

Production Control

Chairs: Fabio Balduzzi, T. Kesavadas

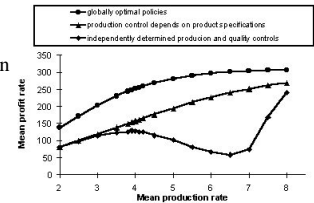
Optimal control law for lot-sizing in a single production facility

A. Di Febraro², R. Minciardi¹ and S. Sacone¹
¹University of Genova and ²Politecnico de Torino

Design of Product Specifications and Control Policies in a Single-Stage Production System

Vassilis Kouikoglou and Yannis Phillis
 Technical University of Crete

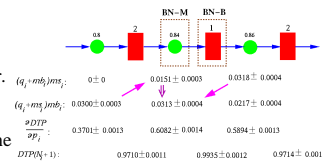
- Coordinated production/quality control for profit maximization
- Use of queueing and Taguchi methods for cost/revenue estimation
- Coordinated policies yield higher profits than independent ones
- Future work: application to more complex systems



Bottlenecks with respect to Due-Time Performance in Pull Serial Production Lines

J. Li and S. M. Meerkov
 The University of Michigan

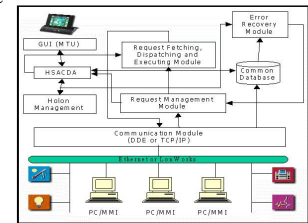
- Due-Time Performance (DTP) is the probability to ship to the customer a desired number of parts during a fixed time interval.
- Bottleneck (BN) is the machine that impedes DTP in the strongest manner.
- A method for DTP-BN identification is developed using the data on machine blockages and starvations.
- The results can be used for supply chain management.



Holonic Supervisory Control and Data Acquisition Kernel for 21st Century Intelligent Building System

T. J. Shih and L. C. Fu
 National Taiwan University

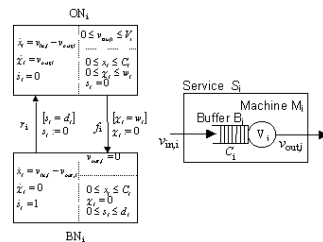
- Develop a control kernel for rapidly constructing message exchange architecture for modern building
- Provide an agile SCADA mechanism (Holonic SCADA)
- System commands and messages exchange under DDE and Ethernet channels
- A prototype of HSCADA mechanism has the features: Flexible, scalable, re-configurable, and easy integration by SROCK



Fluid Models and Hybrid Automata in Manufacturing

F. Balduzzi
 Politecnico di Torino

- Modeling and control of automated manufacturing systems with hybrid automata
- Modular composition of elementary services
- Verification of the system requirements via reachability analysis
- Solutions obtained in terms of the timing information associated with the verification problem



Interactive Simulation of Manufacturing Systems using Computational Steering

T. Kesavadas and A. Sudhir
 State University of New York, Buffalo

- To develop a more efficient methodology for carrying out manufacturing simulation
- An interactive approach to simulation using computational steering and visualization
- Results show that using this technique, we can reduce queue overflow and identify possible bottleneck machines
- This approach is useful in running large simulations and lends itself to parallel processing

