vertical integration remains partly delivered, thus showing, that integration of the fragmented identity silos through harmonization still has to be worked out - both in deployments and in standardization organizations (SDOs). It is, however, beyond the scope of any single work. The systems-, networks- and software architects, content providers, chief technical- and chief security officers need to team up to instantiate such systems. Many will find the book valuable, and in fact a quick way to understand the identity management in its entirety. In spite of a few repetitions, clarity is maintained throughout the book, which is, indeed, a well balanced, multi-threaded synthesis by an experienced practitioner. It is a guide through the identity landscape including recent developments and outlook with possible application areas. It is one of the few publications on the topic and certainly a very comprehensive one.

NETWORK ROUTING: ALGORITHMS, PROTOCOLS, AND ARCHITECTURES

DEEPANKAR MEDHI AND KARTHIKEYAN RAMASAMY, MORGAN KAUFMANN (AN IMPRINT OF ELSEVIER), 2007, ISBN 10: 0-12-088588-3, ISBN 13: 978-0-12-088588-6 HARDCOVER, 788 PAGES + 135 PAGES ON CD-ROM

REVIEWER: IBRAHIM MATTA

The book has six parts. The first part starts with the basics of routing, from algorithmic concepts of shortest paths to protocols for distributed implementations and ending with network flow models. The second part delves into IP routing protocols, including detailed coverage of traffic engineering through link weights and the policy-based architecture of BGP. The third part covers routing, traffic engineering and signaling in telephone networks, as well as architectural issues for mobility and number portability. The fourth part of the book covers the architectures of routers, and the data structures needed for efficient packet filtering and routing table lookup. The fifth part adds the dimension of quality-of-service, and extends algorithmic concepts and practical protocol implementations for traffic engineering, virtual path networks, and the support of voice-over-IP services. There is background material on packet formats, analytical and optimization tools over two appendices. The last (sixth) part comes on CD and covers advanced topics of switching architectures, packet scheduling, traffic shaping, transport, optical and multi-layer routing. The book has a web site, http://www.networkrouting.net, which contains useful information such as a detailed table of contents, and even chapter 1 online.

Overall, the book is an enjoyable read-it covers important concepts that everyone needs to know about routing, both intuitively and in depth. The authors make very good use of examples and illustrative figures and tables. And they struck a good balance between theory/concepts and practical implementation issues. So the book appears to be for its intended audience that ranges from students interested in learning the basics and advanced routing concepts and techniques, to researchers interested in the intricate issues of routing for next-generation networks, to operators interested in the data structures and implementations and their various tradeoffs.

The book, however, does not discuss the application of the routing concepts and techniques it covers, to other contexts such as multihop wireless networks and sensor networks. And it discusses routing in application-level overlay networks only briefly. The book also does not cover in great depth, the security vulnerabilities of routing protocols like BGP prefix hijacks or policy-induced oscillations. Despite these missing topics, the book provides essential routing concepts that transcend the specific scope and environment, together with "further lookup" sections at the end of chapters for further readings. I recommend this book if you are interested in knowing the theory and practice of routing-one of the most important and challenging aspects of networking. The book makes a great self-study, or a nice textbook for a serious course on routing.

The networking community is embarking on building the next-generation Internet, and we have to do routing right! And we can't do it right without learning what has worked and what hasn't, and why, not only in the current Internet but also in another arguably, very successful counterpart-the telephone network. And that's the first book that covers routing in both, the Internet and telephone worlds, at the analytical and implementation depth that the topic deserves.