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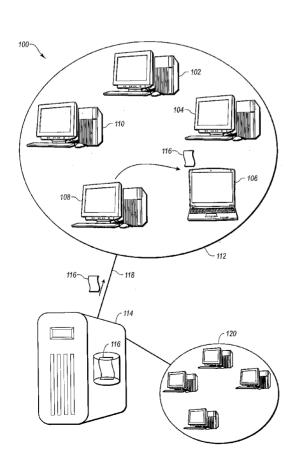
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[Continued on next page]

(54) Title: DISTRIBUTED CACHING OF FILES IN A NETWORK



(57) Abstract: Distributed caching and download of file. A method is described that includes building a peer list comprising a listing of potential peer servers from among one or more networked computers. The peer list includes no more than a predetermined number of potential peer servers. Potential peer servers in the peer list are queried for a file or portion of a file. A message from a peer server in the peer list is received indicating that the peer server has the file or portion of a file available for download. The computer system downloads the file or portion of a file from the peer server.



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RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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USPC: According	709/203,229;717/178 to International Patent Classification (IPC) or to both na	ational class	ification and IPC		
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) East, Google Scholar search terms: peer-to-peer, p2p, fixed (peer or neighbor), load balancing					
C. DO	CUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where a	ppropriate,	of the relevant passages	Relevant to claim No.	
Х Y	US 6,374,289 B2 (Delaney et al.) 16 April 2002 (16 28, col 6, ln 13-26, col 7, ln 26-37, 62-66, col 8, ln 6 4, col 12, ln 5-11, col 13, ln 13-20, figures 1B,2B	, ,	The state of the s	16-19 	
Y	US 2003/0131129 A1 (Becker et al), 10 July 2003 ([0011], [0047], [0042], [0049]-[0051], [0054], [006	1]-[0063], [0069], [0096], figures 1, 4, 5.	15, 20 1-15, 20	
Y	Brosch et al. "Approximation and Heuristic Algorith Layer Multicast Trees", INFOCOM 2004, Twenty-tl IEEE Computer and Communications Societies, Ma pages 475-476, secion IV-A	hird Annual	Joint Conference of the	4	
Y	US 2002/0147771 A1 (Traversat et al.) 10 October 2 [0292]-[0294], [0410], [0437], [0438],	2002 (10.10	.2002), parøgraphs [0288],	6, 9, 10	
Y'	US 2003/0233455 A1 (Leber et al.) 18 December 20 [0102]-[0105], Fig 6	003 (18.12.2	2003), [0092], [0093],	11, 12	
Furth	er documents are listed in the continuation of Box C.		See patent family annex.		
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ategory *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
Y	US 2005/0076092 A1 (Chang et al.) 7 April 2005 (07.04.2005), abstract, paragraph [0026]	
Α	Jelasity et al., "A modular Paradigm for Building Self-Organizing Peer-to-Peer Applications", Proc. of the 1st International Workshop on Engineering Self-Organizing Applications (ESOA'03), pages 1-17.	1-20
A	Wang et al. "Peer-to-Peer Overlay Networks: A Survey", Department of Compouter Science, The Hong Kong University of Science and Technology, April 2003, pages 1-11.	1-20
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