Log Submission C1.

Authors	Wahyul Amien Syafei, Yosua Alvin Adi Soetrisno, Agung Budi Prasetijo
Title	Smart Agent and Modified Master-Backup Algorithm for Auto Switching Dynamic Host Configuration Protocol Relay through Wireless Router
Section	Research article
Editor in Chief	S. Khan. Institute of Information Technology (IIT), Kohat University of Science and Technology (KUST), Pakistan
Journal	International Journal of Communication Networks and Information Security (IJCNIS). Vol. 12, No. 2, August 2020. Hal 248 – 255. ISSN: 2073-607X (Online).
Indexing	SCOPUS, INSPEC, EBSCO, Cabell's Directory, International Abstracts in Operations Research (IAOR), Ulrich's, TOC Premier, Computer and Information Systems Abstracts, Computers and Applied Sciences Complete, SciTech Journals, Technology Journals, Computer Science Journals, Telecommunication Journals, Science Journals, Google Scholar, International Security & Counter-Terrorism Reference Center, Scirus, ScientificCommons, Genamics JournalSeek, Advanced Technology and Aerospace Journals, NewJour - Electronic Journals and Newsletters, Intute - Science Engineering and Technology, Open J-Gate, Computing – ProQuest, ProQuest Central, Career and Technical Education, Business Continuity & Disaster Recovery Reference Center, Military Collection – ProQuest, Professional Central – ProQuest, Gale/ Cengage, InfoTrac, and Academic One

Tanggal & Proses

Date	Event
03 – 02 – 2020	Article submitted a new submission, ID 4478. http://www.ijcnis.org/index.php/ijcnis/author/submission/4478
03 – 02 – 2020	Assign Reviewer. Article under Review

30 – 06 – 2020	Editor Decision. Decision: Accept with minor revision
01 – 07 – 2020	Revision submitted
20 – 08 – 2020	Copy editing
23 – 08 – 2020	Published Vol 12, No. 1 (2020): August 2020. https://www.ijcnis.org/index.php/ijcnis/issue/view/35 DOI: 10.54039/ijcnis.v12i2.4557

Bukti Korespondensi & screen shot situs IJCNIS:

M Gmail

Wahyul Syafei <wasyafei@gmail.com>

Fwd: [IJCNIS] Submission Acknowledgement

Yosua Alvin Adi Soetrisno <yosua@live.undip.ac.id>
Kepada: wasyafei@gmail.com

11 Februari 2020 11.04

---------- Forwarded message ---------
From: **S. Khan** <ijcnis@gmail.com>
Date: Mon, Feb 3, 2020 at 11:06 PM
Subject: [IJCNIS] Submission Acknowledgement
To: Mr. Yosua Alvin Adi Soetrisno <yosua@live.undip.ac.id>

Mr. Yosua Alvin Adi Soetrisno:

Thank you for submitting the manuscript, "Smart Agent and Modified
Master-Backup Algorithm for Auto Switching Dynamic Host Configuration
Protocol Relay through Wireless Router" to International Journal of
Communication Networks and Information Security (IJCNIS). With the online
journal management system that we are using, you will be able to track its
progress through the editorial process by logging in to the journal web
site:

Manuscript URL:
http://www.ijcnis.org/index.php/ijcnis/author/submission/4478
Username: yosuaalvin

If you have any questions, please contact me. Thank you for considering this
journal as a venue for your work.

S. Khan
International Journal of Communication Networks and Information Security
(IJCNIS)

_____

Editor in Chief
International Journal of Communication Networks and Information Security

Gambar 1. Bukti Submission Acknowledgement.

HOME   ABOUT   USER HOME   SEARCH   CURRENT   ARCHIVES   ANNOUNCEMENTS   CONTACT_US   ABSTRACTING   EDITORIAL_BOARD

Home > User > Author > Submissions > #4478 > Review

#4478 Review

SUMMARY   **REVIEW**   EDITING

Submission

Authors	Wahyul Amien Syafei, Yosua Alvin Adi Soetrisno, Agung Budi Prasetijo
Title	Smart Agent and Modified Master-Backup Algorithm for Auto Switching Dynamic Host Configuration Protocol Relay through Wireless Router
Section	Research Articles
Editor	S Khan

Peer Review

Round 1

Review Version	4478-8583-1-RV.DOC 2020-02-03
Initiated	—
Last modified	—
Uploaded file	None

