

MASTER OF SCIENCE IN SYSTEMS TECHNOLOGY

NETWORK SURVIVABILITY ANALYSIS OF THE NAVY AND MARINE CORPS INTRANET (NMCI)

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In this thesis a survivability analysis is presented of the Navy and Marine Corps Intranet (NMCI). The survivable network analysis method is the product of the Carnegie Mellon Software Engineering Institute. When applied to NMCI, it is found that NMCI lacks a clear mission, possesses inadequate availability, security, and quality of service to be considered a survivable network system in anything other than an essentially benign environment. It is recommended that a mission focus and remedial actions be taken to bring NMCI transition to a survivable network and realign the entire function of NMCI with the core mission functions of the Navy and Marine Corps team.

KEYWORDS: Network Survivability, NMCI, Availability, Quality of Service, Security

AUTOMATED ASSESSMENT OF SQUADRON ENLISTED MANPOWER, TRAINING, AND READINESS

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Manpower management within all activities of the United States Navy has traditionally been an extremely challenging function. Careful, crucial reconciliation of manpower reports such as the Enlisted Distribution and Verification Report (EDVR) and the Activity Manning Document (AMD) are a critical event in the proper execution of such a process. Unfortunately, an automated process where such a manual, regularly occurring, time consuming, error prone, man-hour intensive routine is performed does not currently exist. Specifically, in the area of Capability Ratings, Manning, Training, Equipment and Supplies, an activity should be able to extract a prescribed range of data from the EDVR and AMD and have it automatically calculate the T-Rating and M-Rating as required by the Functional/Type Wing Commander. This thesis will attempt to address the feasibility and requirements for such an automated software application utilizing COTS technology with the additional utilization of application interface development to automate to the greatest degree possible, the regularly recurring reconciliation of the EDVR and AMD.

KEYWORDS: Manpower Database, AMO Database, Squadron EDVR, Squadron AMD, Automated Manpower Assessment, Squadron Manning, Information Management Systems, Client/Server Systems, Information Systems, Database Management Systems, Database, Decision Support, Distributed Computing, NMCI, .NET, Web Enablement, Military Readiness

SYSTEMS TECHNOLOGY

A COMPARATIVE ANALYSIS OF INFORMATION SYSTEMS AND COMMAND AND CONTROL PROGRAM CONCEPTS TO SUPPORT THE COMMON OPERATING PICTURE

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A Collaborative Information Environment (CIE) provides a set of tools for the commander and the warfighters, at all levels, to access a near real-time, fused, accurate picture representing the battlespace. The CIE introduces a variety of capabilities to assist decision-makers by providing a common relevant operational picture and the ability to conduct collaborative planning. Several information systems, currently under development, are being designed to provide improved situational awareness, and offer potential support to the CIE.

This thesis research was performed to support U.S. Joint Forces Command (JFCOM), J9, Joint Experimentation Division, as part of their effort to develop new warfighting concepts to support the transition of the military force to the fighting force described in Joint Vision 2020. Ten information systems, identified by JFCOM, were analyzed and compared on a set of criteria that were developed and refined as part of this research. The objective was to compare these information systems on the established criteria to provide a basis for assessing the level of support provided by these systems to the CIE and emerging warfighting concepts. Descriptions of the ten systems are provided along with data that was collated from a variety of sources to conduct the analysis.

KEYWORDS: Command and Control, Common Relevant Operational Picture, Situation Awareness, Network Centric Warfare

THE UNIQUE REQUIREMENTS OF IMPLEMENTATION AND ADAPTATION OF AN ENTERPRISE RESOURCE SYSTEM (ERP) WITHIN THE DEPARTMENT OF DEFENSE (DOD): THE DEVELOPMENT OF THE DEFENSE INTEGRATED MILITARY HUMAN RESOURCE SYSTEM (DIMHRS)

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The purpose of this thesis is to develop a compendium of the unique implementation and adaptation requirements of enterprise resource planning (ERP) systems within the DoD. The thesis will review past and present ERP case studies in both the public and private sector to identify the successes and failures of ERP implementation. The thesis will also identify and explore the unique requirements of DIMHRS within the DoD relating to both administrative and financial transactions in the DoD.

KEYWORDS: ERP, Enterprise Resource Planning, DIMHRS, Defense Integrated Military Human Resource System

MASTER OF ARTS

**International Security and Civil Military Relations
National Security Affairs**

