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Autore	Varghese, George, 1960-
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Nota di contenuto	1 Introducing Network Algorithmics -- 2 Network Implementation Models -- 3 Fifteen Implementation Principles -- 4 Principles in Action -- 5 Copying Data -- 6 Transfering Control -- 7 Maintaining Timers -- 8 Demultiplexing -- 9 Protocol Processing -- 10 Exact Match Lookups -- 11 Prefix Match Lookups -- 12 Packet Classification -- 13 Switching -- 14 Scheduling Packets -- 15 Routers as Distributed Systems -- 16 Measuring Network Traffic -- 17 Network Security -- 18 Conclusions -- Appendix A Detailed Models.
Sommario/riassunto	In designing a network device, you make dozens of decisions that affect the speed with which it will performsometimes for better, but sometimes for worse. Network Algorithmics provides a complete, coherent methodology for maximizing speed while meeting your other design goals. Author George Varghese begins by laying out the implementation bottlenecks that are most often encountered at four disparate levels of implementation: protocol, OS, hardware, and architecture. He then derives 15 solid principlesranging from the commonly recognized to the groundbreakingthat are key to breaking

these bottlenecks. The rest of the book is devoted to a systematic application of these principles to bottlenecks found specifically in endnodes, interconnect devices, and specialty functions such as security and measurement that can be located anywhere along the network. This immensely practical, clearly presented information will benefit anyone involved with network implementation, as well as students who have made this work their goal. FOR INSTRUCTORS: To obtain access to the solutions manual for this title simply register on our textbook website (textbooks.elsevier.com)and request access to the Computer Science subject area. Once approved (usually within one business day) you will be able to access all of the instructor-only materials through the "Instructor Manual" link on this book's academic web page at textbooks.elsevier.com. Addresses the bottlenecks found in all kinds of network devices, (data copying, control transfer, demultiplexing, timers, and more) and offers ways to break them. Presents techniques suitable specifically for endnodes, including Web servers. Presents techniques suitable specifically for interconnect devices, including routers, bridges, and gateways. Written as a practical guide for implementers but full of valuable insights for students, teachers, and researchers. Includes end-of-chapter summaries and exercises.