International Journal of Contemporary Research in Computer Science and Technology (IJCRCST) e-ISSN: 2395-5325
Volume1, Issue 7 (October '2015)

FAULT TOLERANCE ON COMPARATOR NETWORK

R.Sundaresh,
M.Phil Scholar,
Department of Computer Science & Application,
PGP College of Arts & Science,
Namakkal, Tamilnadu, India.

K.Ranjith Singh,
Assistant Professor,
Department of Computer Science & Application,
PGP College of Arts & Science,
Namakkal,Tamilnadu,India

N.Satheeskumar,
Assistant Professor,
Department of Computer Science & Application,
PGP College of Arts & Science
Namakkal,Tamilnadu,India

Abstract: A comparator is a combinational device that sorts two keys. Namely, it has two incoming edges and it receives a key from each one of them. It has two outgoing edges of distinct types; a min edge and a max edge. It transmits the minimal key on the min edge and the maximal key on the max edge. Clearly, a network has the same number of input edges and output edges. To specify how an input sequence should be fed into the network, the input edges are arranged as a sequence. Similarly, the output edges of a network are arranged as a sequence to specify how the network's output is interpreted as a sequence. The notion of a network implies nodes and links. The nodes can be people, teams or even organizations - networks operate at many levels. Common examples are distributed geographic teams in large organizations, or small organizations operating as networks to compete against large corporations. The links are the various coordination and "agreement" mechanisms. In a network, high degrees of informal communications (both face-to-face and over electronic networks) achieve success where formal authority and communications in hierarchical organizations often fail. Two way links and reciprocity across the links are what makes networks work.

Keywords: Public-key cryptography, Field programmable gate array, business process reengineering

I.INTRODUCTION

Analyzing the social construction of IT in organizations is a complex endeavor for two reasons: (1) as IT evolves, its social construction changes, and (2) different CIS-2002-01 .2 organizations use IT in different ways and thus it's social construction varies across organizations. Thus, the use of different analytical devices (such as paradigms, metaphors and narratives) is necessary to undertake this study. The first proposition consists of performing a content analysis of the IT literature, in particular journal articles published in the field. The second approach is based on the development of narratives, "good stories that are contextually and temporally Bound" (Barry & Elmes, 1997: 847), to confirm the existence of these technologies.

II. STRUCTURES OF COMPARATOR

Different authors have defined organization in different ways. The main definitions of organization are as follows:

According to keith Davis, "Organization may be defined as a group of individuals, large of small, that is cooperating under the direction of executive leadership in accomplishment of certain common object."

According to Chester I. Barnard, "Organisation is a system of co-operative activities of two or more persons." According to Louis A. Allen, "Organisation is the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority, and establishing relationship for the purpose of enabling people to work most effectively together in accomplishing objectives."According to Mooney and Railey, "Organisation is the form of every human association for the attainment of a common purpose."

Information system has become a vital and integral part of every business plan. From multi-national corporations who maintain mainframe systems and databases to small businesses that own a single computer, IT plays a role. The reasons for the omnipresent use of computer technology in business can best be determined by looking at how it is being used across the business world.

A) Organization Network Structures

For many years it has been argued that IT will enable larger spans of control and the flattening of group ware. This has at last happened, but due as much to initiatives like BPR (business process reengineering) and the drive to cut costs. Research on whether IT encourages centralization decentralizations produced ambivalent results. Many companies have centralized room operations (for efficiency) while at the same time decentralized activities. It now seems clear that IT enables a greater variety of structures. In particular it enables more flexible and fluid structures - networked structures, dispersed team and teams that come and go as needs change (as in the virtual corporation).

