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Two dimensional array based overlay network for reducing delay of peer-to-peer live video streaming (Conference Paper)

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Abstract

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Live video streaming is very helpful for many incidents. For example, it can be very helpful to make an announcement in an area, which is effected by natural disaster. So it is also very essential to deliver the live video stream without any time delay if achievable. The live video data is streaming commonly in a tree-based overlay network or in a mesh-based overlay network. In case of departure of a peer with additional upload bandwidth, the overlay network becomes very vulnerable to churn. In this paper, a two dimensional array-based overlay network is proposed for streaming the live video stream data. As there is always a peer or a live video streaming server to upload the live video stream data, so the overlay network is very stable and very robust to churn. Peers are placed according to their upload and download bandwidth, which improves the balance of load and performance. The overlay network uses the additional upload bandwidth of peers to minimize chunk delivery delay and to maximize balance of load. The procedure, which is used for distributing the additional upload bandwidth of the peers, distributes the additional upload bandwidth to the heterogeneous strength peers in a fair treat distribution approach and to the homogeneous strength peers in a uniform distribution approach. The proposed overlay network has been simulated by Qual Net from Scalable Network Technologies and results are presented in this paper. Both maximum delay and average delay has decreased compared to Fast-Mesh overlay network. The percentage change in both of maximum and average delay time are below 30%, even though the number of nodes increases 10 times. © 2014 IEEE.

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References (9)

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- 1 Cui, Y., Li, B., Nahrstedt, K.
 oStream: Asynchronous streaming multicast in application-layer overlay networks

(2004) *IEEE Journal on Selected Areas in Communications*, 22 (1), pp. 91-106. Cited 192 times.
 doi: 10.1109/JNSAC.2003.818799

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- 2 Purandare, D., Guha, R.
 BEAM: An efficient peer to peer media streaming framework

(2006) *Proceedings - Conference on Local Computer Networks, LCN*, art. no. 4116596, pp. 513-514. Cited 3 times.
 ISBN: 1424404185; 978-142440418-6
 doi: 10.1109/LCN.2006.322149

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- 3 Ren, D., Li, Y.-T.H., Chan, S.-H.G.
 Fast-mesh: A low-delay high-bandwidth mesh for peer-to-peer live streaming

(2009) *IEEE Transactions on Multimedia*, 11 (8), art. no. 5256284, pp. 1446-1456. Cited 28 times.
 doi: 10.1109/TMM.2009.2032677

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- 4 Guo, H., Lo, K., Qian, Y., Li, J.
 Peer-to-peer live video distribution under heterogeneous bandwidth constraints
 (2009) *IEEE Transactions on Parallel and Distributed Systems*, 20 (2), pp. 233-245. Cited 13 times.
 February

- 5 Guo, Y., Liang, C., Liu, Y.
Hierarchically clustered P2P video streaming: Design, implementation, and evaluation

(2012) *Computer Networks*, 56 (15), pp. 3432-3445. Cited 3 times.
doi: 10.1016/j.comnet.2012.06.020

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- 6 Lu, Z.H., Li, Y., Wu, J., Zhang, S., Zhong, Y.
MultiPeerCast: A tree-mesh-hybrid P2P live streaming scheme design and implementation based on PeerCast

(2008) *Proceedings - 10th IEEE International Conference on High Performance Computing and Communications, HPCC 2008*, art. no. 4637770, pp. 714-719. Cited 13 times.
ISBN: 978-076953352-0
doi: 10.1109/HPCC.2008.146

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- 7 Payberah, A.H., Dowling, J., Rahimian, F., Haridi, S.
GradienTv: Market-based P2P live media streaming on the gradient overlay

(2010) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 6115 LNCS, pp. 212-225. Cited 16 times.
ISBN: 3642136443; 978-364213644-3
doi: 10.1007/978-3-642-13645-0_16

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- 8 Magharei, N., Rejaie, R.
PRIME: Peer-to-peer receiver-driven MESH-based streaming

(2007) *Proceedings - IEEE INFOCOM*, art. no. 4215749, pp. 1415-1423. Cited 252 times.
ISBN: 1424410479; 978-142441047-7
doi: 10.1109/INFOCOM.2007.167

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- 9 Ibrahimy, A.F.I., Md Rafiqul, I., Anwar, F., Ibrahimy, M.I.
Two dimensional array based overlay network for balancing load of peer-to-peer live video streaming

(2013) *IOP Conference Series: Materials Science and Engineering*, 53 (1), art. no. 012065.
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