

Scopus

Document details

[< Back to results](#) | 1 of 1
[Export](#)
[Download](#)
[Print](#)
[E-mail](#)
[Save to PDF](#)
[Add to List](#)
[More... >](#)
[Full Text](#)[View at Publisher](#)

Proceedings - 5th International Conference on Computer and Communication Engineering: Emerging Technologies via Comp-Unication Convergence, ICCCE 2014

4 February 2015, Article number 7031632, Pages 185-188

5th International Conference on Computer and Communication Engineering, ICCCE 2014; Sunway Putra HotelKuala Lumpur; Malaysia; 23 September 2014 through 24 September 2014; Category numberE5413; Code 110844

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

Ibrahimy, A.F.I., Anwar, F., Ibrahimy, M.I., Islam, M.R. [✉](#)

Department of Electrical and Computer Engineering, Kulliyah of Engineering, International Islamic University Malaysia, Jalan Gombak, Kuala Lumpur, Malaysia

Abstract

[View references \(9\)](#)

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.

Author keywords

live video streaming overlay network peer to peer

Indexed keywords

Engineering controlled terms: Bandwidth Disasters Overlay networks Time delay Trees (mathematics) Video streaming

Metrics

0 Citations in Scopus

0 Field-Weighted Citation Impact



PlumX Metrics 

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

[Set citation feed >](#)

Related documents

Two dimensional array based overlay network for balancing load of peer-to-peer live video streaming

Ibrahimy, A.F.I., Md Rafiqul, I., Anwar, F. (2013) *IOP Conference Series: Materials Science and Engineering*

A peer-to-peer streaming overlay construction for low diffusion delay

Zhang, K., Li, K., Cao, J. (2010) *Proceedings of the 1st International Conference on Networking and Distributed Computing, ICNDC 2010*

LBA: Location and Bandwidth Awareness overlay for P2P live video streaming

Zhang, K., Li, K. (2010) *2010 International Conference on Networking and Digital Society, ICNDS 2010*

Average delay time
 Live video streaming
 Natural disasters
 Peer to peer
 Scalable networks
 Tree-based overlay networks
 Two-dimensional arrays
 Uniform distribution

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

Engineering main heading: Peer to peer networks

ISBN: 978-147997635-5
Source Type: Conference Proceeding
Original language: English

DOI: 10.1109/ICCCE.2014.61
Document Type: Conference Paper
Volume Editors: Gunawan T.S.
Sponsors: Felda Wellness Corporation, Malaysia Convention and Exhibition Bureau (MyCEB), Malaysian Industry-Government Group for High Technology, University Putra Malaysia, Yayasan Kesejahteraan Bandar
Publisher: Institute of Electrical and Electronics Engineers Inc.

References (9)

[View in search results format >](#)

All Export Print E-mail Save to PDF Create bibliography

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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

[View at Publisher](#)

- 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.
doi: 10.1088/1757-899X/53/1/012065

[View at Publisher](#)

© Copyright 2015 Elsevier B.V., All rights reserved.

[< Back to results](#) | 1 of 1

[^ Top of page](#)

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語に切り替える](#)
[切换到简体中文](#)
[切换到繁體中文](#)
[Русский язык](#)

Customer Service

[Help](#)
[Contact us](#)

ELSEVIER

[Terms and conditions](#) [Privacy policy](#)

Copyright © 2017 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

Cookies are set by this site. To decline them or learn more, visit our [Cookies page](#).

 RELX Gr