Editor Decision

Decision	Accept Submission 2020-06-30
Notify Editor	Editor/Author Email Record 2020-06-30
Editor Version	None
Author Version	None
Upload Author Version	Choose File	No file chosen	Upload

International Journal of Communication Networks and Information Security (IJCNIS)   ISSN: 2073-607X (Online) @ Ressi Publisher

QUICK MENU

Editorial Team
Focus and Scope
Author Guidelines
Publication Ethics
Open Access Policy
Peer Review Process
Online Submission
Contact
Abstracting/ Indexing

TEMPLATE

DOWNLOAD MANUSCRIPT TEMPLATE

OPEN JOURNAL SYSTEMS
Journal Help

Gambar 2. Screen shoot tahap Review.

Fwd: [IJCNIS] Editor Decision
1 pesan

Yosua Alvin Adi Soetrisno <yosua@live.undip.ac.id>   30 Juni 2020 18.12
Kepada: wasyafei@gmail.com

---------- Forwarded message ---------
From: **S Khan** <ijcnis@gmail.com>
Date: Tue, Jun 30, 2020, 3:13 PM
Subject: [IJCNIS] Editor Decision
To: Mr. Yosua Alvin Adi Soetrisno <yosua@live.undip.ac.id>
Cc: Wahyul Amien Syafei <wasyafei@undip.ac.id>

Dear Author(s)

We have reached a decision regarding your submission to International
Journal of Communication Networks and Information Security (IJCNIS), "Smart
Agent and Modified Master-Backup Algorithm for Auto Switching Dynamic Host
Configuration Protocol Relay through Wireless Router".

Our decision is to: Accept with revision

Address the reviewers comments at the bottom of the letter.
Kindly send the revised paper in journal format as an email attachment (doc
file) to ijcnis@gmail.com as soon as possible. Also we need a separate file
highlighting reviewers comments and author response

Area Editor Comments:

Decision: Accept with minor revision

*Add One Reference from recently published papers in IJCNIS.
*Few of the references are not complete. Also format all the references
according to our journal style presented in the attached format.
Reduce Abstract. it is too lengthy
add few references from good journals (recent one)
=========================
Address the above comments as soon as possible so that we may include this
paper in upcoming issue. we are finalizing our next issue soon. Follow the
attached journal format.
A publication fee of USD-400 will be paid after final acceptance.

_____

Gambar 3. Bukti korespondensi Keputusan editor naskah diterima dengan revisi minor.

Home > User > Author > Submissions > #4478 > **Editing**

#4478 Editing

SUMMARY   REVIEW   **EDITING**

Submission

Authors	Wahyul Amien Syafei, Yosua Alvin Adi Soetrisno, Agung Budi Prasetijo ✉
Title	Smart Agent and Modified Master-Backup Algorithm for Auto Switching Dynamic Host Configuration Protocol Relay through Wireless Router
Section	Research Articles
Editor	S Khan ✉

Copyediting

COPYEDIT INSTRUCTIONS

REVIEW METADATA		REQUEST	UNDERWAY	COMPLETE
1.	Initial Copyedit	—	—	—
	File: None			
2.	Author Copyedit	—	—	✉
	File: None			
	Choose File No file chosen Upload			
3.	Final Copyedit	—	—	—
	File: None			

Copyedit Comments 💬 No Comments

Layout

Galley Format		FILE		
1.	PDF VIEW PROOF	4478-9113-1-PB.PDF 2020-08-23		44
Supplementary Files		FILE		
		None		

Layout Comments 💬 No Comments

Proofreading

REVIEW METADATA

		REQUEST	UNDERWAY	COMPLETE
1.	Author	—	—	✉
2.	Proofreader	—	—	—
3.	Layout Editor	—	—	—

Proofreading Corrections 💬 No Comments   PROOFING INSTRUCTIONS

International Journal of Communication Networks and Information Security (IJCNIS)   ISSN: 2073-607X (Online) @ Ressi Publisher

---

QUICK MENU

Editorial Team
Focus and Scope
Author Guidelines
Publication Ethics
Open Access Policy
Peer Review Process
Online Submission
Contact
Abstracting/ Indexing