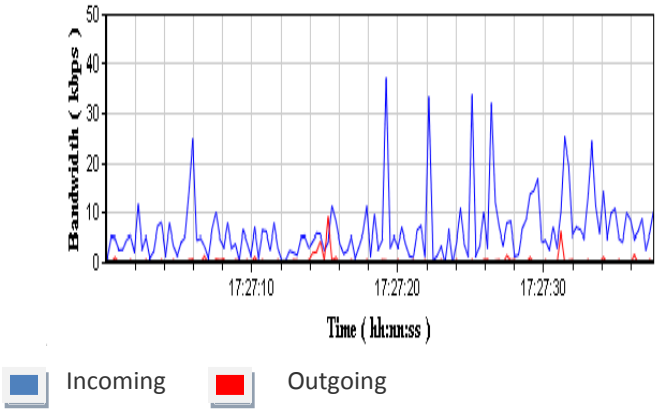
Figure 1. Network Model

- A LAN is a Local Area Network.
- It is a computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings.

B) Network Objectives of Information System

Starting in the early 1980s with the first desktop computers, information system has played an important part in the U.S. and global economies. Companies rely on IT for fast communications, data processing and market intelligence. IT plays an integral role in every industry, helping companies improve business processes, achieve cost efficiencies, drive revenue growth and maintain a competitive advantage in the marketplace.

Network Process Traffic signal



C) Product Development

Information system can speed up the time it takes new products to reach the market. Companies can write product requirement documents by gathering market intelligence from proprietary databases, customers and sales representatives. Computer-assisted design and manufacturing software speed up decision making, while collaborative technologies allow global teams to work on different components of a product simultaneously. From innovations in microprocessors to efficient drug delivery systems, information technology helps businesses respond quickly to changing customer requirements.

D) Stakeholder Integration

Stakeholder integration is another important objective of information system. Using global 24/7 interconnectivity, a customer service call originating in Des Moines, Iowa, ends up in a call center in Manila, Philippines, where a service agent could look up the relevant information on severs based in corporate headquarters in Dallas, Texas, or in Frankfurt, Germany. Public companies use their investor relations websites to communicate with shareholders, research analysts and other market participants.

E) Cost Efficiencies

Although the initial IT implementation costs can be substantial, the resulting long-term cost savings are usually worth the investment. IT allows companies to reduce transaction and implementation costs. For example, the cost of a desktop computer today is a fraction of what it was in the early 1980s, and yet the computers are considerably more powerful. IT-based productivity solutions, from word processing to email, have allowed companies to save on the

costs of duplication and postage, while maintaining and improving product quality and customer service.

F) Competitive Advantage

Cost savings, rapid product development and process improvements help companies gain and maintain a competitive advantage in the marketplace. If a smartphone competitor announces a new device with innovative touch-screen features, the competitors must quickly follow suit with similar products or risk losing market share. Companies can use rapid prototyping, software simulations and other IT-based systems to bring a product to market cost effectively and quickly.

G) Globalization

Companies that survive in a competitive environment usually have the operational and financial flexibility to grow locally and then internationally. IT is at the core of operating models essential for globalization, such as telecommuting and outsourcing. A company can outsource most of its noncore functions, such as human resources and finances, to offshore companies and use network technologies to stay in contact with its overseas employees, customers and suppliers.

III.EXISTING WORK

These protocols have a set of important structural properties, such as not requiring the use of public-key cryptography (relevant for good performance) and optimal resilience (significant in terms of system cost). The experiments led to several observations. First, randomized binary consensus protocols that in theory run in high numbers of steps, in practice may execute in only a few rounds under realistic conditions. Second, although atomic broadcast is equivalent to consensus, with the right implementation a high number of atomic broadcasts can be done with a small number of rounds of consensus. Consequently, the average cost in terms of throughput for atomic broadcast can be almost as little as a reliable broadcast. Third, taking decisions in a decentralized way is important to avoid performance penalties due to the existence of faults. In fact, the performance of our protocols is approximately the same, or even improved, with realistic fault loads. In conclusion, randomization can, in fact, and contrary to a widespread belief in the scientific community, be a valid solution for the deployment of efficient distributed systems. This is true even if they are deployed in hostile environments where they are usually subject to malicious attacks.

