

## ABSTRACT

*The Final Project aims to develop an integrated monitoring system to monitor Data Center Infrastructure Management (DCIM) applications running in a Kubernetes environment. This system uses Prometheus as the main monitoring tool tasked with collecting metrics from DCIM applications and Kubernetes infrastructure, while Grafana is used as a visualization platform to analyze and visualize the collected metrics data. In addition, this system also integrates Grafana Alerts and Telegram bots to provide instant and real-time notifications to users if anomalies or important events occur in system performance.*

*The research methods used include various stages starting from analyzing monitoring needs, designing the Grafana dashboard, configuring Prometheus, to customizing Grafana Alerts and integrating with Telegram bots. Testing and validation are then carried out to ensure all components function properly, before the system is implemented in a production environment. Furthermore, routine maintenance and system upgrades are carried out for optimal performance and availability in the long term.*

*It is hoped that the monitoring system developed can provide effective monitoring and fast notifications to users, thereby increasing the performance and availability of DCIM applications in a Kubernetes environment. The system is expected to be a valuable tool for organizations managing their own data centers, helping them identify and address issues more quickly and efficiently.*

**Keywords:** *kubernetes, DCIM, grafana, prometheus, grafana alert, telegram bot*