TEMPLATE

DOWNLOAD MANUSCRIPT TEMPLATE

OPEN JOURNAL SYSTEMS

Journal Help

USER

You are logged in as...
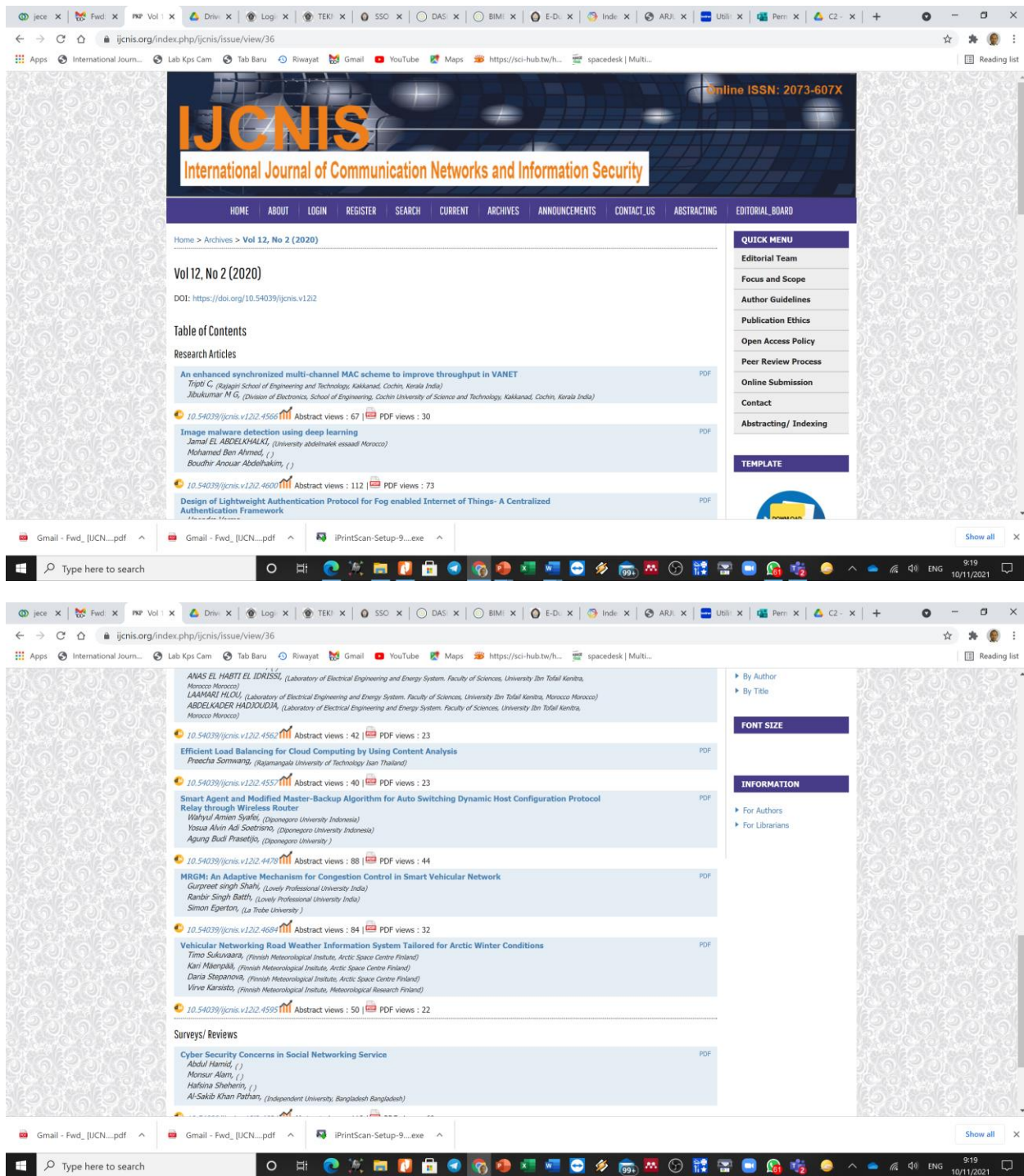**yosuaalvin**
▸ My Profile
▸ Log Out

NOTIFICATIONS

▸ View (10 new)
▸ Manage

AUTHOR

Submissions

Gambar 4. Screen shoot tahap Copyediting setelah mengirim naskah yang sudah direvisi berdasar komentar Reviewer.

Gambar 5. Screen shoot naskah dipublikasikan di IJCNIS Vol 2 Agustus 2020.

