-level-deadlock significant resources
- One-step-ahead safety test
- Application area



Modeling Admissible Behavior with Net Condition/Event Systems

L. E. Pinzon¹, M. A. Jafari¹ and H. Hanisch²
¹Rutgers University and ²Magdeburg University

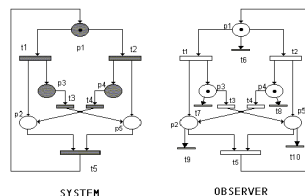
- Given a safe Petri Net model of a DES and a sequential specification, how to obtain a model for the admissible behavior of the system?
- Combine plant and specification models using the event signals of Net Condition/Event Systems (NCES). Use structure of combined model to determine all pre-bad states.
- Introduce a
- We present an efficient and minimally-restrictive procedure to obtain the admissible behavior of the system.



Observer Design for Discrete Event Systems modeled by Interpreted Petri Nets

A. Ramirez-Tevino, I. Rivera-Rangel and E. Lopez-Mellado
CINVESTAN-IPN Unidad Guadalajara

- Observability deals with determining the initial state of a system.
- Observability is useful to estimate states that cannot be measured.
- Interpreted Petri Net are used to model Discrete Events Systems.
- An observer for IPN models is defined in IPN terms.



A Petri Net Approach to Deadlock Analysis for Classes of Kanban Systems

P. Valigi and F. Magnino
Universit di Perugia

- Petri net models of Kanban Flow Lines and Reentrant Kanban Flow Lines
- Deadlock analysis and siphons
- Deadlock free property of KFL
- Some results about