IV.PROPOSED WORK

The proposed model of hybrid IDSs offers several advantages over alternative systems. First of all it will provide higher security, it will support high availability and scalability, and most important thing it will produced good results in terms of normal and abnormal behaviors of arrived packet. The proposed model will include integration of individual components to produced better results. It will support to a system/network administrator the privileges for finding the intrusions which is reliable, secure and fast. The proposed model of hybrid IDS will be implement short time and at a low cost. It will also provide a best user interface. Further more in this paper developed a captured packets and log file analyzer, which is able to detect intrusion and show an alert of intrusion to user through the system. In future I will include different type of logs file for host based IDS like application log file and system log file I will analysis intrusion in this file so proposed Host based IDS can be improved. In network based IDS I will increase number of rules and number of attacks for enhancing for more accurate results.

V.CONCLUSION

Protecting networks connected to the World Wide Web from malicious attacks. Traditionally, IDS software products such as Secure Net and Hogwash work by monitoring traffic at the network choke-point, where every incoming IP packet is analyzed for suspicious patterns that may indicate hostile activity. Because those software systems must match packets against thousands of known ominous patterns, they must work extremely fast. Under heavy traffic, however, the IDS is usually forced to drop packets so that the IDS itself will not become the bottleneck of the network, of course at the risk of allowing an attack to go undetected. Because of this deficiency, host-based IDS solutions have been introduced Host-based IDS products run on a server rather than at the network gateway. Unfortunately, however host-based solutions can slow down the server considerably under heavy traffic conditions. Because of the inherent limitations of all software solutions, hardware solutions were finally introduced. The state-of-the-art hardware solution is a field programmable gate array (FPGA) that performs the same IDS function at substantially higher speeds.

VI. REFERENCES

[1]. J. S. Fraga and D. Powell, "A fault- and intrusion-tolerant file system," in Proceedings of the 3rd International Conference on Computer Security, Aug. 1985, pp. 203–218.

[2]. P. E. Verissimo, N. F. Neves, and M. P. Correia, "Intrusion-tolerant architectures: Concepts and design," in Architecting Dependable Systems, ser. Lecture Notes in Computer Science, R. Lemos, C. Gacek, and A. Romanovsky, Eds. Springer-Verlag, 2003, vol. 2677.

[3]. R. L. E. Moser, and P. M. Melliar-Smith, "Byzantine fault detectors for solving consensus," The Computer Journal, vol. 46, no. 1, pp. 16–35, Jan. 2003.

[4]. C. Cachin and J. A. Poritz, "Secure intrusion-tolerant replication on the Internet," in Proceedings of the International Conference on Dependable Systems and Networks, June 2002, pp. 167–176.

[5]. V. Jyothsna, V. V. Rama Prasad and K. Munivara Prasad "A Review of Anomaly based Intrusion Detection Systems" International Journal of Computer Applications (0975 – 8887) Volume 28– No.7, August 2011

[6]. Asmaa Shaker Ashoor and Prof. Sharad Gore " Importance of Intrusion Detection System (IDS)" International Journal of Scientific & Engineering Research, Volume 2, Issue 1, January-2011 1 ISSN 2229-5518.

[7]. Chung-Ming Ou and C.R. Ou "Immunity-inspired Host- based Intrusion Detection Systems" 2011 Fifth IEEE International Conference on Genetic and Evolutionary Computing.

[8]. Ferdous A. Barbhuiya, Santosh Biswas, Neminath Hubballi and Sukumar Nandi "A Host Based DES Approach for Detecting ARP Spoofing" IEEE Conferences 2011

[9]. Bin Zeng, Lu Yao, ZhiChen Chen "A Network Intrusion Detection System with the Snooping Agents" IEEE International Conference on Computer Application and System Modeling (ICCASM 2010) 2010.

[10]. LIN Ying, ZHANG Yan and OU Yang-Jia " The Design and Implementation of Host-based Intrusion Detection System" Third IEEE International Symposium on Intelligent Information Technology and Security Informatics 2010.