Response sheet of Reviewer comments of IJCNIS

Article ID:	4478
Title:	Smart Agent and Modified Master-Backup Algorithm for Auto Switching Dynamic Host Configuration Protocol Relay through Wireless Router
Authors:	Wahyul Amien Syafei, Yosua Alvin Adi Soetrisno, Agung Budi Prasetijo

1. **Comment:** Add One Reference from recently published papers in IJCNIS.

   Response: Reference from recently published papers in IJCNIS have been added in Reference no 12 and 13.

References

[1] W. A. Syafei, Y. A. Adi Soetrisno, and A. B. Prasetijo, "Centralized Dynamic Host Configuration Protocol and Relay Agent for Smart Wireless Router," in *2019 6th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE)*, Semarang, Indonesia, Sep. 2019, pp. 1–5, doi: 10.1109/ICITACEE.2019.8904343.

[2] Bauer, Steven and Clark, David D. and Lehr, William, Understanding Broadband Speed Measurements (August 15, 2010). TPRC 2010. Available at SSRN: https://ssrn.com/abstract=1988332.

[3] Y. Guo and Z. Li, "WLAN Based Wireless Self-Organization Link: Research and Realization," in *2017 International Conference on Computer Network, Electronic and Automation (ICCNEA)*, Xi'an, Sep. 2017, pp. 268–271, doi: 10.1109/ICCNEA.2017.99.

[12] H. Touil and Y. Fakhri, "A Fuzzy-based QoS Maximization Protocol for WiFi Multimedia (IEEE 802.11e) Ad hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 6, no. 3, p. 9, 2014.

[13] A. M. Popescu, I. G. Tudorache, B. Peng, and A. H. Kemp, "Surveying Position Based Routing Protocols for Wireless Sensor and Ad-hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 4, no. 1, p. 27, 2012.

[14] Hewlett Packard Enterprise Development LP, "Specifying the DHCP server selecting algorithm," *HPE FlexNetwork 5130 EI Switch Series Layer 3—IP ServicesConfiguration Guide*. [Online]. Available: http://h22208.www2.hpe.com/eginfolib/networking/docs/switches/5130ei/5200-3942_l3-ip-svcs_cg/content/483572357.htm.

[15] A. Pourghaffari, M. Barari, and S. Sedighian Kashi, "An efficient method for allocating resources in a cloud computing environment with a load balancing approach," *Concurrency and Computation: Practice and Experience*, p. e5285, Apr. 2019, doi: 10.1002/cpe.5285.

2. **Comment:** Few of the references are not complete. Also format all the references according to our journal style presented in the attached format.

   Response: References have been completed and formatted according to IJCNIS Journal style.

Before:

REFERENCES

[1] W. A. Syafei, Y. A. Adi Soetrisno, and A. B. Prasetijo, "Centralized Dynamic Host Configuration Protocol and Relay Agent for Smart Wireless Router," in *2019 6th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE)*, Semarang, Indonesia, 2019, pp. 1–5, doi: 10.1109/ICITACEE.2019.8904343.

[2] S. Bauer, D. Clark, and W. Lehr, "Understanding broadband speed measurements," p. 38.

[3] Y. Guo and Z. Li, "WLAN Based Wireless Self-Organization Link: Research and Realization," in *2017 International Conference on Computer Network, Electronic and Automation (ICCNEA)*, Xi'an, 2017, pp. 268–271, doi: 10.1109/ICCNEA.2017.99.

[4] S. K. Hooda, A. Ghule, V. Puneet, and A. Indiresan, "(71) Applicant: Cisco Technology, Inc., San Jose, CA (US)," p. 10.

[5] C. Miao *et al.*, "BDAC: A Behavior-aware Dynamic Adaptive Configuration on DHCP in Wireless LANs," in *2019 IEEE 27th International Conference on Network Protocols (ICNP)*, Chicago, IL, USA, 2019, pp. 1–11, doi: 10.1109/ICNP.2019.8888048.

[6] A. Singh, R. K. Arehalli, and S. B. Suryananarayana, "System and Method for Minimizing Broadcast Communcations when Allocating Network Address," *U. S. Pat.*

[7] L. Trombeta and N. Torrisi, "DHCP Hierarchical Failover (DHCP-HF) Servers over a VPN Interconnected Campus," *Big Data Cogn. Comput.*, vol. 3, no. 1, p. 18, Mar. 2019, doi: 10.3390/bdcc3010018.

