Detecting Duplicate Nodes in Wireless Mesh Networks

R.Saranya[1] Prianka.R.R[2] Ranjith Kumar.M[3]
[1,2,3]Assistant Professor
[1,2,3]Department of Computer Science and Engineering
[1,2,3]R.M.K College of Engineering and Technology, Puduvoyal

Abstract— Wireless mesh networks (WMNs) have emerge as a key technology for next creation wireless networking. Because of their reward over other wireless networks, WMNs are undergoing rapid progress and moving various applications. Peer-to-peer communication for the entire client who are spread over some area. Since the users are connected in a wireless multi-hop passion complete ubiquity is provided. Network is increasing there could be a chance of experience more intrusion by each client due to the communication link of every other user. So in a wireless mesh network as the load increases the throughput of group is going to be decreased due to wireless intrusion by other users. WMN with reactive optical network (PON). The ensuing hybrid network (Optical-wireless network) could reduce the wireless hops of each user, so that we can reduce the total wireless interference practiced by each user resulting in improved network throughput. This paper means to study the network throughput gain in Optical-wireless network theme to peer-to-peer interactions.

Key words: Wireless mesh networks, Optical network(PON), and Optical wireless network

I. INTRODUCTION

Optical and wireless access were initially implemented for unlike communication scenario. Optical networks plan to provide long distance, high-bandwidth communications [2] while wireless networks aim to provide everywhere, flexible interactions mainly in community areas. Various kinds of optical and wireless access network architectures have been future and arrange as solutions for access networks separately. A WMN typically consists of several gateways for the Internet access, a group of wireless mesh routers following multi-hop communications, and a group of mesh clients connected with wireless mesh routers. Passive Optical Network (PON) [2] has appear to become the most admired optical access network solution. A PON normally consists of an Optical Line Terminal (OLT) at the central office reach optical signals usual from the access network to the Internet and vice versa, and a group of Optical network Units (ONUs) receiving downstream optical signals from the OLT and produce upstream optical signals to the OLT. Wireless access, Wireless Mesh Networks (WMNs) enlarge the reach of Wireless LANs cost successfully and have been widely organize at enterprises and community areas.

II. METHOD

The widely-used case-by-case technique such a guarantee, protected wireless multihop routing applications need a model shift from the case-by-case methodology to a new worst-case methodology that cannot be willingly adapted to wireless multihop steering applications, because it is not able to promise reliable communication under any potential jamming attack. To provide effers performance assurance under any attack scenario. We address this issue by in view of a wireless network that uses multiple frequency and code channels to provide jamming resilience for multihop routing applications. We think about two general jamming-resilient communication modes for multihop routing applications: corresponding and uncoordinated modes. In synchronized mode, the sender and receiver share a common secret or key (e.g., code-frequency channel assignment), which is unknown to attackers. Thus, an attacker has to choose its own strategy to disturb the communication between the transmitter and receiver. Synchronized communication is a conventional model in spread spectrum systems. However, the transmitter and receiver may not allocate a common secret initially (e.g., a node joins a network and effort to establish secret with others. ungraceful communication is therefore used to help begin such an initial key. In uncoordinated communication, the sender and receiver choose a frequency-code channel to transmit and receive, correspondingly.

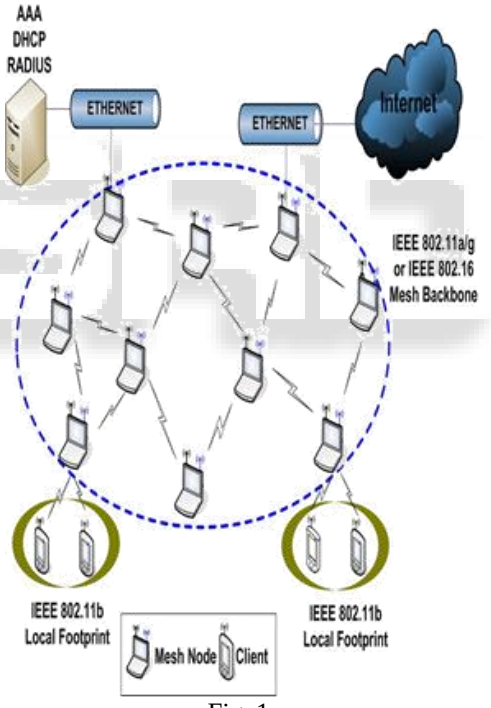

Fig. 1:

III. SYSTEM DESIGN AND DEVELOPMENT

A. *Fact Finding:*

Fact Finding is the methods of gather the information necessary about the existing system. Some of them are.

- Observation
- Record Searching
- Special purpose Records
- Sampling
- Questionnaires
- Interviewing

Study of the current work situation will give clues to problems and atmosphere.

Record searching, special purpose proceedings and sampling will give quantitative information about the system which create easy sizing of the proposed system and may also point the areas of difficulties which are being experienced.

Questionnaires can be used to collect the proven data about the system. All of the method needs to be supplemented by more detailed discussion of the interview situation. The identifications are the user requirements, decision areas, objectives. And tasks for certain actions can only be achieved.

Based on the above fact sentence techniques, it is observed the current condition of the existing system. It is very helpful to finding the areas of difficulties, which are being experienced in the existing system. Thus it helps to enlarge the proposed system with the quantifiable data.

