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BOOK REVIEWS

NEUMANN, DIRK; BAKER, MARK; ALTMANN, JÖRN; RANA, F. OMER (Eds.) – *Economic Models and Algorithms for Distributed Systems*, Autonomic Systems, Birkhäuser, Basel-Boston-Berlin, 2010, ISBN 978-3-7643-8896-6.

This book contains a selection of papers from two different workshops, namely the IEEE Grid 2007 conference in Austin and the ACM MardigGras 2008 conference in Baton Rouge. There are presented here a collection of the most recent developments of economic models and algorithms in distributed systems research. The emphasis is on computing services which deal with economic issues associated with contracting out and the delivery of computing services.

The book is structured on three main parts: Reputation mechanisms and trust, Service level agreements and Business models and market mechanisms.

The first chapter, entitled "Reputation mechanisms and trust", is devoted to the issues of reputation, trust, service deliveries and their prices. This section contains five articles. In the one, the authors combine various views on reputation and trust, depending on the context of usage and the perception of the user. They have demonstrated that trust may be used as a selection criterion between multiple service providers. In the second paper from this section, job submission is compared with sites that do use or not reputation mechanisms and discuss how price determination can be associated with reputation. It is shown that correct use of price setting enables better collaborative interactions between participants. The next two articles of this part focus on the formation of communities and virtual organizations in order to allow participants to maximize their utility. The last article here deals with payment issues emphasizing the business perspective of cooperative computing infrastructures.

The second section of the book is entitled "Service level agreements". An important aspect discussed here is how infrastructure providers maximize their profit such that the quality of service assertions specified in the service-level agreements are always maintained. This part contains four ar-

ticles. In the first one, it is shown how a resource management system can be extended with economic properties. The second paper of this part demonstrates how economic considerations could be integrated with resource management using Economically Enhanced Resource Manager. In another article, the authors discuss the use of a statistical estimators by the service providers in the engagement in the development of contracts. The last article in this part is concerned with term languages and their mapping between different application domains using an "ontology" mapping process.

The last part is entitled "Business models and market mechanisms", comprising five papers. The main issue here is how market mechanisms can be designed to support cooperative computing environments. In the first article, potential business models for cooperative computing environments in a broad perspective is explored. The authors of this paper bring into discussion problems associated with creating Cloud value chains similar to standard business supply chains. The also give an insight into the flow of information and payments within the value chain structure. The second article focuses on the specific question of optimal capacity investment in utility computing as a fundamental part of business models for cooperative computing. Another paper in this section focuses on a market-based approach for trading Grid services. This approach is designed to maximize the social welfare of all parties involved in trading on the Grid market. The forth paper of this section deals with green issues by incorporating energy efficiency, without losing too many economic incentives in the optimization of scheduling plans in an off-line environment. In the last paper of the book, uncertainty is modeled as a price risk, by applying methods from financial markets.

I. Stoleriu

ANDO, TSUYOSHI; CURTO, E. RAÚL; JUNG, IL BONG; LEE, WOO YOUNG (Eds.) – *Recent Advances in Operator Theory and Applications*, Operator Theory Advances and Applications, vol. 187, Birkhäuser, Basel-Boston-Berlin, 2009, ISBN 978-3-7643-8892-8.

This volume contains the Proceedings of the International Workshop on Operator Theory and Applications (IWOTA) which was held at the Seoul National University, Seoul, Korea, July 31-August 3, 2006.

This volume contain 16 contributions, which reflect the recent development in operator theory and applications.

D. Alpay and I. Gohberg, A Connection between Szegö and Nehari Sequences in the Matrix-valued Case;

J.A. Ball, A. Biswas, Q. Fang and S. ter Horst, Multivariable Generalizations of the Schur Class: Positive Kernel Characterization and Transfer Function Realization;
A. Böttcher, S. Grudsky and M. Schwartz, Some Problems Concerning the Test Functions in the Szegö and Avram-Parter Theorems;
M.R. Capobianco, G. Criscuolo and P. Junghanns, On the Numerical Solution of a Hypersingular Integral Equation with Fixed Singularities;
M. Chō, M. Giga and A.H. Kim, Spectrum and Principal Function of Operator;
M. Demuth, Spectral Consequences due to General Hölder's Inequalities and Domination of Semigroups;
Y. Dong, G. Exner, I.B. Jung and C. Li, Quadratically Hyponormal Recursively Generated Weighted Shifts;
A.E. Frazho, S. ter Horst and M.A. Kaashoek, Relaxed Commutant Lifting: An Equivalent Version and a New Application;
M. Fujii and E. Kamei, Variants of Ando-Hiai Inequality;
R. Harte, On Local Spectral Theory;
V.S. Rabinovich, S. Roch and B. Silbermann, The Finite Sections Approach to the Index Formula for Band-dominated Operators;
M. Seto, A New Proof that Rudin's Module is not Finitely Generated;
K. Tanahashi, I.H. Jeon, I.H. Kim and A. Uchiyama, Quasinilpotent Part of class A or (p,k)-quasihyponormal Operators;
M. Uchiyama, A New Majorization Induced by Matrix Order;
A. Yagi, H_∞ Functional Calculus and Characterization of Domains of Fractional Powers;
W. Żelazko, Operators on Locally Convex Spaces;

This book marks the main advances in operator theory being an important instrument for researchers interested in consistent applications.

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