### TRACK 02: NETWORK SYSTEMS AND SECURITY

**Enhancing the awareness level on phishing attacks among Malaysians: Analysis and Recommendations**

Mohd Sarifuddin bin Othman@Mustafa¹, Md Arafatur Rahman¹,², Muhammad Nomani Kabir¹†, Kamal Z. Zamli¹,²

¹Faculty of Computer Systems & Software Engineering, University Malaysia Pahang  
²IBM Centre of Excellence, University Malaysia Pahang

This paper presents an analysis of awareness level on phishing attack among Malaysians. Phishing and fraudster activities have been important issues in Malaysia. The methodology involves the questionnaires which are distributed and answers were collected and recorded as random samples. Next, statistical data were analyzed and categorized into different parts for enhanced knowledge and experience in data exploration. The test results related to hypothesis tests are provided. Using this analysis, influence of source problem and weakness of victims are revealed in order to mitigate the issue. Based on this, recommendations have been provided to encounter the issues.

**Keywords:** phishing analysis; anti-phish; computer security; statistical analysis

---

**MTTDFR-SJFR: A Combinatorial Rule Approach To Balance Tradeoff Between Flowtime, Makespan, Delayed Jobs, Total Tardiness And Utilization**

Zafril Rizal M Azmi¹,³, Imran Edzereiq Kamarudin¹,³, Ngahzaifa Ab Ghani²,³

¹ Systems Network & Security (SysNetS)  
² Multimedia Computing and Computer Vision (MCVis)  
³Faculty of Computer Systems & Software Engineering, University Malaysia Pahang, Lebuhraya Tun Razak, Gambang, 26300 Kuantan, Pahang

In order to fully utilize the Grid resources, implementing a good scheduling algorithm is really important. Currently, some of the well-known researches and enterprise schedulers have applied Priority Rule (PR) schedulers to manage the Grid jobs because they are simple and easy to implement. To date, there is no strong performance justification or proof given on why these specific PR algorithms are preferred compared to other PR algorithms. For example, five PR algorithms; First Come First Serve (FCFS), Longest Job First (LJF), Shortest Job First (SJF), Earliest Deadline First (EDF) and Minimum Time To Deadline (MTTD) have been proposed. However, none of these algorithms perform well in every metrics of performance. An attempt to improve their performance has been made using Combinatorial Rule (CR) which is the combination of more than one PR. Unfortunately, the current implementation of CR only focuses on two performance metrics which are flowtime and makespan, while sacrificing the others. In order to tackle the aforementioned problem, this paper introduces Minimum Time To Deadline to Fastest Resource - Shortest Job to Fastest Resource (MTTDFR-SJFR), a new CR scheduler that performs better than other CR algorithms tested within the scope. To achieve high performance, a combination of PR with Fastest Resource (FR) resource selection scheme that further improve the performance is proposed. Graphical results obtained from experimental simulation showed the superiority of the proposed CR algorithm in term of overall performance, compared to other CR as well as the original PR.

**Keywords:** Priority Rule, Combinatorial Rule, Grid Scheduling, Performance, Computational Intelligence