IV. OPERATIONAL FEASIBILITY

During possibility analysis operational feasibility study is a must. This is because; according to software engineering principles operational possibility or in other words usability should be very high. A methodical analysis is done and found that the system is operational.

V. TECHNICAL FEASIBILITY

The system analyst used to check the technical possibility of the proposed system. Taking account of the hardware it is used for the system development, data storage, processing and output, makes the technical feasibility assessment. The system analyst has to check whether the company or user who is realize the system has enough resource available for the smooth running of the application. Actually the requirements for this application are very less and thus it is strictly feasible.

VI. SYSTEM TESTING

A. Black Box Testing:

Black box testing also called behavioral testing focus on the functional requirements of the software. That is black box testing allow the software engineer to derive sets of input conditions that will fully use all functional requirements for a program. Black box testing effort to find errors in the following categories. Incorrect or misplaced functions, Interface errors, Errors in data structures or external data base access Behavior or performance errors, Initialization and execution errors.

Functional Testing and black box type testing geared to functional necessities of an application. This type of testing should be done by testers. Our project does the functional testing of what input specified and what output should be acquire.

System Testing-black box type testing that is based on overall requirements condition; covers all combined parts of a system. The system testing to be done here is that to ensure with all the peripherals used in the project.

Stress Testing-term often used interchangeably with 'load' and 'performance' testing. Also used to explain such tests as system functional testing while under unusually heavy loads, heavy repletion of assured actions or inputs, input of large numerical values.

Performance Testing-term often used interchangeably with 'stresses' and 'load' testing. Ideally 'performance' testing is defined in requirements documentation or QA or Test.

VII. OUTPUT DESIGN

Intelligent output design will develop systems relationships with the user and help in decision making. Outputs are also used to provide a permanent hardcopy of the results for latter consultations. The most important reason, which tempts the user to go for a new system is the output. The output generated by the system is often regarded as the criterion for evaluating the usefulness for the scheme. Here the output requirements use to be predetermine requirements use to be predetermine before going to the actual system design.

Fig. 2: Packet Loss

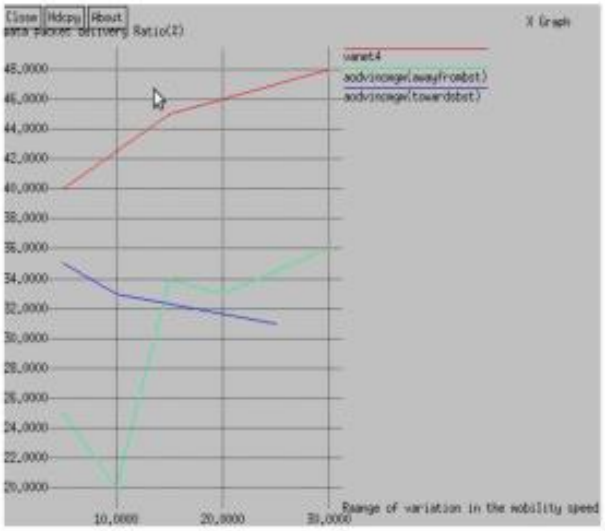

Fig. 3: Delivery Ratio Graph

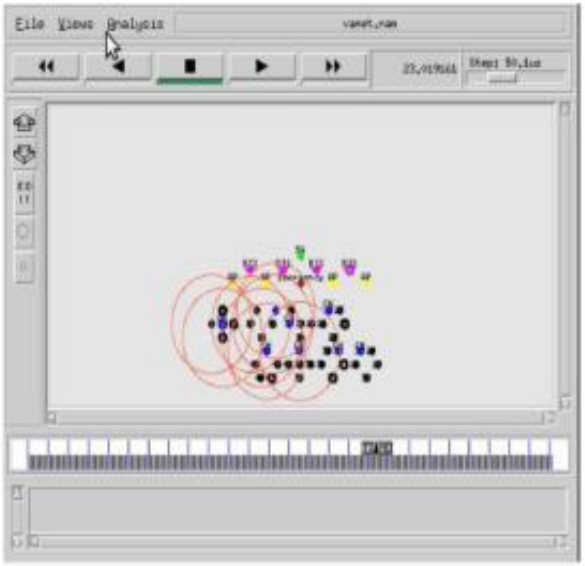

Fig. 4: Detecting unwanted Nodes

VIII. CONCLUSION

Proposes a method to develop the network throughput in wireless mesh networks. As the wireless hops increases, interference in the network will increase. By combine the PON with wireless mesh network we can diminish the number of wireless hops, resulting in decreased intrusion and increased network throughput.

REFERENCES

[1] Parth H. Pathak, Rudra Dutta, and Prasant Mohapatra ,On Availability-Performability Tradeoff in Wireless Mesh Networks Parth H. Pathak, Rudra Dutta, and Prasant Mohapatra IEEE TRANSACTIONS ON MOBILE COMPUTING, VOL. 14, NO. 3, MARCH 2015.

[2] A. Van Moorsel, "Metrics for the internet age: Quality of experience and quality of business," in Proc. 5th Int. Workshop Performability Model. Comput. Commun. Syst., Arbeitsberichte des Inst. f€ur Informatik, Universit€at Erlangen-N€urnberg, Germany, 2001, vol. 34, no. 13, pp. 26–31.

[3] Google wifi, Mountain View, CA, USA. (2008). [Online]. Available: http://wifi.google.com/

[4] Poncacitywifi.(2009).[Online].Available:http://www.myponcacity.com/wifi/poncaradios.html

