

The New Books and Multimedia column contains brief reviews of new books in the computer communications field. Each review includes a highly abstracted description of the contents, relying on the publisher's descriptive materials, minus advertising superlatives, and checked for accuracy against a copy of the book. The reviews also comment on the structure and the target audience of each book. Publishers wishing to have their books listed in this manner should send copies and appropriate advertising materials to Ioanis Nikolaidis at the address below, with an indication that books are intended for the *IEEE Network* New Books and Multimedia column. Appropriate books will be reviewed in the column.

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### *A Practical Approach to WBEM/CIM Management*

C. Hobbs, 2004, Auerbach Publications, ISBN 0-8493-2306-1, 325 pages, hardcover.

The Web-Based Enterprise Management (WBEM) and its Component Information Model (CIM) are a means to develop telecommunication applications management. Reading about network management in abstract terms is a problem avoided in Chris Hobbs' book by introducing examples of how WBEM/CIM can be used by a developer. Early on, the distinction between WBEM's and SNMP's models of operation is made (SNMP being data-centric,

i.e., based on a structural model, and WBEM being task-centric, i.e., based on a behavioral model). However, WBEM's power comes at the expense of having to master a fairly wide set of standardized technologies. WBEM is described as a combination of four technologies: CIM (a modeling process and language, the latter going by the name of Managed Object Format, mof), a standardized architecture for hierarchical management systems (inclusive of a WBEM server), an encoding specification (xmlCIM) for commands and responses (includes the representation of CIM in XML), and, most familiar to all, a protocol, HTTP, for encapsulation and transport across

a network. Part of the book deals with what amounts to object-oriented modeling, which is fundamental to CIM. Thus, the target audience is implementers of network management systems, mildly familiar with object-oriented languages but not necessarily seasoned in modeling using object-oriented approaches. Understandably, apart from three introductory chapters, the modeling part (models in CIM, standard models, and building models for devices and services) along with the implementation part (experiences of the book's author, transition from SNMP, helpful tools and available software implementations) form a major part of the book. Added background is provided in three chapters regarding the high-level architecture as well as the interaction of WBEM server and client entities.

### *Mobile Applications; Architecture, Design, and Development*

V. Lee, H. Schneider, and R. Schell, 2004, HP Professional Books / Prentice Hall PTR, ISBN 0-13-117263-8, 340 pages, softcover.

The development of mobile applications, in order to be successful, has to address the nuances due to the heterogeneous multiplatform environments, often with limited resources, that are characteristically what mobile applications are built to run on. The intention of this book is more to provide a quick survey of alternative technologies that may interest developers already familiar with application development using such environments as Microsoft Visual Basic .NET and C#. There are different architectural decisions to be made, in order to (as the book puts it) "mobilize" applications. Justifiably, since the reader is assumed to be completely unaware of mobile application development, we find an extensive review of what characterizes a mobile environment in three chapters: what constitutes the mobile infrastructure and its devices, the characteristics of mobile client user interfaces, typical client-server transfer protocols, and the available mechanisms and protocols for security. Expanding on each review topic would probably have been too much to ask of a book a little over 300 pages, so the background topics are treated at a fairly high level. Where the content is more specific and of immediate help to application development is in the review of the basic architecture options for mobile applications,

### *Modeling and Analysis of Telecommunications Networks*

J. F. Hayes & T. V.J. Ganesh Babu, 2004, Wiley-Interscience, ISBN 0-471-34845-7, 393 pages, hardcover.

The new book by Hayes and Ganesh Babu brings new life to an old "academic" topic, that of analytical, and predominantly queuing, techniques as applied to telecommunications networks. The book satisfies all requirements to become a landmark of sorts in the near future. It is a review of both long known results in "classical" queuing and applying analytical techniques to recent problems, like QoS scheduling and self-similar traffic. Added is a feature of considerable online supporting material, based on Excel, Matlab, and Maple, representing the desire to recruit the right tool for the right topic. At a time when multitudes of tools exist, not having to stick with a single tool throughout the book may in fact be a choice that makes sense, especially in academic environments where all of these tools are usually available. The book's audience is researchers and students alike. With some consideration for the particular sequence and detail of presentation, the book can easily serve as a primary textbook for an advanced undergraduate or graduate course. Indeed, given an abundance of examples and exercises, many of them inspired by and modeling telecommunications networks, the book can easily form the backbone of a course's syllabus. The first approximately 60 pages are a refresher on some concepts in telecommunications, and mostly a review of probability and random processes, ending with the introduction of Markov processes. The main analytical modeling avenues detailed are birth-death processes leading to the analysis of the corresponding single-queue systems, followed by an extensive chapter on networks of queues with product form solutions (from Burke's theorem to Jackson and BCMP networks). Subsequent chapters delve into the application of imbedded Markov chains in the analysis of the M/G/1 and G/M/1 queue. The repertoire of analytical modeling techniques is broadened by an introduction to fluid flow analysis and matrix geometric techniques. A final chapter covers elements of Monte Carlo simulation, incorporating elements of discrete event simulation.