[8] T. M. F. Pang, B. Yang, M. N. Kamath, and X. Zhou, "Dynamic Orthogonal Local DHCP IP Pools for Wireless Access Points," *U. S. Pat. Appl.*

[9] Hewlett Packard Enterprise Development LP, "Specifying the DHCP server selecting algorithm," *HPE FlexNetwork 5130 EI Switch Series Layer 3—IP ServicesConfiguration Guide.* .

[10] A. Pourghaffari, M. Barari, and S. Sedighian Kashi, "An efficient method for allocating resources in a cloud computing environment with a load balancing approach," *Concurr. Comput. Pract. Exp.*, p. e5285, Apr. 2019, doi: 10.1002/cpe.5285.

After

References

[1] W. A. Syafei, Y. A. Adi Soetrisno, and A. B. Prasetijo, "Centralized Dynamic Host Configuration Protocol and Relay Agent for Smart Wireless Router," in *2019 6th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE)*, Semarang, Indonesia, Sep. 2019, pp. 1–5, doi: 10.1109/ICITACEE.2019.8904343.

[2] Bauer, Steven and Clark, David D. and Lehr, William, Understanding Broadband Speed Measurements (August 15, 2010). TPRC 2010. Available at SSRN: https://ssrn.com/abstract=1988332.

[3] Y. Guo and Z. Li, "WLAN Based Wireless Self-Organization Link: Research and Realization," in *2017 International Conference on Computer Network, Electronic and Automation (ICCNEA)*, Xi'an, Sep. 2017, pp. 268–271, doi: 10.1109/ICCNEA.2017.99.

[4] S. K. Hooda, A. Ghule, V. Puneet, and A. Indiresan, "DHCP in Layer-3 Overlay with Anycast Address Support and Network Address Transparency," U.S. Patent 10,454,882, Oct 22, 2019.

[5] C. Miao *et al.*, "BDAC: A Behavior-aware Dynamic Adaptive Configuration on DHCP in Wireless LANs," in *2019 IEEE 27th International Conference on Network Protocols (ICNP)*, Chicago, IL, USA, Oct. 2019, pp. 1–11, doi: 10.1109/ICNP.2019.8888048.

[6] A. Singh, R. K. Arehalli, and S. B. Suryananarayana, "System and Method for Minimizing Broadcast Communcations when Allocating Network Address," U.S. Patent 10,375,014, Aug 6, 2019.

[7] L. Trombeta and N. Torrisi, "DHCP Hierarchical Failover (DHCP-HF) Servers over a VPN Interconnected Campus," *Big Data and Cognitive Computing*, vol. 3, no. 1, p. 18, Mar. 2019, doi: 10.3390/bdcc3010018.

[8] S. Khalid, A. Mahboob, F. Azim, and A. Rehman, "DHOCNET-A Novel Protocol Stack and architecture for Ad hoc Networks," in International Journal on Networks and Information Security (IJCNIS) vol. ?, no. 1, p. 14, 2015.

[9] T. M. F. Pang, B. Yang, M. N. Kamath, and X. Zhou, "Dynamic Orthogonal Local DHCP IP Pools for Wireless Access Points," U.S. Patent 2019/0281011, Sep 12, 2019.

[10] R. A. Alhanani, J. Abouchabaka, and R. Najat, "CDS-MIP: CDS-based Multiple Itineraries Planning for mobile agents in a wireless sensor network," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 11, no. 1, p. 10, 2019.

[11] A. Abdellaoui, J. Elmhamdi, and H. Berradi, "Multipoint Relay Selection based on Stability of Spatial Relation in Mobile Ad hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 10, no. 1, p. 8, 2018.

[12] H. Touil and Y. Fakhri, "A Fuzzy-based QoS Maximization Protocol for WiFi Multimedia (IEEE 802.11e) Ad hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. ?, no. ?, 2014.

[13] A. M. Popescu, I. G. Tudorache, B. Peng, and A. H. Kemp, "Surveying Position Based Routing Protocols for Wireless Sensor and Ad-hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 4, no. 1, p. 27, 2012.

[14] Hewlett Packard Enterprise Development LP, "Specifying the DHCP server selecting algorithm," *HPE FlexNetwork 5130 EI Switch Series Layer 3—IP ServicesConfiguration Guide*. [Online]. Available: http://h22208.www2.hpe.com/eginfolib/networking/docs/switches/5130ei/5200-3942_l3-ip-svcs_cg/content/483572357.htm.

