THE APPLICATION OF DATA AUTOMATIC IDENTIFICATION SYSTEM (AIS) AND THE SHIPPING DATABASE TO MONITOR PORT MARINE SERVICE BASED THE INTERNET IN REAL TIME

Name of Student : Galih Dendy Kusuma
NRP : 4209 100 075
Department : Teknik Sistem Perkapalan
Lecturer Advisor : DR. Eng. Trika Pitana, ST, MSc
DR. R. O. Saut Gurning, ST., M.Sc.

Abstract

The application of information systems in port has supported port business activity in order to support transactional activities and presentation of reporting to management. Automatic Identification System (AIS) device is used to obtain information about the ship and its cargo which installed on ships above 300 GT (gross tonnage) built after July 1, 2002. Practically, marine service performance on harbour is not fully under control by port operator, so some of the involved parties could be disadvantages.

This study discusses about the providing information of pilotages rate and tug assists cost, fuel loss due to services delays, and berth occupancy ratios in realtime for the parties which involved in harbour operation. The object vessels are Meratus Tangguh 1, Tanto Sentosa, and Meratus Makassar operating in the madura strait and can be detected through AIS receiver from Laboratory of Reliability and Safety in the Faculty
of Marine Technology ITS. By using MySQL (Structured Query Language Management System), AIS data is processed to determine the MMSI (Maritime Mobile Service Identity). Through MMSI, it is possible to gain information from shipping database, so necessary data can be load such as GT (Gross Tonnage), maximum speed, power engine.

The results showed that Meratus Tangguh 1, Tanto Sentosa, and Meratus Makassar pilotage service rate Rp. 675,060.00, Rp. 592,200.00, Rp. 1,017,840.00 and the tug assists cost Rp. 725,020.00, Rp. 691,400.00, Rp. 1,139,280.00, the ship in the assumed mode hotelling is the ships that not moving to wait for service is 1 hour 59 minutes, 2 hours, 2 hours and the loss of fuel during that time was 2.13 tons, 1.68 tons, 4.04 tons. These results are used as a prototype for making the web as a media Internet based information in real time, to control the performance of the port by considering the shortcomings of the methods used.

Keywords: AIS (Automatic Identification System), GT (gross tonnage), realtime, hotelling