

Abstract Submitted
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Advanced Networking Technology Utilization in Research Applications¹ JUAN RAMIREZ CHAVEZ, Hartnell Comm Coll, ARIJIT DAS, Naval Postgraduate School — In this period of the technological era, ongoing research has been devoted to adapting and utilizing advanced networking tools and software for the purpose of allowing greater connectivity between various, independently-run hardware components to achieve the tasks of a unified system. Such systems are capable of collecting and processing information regardless of scripting involved if practical network frameworks are established to communicate effectively. Throughout this investigation, two projects were conducted to validate questions regarding distributive data analysis. First, research was done on Simrad 4G radar and RTI IntegRadar XIR3000 radar system integration using Robotic Operating System (ROS) as a method of processing navigational information to a database with TCP and JavaScript web sockets. Second, research was also done on a 3-server setup running Red Hat Enterprise Linux with Cloudera's Manager Hadoop configuration software which allows for high-performance computing based on powerful data distribution. Regarding the ROS research, our results indicate that enabling communication between the two components is possible using TCP/IP and web socket protocols in order to transfer data to be analyzed.

¹Naval Postgraduate School, Hartnell College STEM

Juan Ramirez Chavez
Hartnell Comm Coll

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