

## Research Proposal

The main objective of this project is to provide services and randomize the intrusion tolerance in both LAN and WAN networks. Intrusion into a part of the system should give access only to non-significant information, intrusion-tolerant distributed systems, there is an essential problem: consensus Existing Protocols only Behavior-based (or anomaly detection) systems Knowledge-based (or misuse detection) systems. This paper describes the implementation of a stack of randomized intrusion-tolerant protocols and evaluates their performance under different fault loads. One of the main purposes is to show that randomization can be efficient and should be regarded as a valid solution for practical intrusion tolerant distributed systems.

The paper has two main contributions: (1) it presents the design and implementation of a stack of randomized intrusion tolerant protocols, discussing several optimizations – to the best of our knowledge, the implementation of a stack with the four structural properties above is novel; (2) it provides a detailed evaluation of RITAS in both LAN and WAN settings, showing that it has interesting latency and throughput values.

Randomization is only one of the techniques that can be used to circumvent the FLP impossibility result. Other techniques include failure detectors, partial synchrony and distributed wormholes. Some of these techniques have been employed in the past to build other intrusion-tolerant protocol suites.

Intrusion detection faces a number of challenges an intrusion detection system must reliably detect malicious activities in a network and must perform efficiently to cope with the large amount of network traffic. In this paper, we address these two issues of Accuracy and Efficiency using on merging and fault tolerance Approach. We demonstrate that high attack detection accuracy can be achieved by using comparator network and high efficiency by implementing the Approach. Experimental results on the intrusion data set show that our proposed system based on Layered Conditional Random Fields outperforms other well-known methods such as the decision trees and the naive Bayes. Statistical Tests also demonstrate higher confidence in detection accuracy for our method. Finally, we show that our system is robust and is able to handle noisy data without compromising performance.