[15] A. Pourghaffari, M. Barari, and S. Sedighian Kashi, "An efficient method for allocating resources in a cloud computing environment with a load balancing approach," *Concurrency and Computation: Practice and Experience*, p. e5285, Apr. 2019, doi: 10.1002/cpe.5285.

3. **Comment:** Reduce Abstract. it is too lengthy

   Response: Abstract has been revised, more concise and contains the aim, method, and scientific result.

Before

Abstract — **Several problems happened in a wireless router which is the number of clients that connected to DHCP (Dynamic Host Configuration Protocol) services and also durability in**

connectivity. Wireless router which is used in the office nowadays usually has a small memory and also CPU power. Memory or CPU sometimes could be running out when a wireless router does some background services. DHCP is one of the services needed to run in a wireless router. DHCP is interrupted when memory or CPU is full. DHCP relay and modification of the backup algorithm needed to overcome this situation when the memory or CPU in the wireless router is limited. The modification of the backup algorithm is a mechanism to switch the main router with the backup router when the main router memory is busy. DHCP relay could become a DHCP server directly when the main router is busy. Wireless router in another side could be formatted with open-source OS such as OpenWRT to become bridge interface that connected to DHCP relay. The scenario that tested in this research is using Cisco DHCP relay services in combination with OpenWRT wireless router, in variation with Mikrotik original "capsman" protocol with DHCP relay in combination with wireless-enabled Mikrotik and also in combination with OpenWRT wireless router. The result shows that OpenWRT in configuration with DHCP relay and backup algorithm could extend the number of a client connected, and also the durability of the wireless router runs its services as DHCP forwarder to DHCP relay and DHCP server. Theoretically, the number of the client that could connect in class C IPv4 address is 253 clients. Practically, in some wireless router brand, the number of the client is limited to 15 to 30 clients because that number is an optimal client for consuming the bandwidth. DHCP relay scenario could extend that limit to have a larger number of the client, and the new backup algorithm in combination also doesn't decrease IP release time significantly from usual DHCP using a direct connection.

After

Abstract: Potential problems in a wireless router are the number of connected clients to DHCP (Dynamic Host Configuration Protocol) services and the durability of connectivity. Practically, some of the wireless router limits the number of the client to 15 clients due to bandwidth consumption management. DHCP is one of the services needed by wireless router, but it might be interrupted when the memory or CPU is full. This article proposes a modification of the backup algorithm in DHCP relay to overcome this situation when the memory or CPU in the wireless router is limited. The proposed backup algorithm will automatically switch the main router to the backup router every time the main router's memory is busy. Two main scenarios are conducted in this research to examine the proposed backup algorithm. First, Cisco DHCP relay services combined with OpenWRT wireless router. Second, Mikrotik original "Capsman" protocol DHCP relay combined alternatively with wireless-enabled and OpenWRT wireless router. Run test results show that the proposed backup algorithm with DHCP relay which are configured in OpenWRT wireless router can extend the number of connected clients and the durability of the wireless router when run its services as DHCP forwarder to DHCP relay and DHCP server. These combinations slightly affect the IP release time compared to regular DHCP which employs a direct connection.

4. **Comment:** add few references from good journals (recent one)
   Response: References from recent good journal have been added in References no 15.

[12] H. Touil and Y. Fakhri, "A Fuzzy-based QoS Maximization Protocol for WiFi Multimedia (IEEE 802.11e) Ad hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 6, no. 3, p. 9, 2014.

[13] A. M. Popescu, I. G. Tudorache, B. Peng, and A. H. Kemp, "Surveying Position Based Routing Protocols for Wireless Sensor and Ad-hoc Networks," in International Journal of Communication Networks and Information Security (IJCNIS) vol. 4, no. 1, p. 27, 2012.

[14] Hewlett Packard Enterprise Development LP, "Specifying the DHCP server selecting algorithm," *HPE FlexNetwork 5130 EI Switch Series Layer 3—IP ServicesConfiguration Guide*. [Online]. Available: http://h22208.www2.hpe.com/eginfolib/networking/docs/switches/5130ei/5200-3942_l3-ip-svcs_cg/content/483572357.htm.

[15] A. Pourghaffari, M. Barari, and S. Sedighian Kashi, "An efficient method for allocating resources in a cloud computing environment with a load balancing approach," *Concurrency and Computation: Practice and Experience*, p. e5285, Apr. 2019, doi: 10.1002/cpe.5285.