

All citation counts are from Google Scholar and all web accesses were done on April 15th, 2010.

1 20 Most Influential Papers and Book References

These are not necessarily the papers with the most citations but papers that are explained/referenced in textbooks or Wikipedia. Books are mostly restricted to well known textbooks. When a whole section or chapter is devoted to the paper, the section number is given. Book references were found using Google and Amazon Book Search.

1. *Deficit Round Robin, SIGCOMM 95*: 1462 citations. Described in Wikipedia Page (http://en.wikipedia.org/wiki/Deficit_round_robin). Referenced in several networking texts including Comer, Keshav, and Tannenbaum. Detailed description on Pages 191-196 of “Inside Cisco IOS” (Bollapragada et al).
2. *New Directions in traffic measurement and accounting, ACM TOCS 2003*: 702 citations (≈ 100 per year). One of five references on Wikipedia page on Elephant flows: (http://en.wikipedia.org/wiki/Elephant_flows). The text “Data Streams” (S. Muthukrishnan) says “a more detailed and pivotal case was made for this application by Estant-Varghese”.
3. *Scalable High Speed Routing Lookups, ACM TOCS 2003*: 696 citations (conference plus journal). Described in detail in “Interconnections, 2nd Ed.” (Perlman, 2nd ed.): Sec 13.3.3, pp. 355-356; also in “High Performance Switches and Routers” (Chao, Liu): pp. 46-47. Referenced in Kurose-Ross and Peterson-Davie.
4. *Faster IP Lookups using controlled prefix expansion, ACM TOCS 1999*: 593 citations (conference plus journal). Described in detail in “Interconnections, 2nd Ed.” (Perlman): Sec. 13.4, P 361-364; also in “High Performance Switches and Routers” (Chao, Liu): pp. 48-50. Referenced in Comer and Kurose-Ross.
5. *IP Lookups using Multiway and Multicolumn Search, ACM TON 1999*: 409 citations. Described in detail in “Interconnections” (Perlman): Sec. 13.3.2, pp. 351-352; also in “High Performance Switches and Routers” (Chao, Liu): pp. 33-36.
6. *Automated Worm Fingerprinting, OSDI 2004*: 431 citations. Listed in Citeseer’s highest cited papers in Computer Science for 2004. Cited in 5 separate chapters in book “Malware Detection” (C. Wang) including a reference to the “line speed scalability of EarlyBird” in an article by B. Witten and C. Nachenberg from Symantec.
7. *Packet Classification using Tuple Space Search, SIGCOMM 1999*: 376 citations. Described in detail in “High Performance Switches and Routers” (Chao, Liu): Sec 3.4.2, pp. 107-108.
8. *Fast scalable Level 4 switching, SIGCOMM 1998*: 381 citations, Described in detail in “High Performance Switches and Routers” (Chao, Liu): Sec 3.2.3 (pp. 83-84). Referenced in Peterson-Davie.
9. *An error control scheme for large-scale multicast applications, Infocom 98*: 277 citations. Cited along with Cisco’s PGM as one of the two canonical router-assisted methods to suppress duplicates in “RFC 2887: The Reliable Multicast Design Space for Bulk Data Transfer” (Handley et al).

10. *Route flap damping exacerbates internet routing convergence*, *SIGCOMM 2002*: 198 citations. One of 13 references cited in Wikipedia's BGP page (http://en.wikipedia.org/wiki/Border_Gateway_Protocol). Cited in RIPE Working Group Document: ripe-378 (May 2006) as "perhaps the best known work highlighting major problems with Route Flap Damping".
11. *Packet Classification using Multidimensional Cutting (Hypercuts)*, *SIGCOMM 2003* 193 citations. Described in detail in "High Performance Switches and Routers" (Chao, Liu): Sec 3.3.7 pp. 98-100. Also in "Network Routing: algorithms, protocols, and Architectures" (Medhi, Ramaswamy): pp. 575-576.
12. *Self-stabilization by Local Checking and Correction*, *FOCS 1991*. 198 citations to article and 76 citations to Varghese's MIT Ph.D. Thesis. One of 10 references in Wikipedia article on Self-Stabilization (<http://en.wikipedia.org/wiki/Self-stabilization>). Credited by Wikipedia and only text in field: "Self-stabilization" (Dolev) for introducing technique.
13. *Time optimal self-stabilizing synchronization*, *STOC 2003*: 197 citations to conference and journal versions. One of 10 references in Wikipedia article on Self-Stabilization (<http://en.wikipedia.org/wiki/Self-stabilization>). Referenced by only text in field "Self-stabilization" (Dolev).
14. *Distributed Program Checking*, *FOCS 1991*: 127 citations. Called "recomputation of floating output" in only text in field "Self-stabilization" (Dolev) and described in detail (pp. 27-31).
15. *Timing Wheels*, *SOSP 1983*: 113 citations to conference plus journal version. Idea described in "Real Time Concepts for Embedded Systems" (Li, Yao): pp. 177-185; also in "Computer Networks, 4th Ed." (Tannenbaum), Page 569; also in "UNIX Internals: the new frontier" (Vahalia), Page 115. Referenced in Peterson-Davie, Kurose-Ross, and BSD Unix Textbook by Lefler.
16. *Trading Packet Headers for Packet Processing*, *SIGCOMM 93*: 113 citations. A major networking text (Peterson-Davie) says on Page 340: "Among the first to propose attaching labels to IP packets was a paper by Chandranmenon and Varghese. A very similar idea is used in MPLS-enabled routers." Also referenced in "An Engineering Approach to Computer Networking" (Keshav).
17. *Tree BitMap IP Lookup*, *ACM CCR 2003*: 98 citations, Described in "High Performance Switches and Routers" (Chao, Liu): pp. 33-36. Also in "Network Routing: algorithms, protocols, and architectures" (Medhi, Ramaswamy): pp. 515-519.
18. *An Improved Construction for Counting Bloom Filters*, *SIGCOMM 2006*, 86 citations to SIGCOMM and ESA papers. ESA paper referenced in Wikipedia page on Bloom Filters: http://en.wikipedia.org/wiki/Bloom_filter.
19. *Crash Failures can drive protocols to arbitrary states*, *JACM 2000*: 53 citations in conference plus journal. Described in detail under the title "a pumping technique" in the text "Self-stabilization" (Dolev), Section 3.2, pp. 61-66. Dolev also uses this result to motivate the need for self-stabilizing algorithms.
20. *Randomized Coordinated Attack*, *Information and Computation 1996*: 22 citations, Result and proof described in detail by major text in field: "Distributed Algorithms" (Lynch), Sec 5.2, pp. 85-95, bulk of Chapter 5.