

United States Coast Guard

Information Technology Management Strategy

Version 1.0

**Director of Information and Technology
Chief Information Officer
U.S. Coast Guard**

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Foreword

Information is a vital corporate resource that must be managed collectively and collaboratively for the benefit of the entire organization. Recent industry studies have indicated that information technology is now the nation's largest industry, ahead of construction, food products, and automobile manufacturing. Recognizing that information is a key enabler for the Coast Guard's future success, this Information Technology Management Strategy provides direction for making cultural and process changes which will allow us to manage Coast Guard information technology (IT) resources for the benefit of the organization and the customers we serve.

This IT Management Strategy is a critical component of the overall framework for managing Coast Guard IT resources. It was developed by a cross-program team of senior Coast Guard leaders and is a significant step in changing our IT management focus from one of independent program specific systems to partnering to develop enterprise-wide systems. This new, collaborative focus will enable us to leverage our IT resources and improve our agency's overall efficiency and effectiveness.

I want to express my sincere thanks to the cross-program team and contractor staff who contributed their time and expertise in developing this strategy. This was the first major step in our important journey to fundamentally change the way we manage IT resources in the Coast Guard. Our next step is to charter the IT Management Board and begin to work on the specific initiatives to implement this strategy. Many challenges lie ahead and only through continued collaboration and cooperation will we succeed in achieving our IT vision.

RADM George Naccara

Executive Summary

The Information Technology Management Strategy provides overall direction for managing Coast Guard information technology (IT) resources. This strategy establishes the Coast Guard's IT management vision, strategies for achieving the IT management vision, objectives to support the strategies, and specific initiatives to accomplish the objectives.

The Government Performance and Results Act (GPRA) of 1993 and the Clinger-Cohen Act were passed to promote more effective and efficient government. Information and information technology must be managed as a strategic resource from a Coast Guard-wide perspective, as well as supporting individual program requirements.

The IT management vision articulates the future state of IT which supports the Coast Guard's performance and management goals into the 21st century.

Vision

The Coast Guard, as the world's premier maritime service, delivers the right information to the right people at the right time to support all Coast Guard missions.

To achieve the IT management vision will require changes to the Coast Guard culture and business processes. The Chief Information Officer (CIO), in collaboration with all assistant commandants and field commanders, will lead this change. These strategies provide focused guidance that will drive the changes and enhance mission accomplishment through the exploitation of information technology.

STRATEGY 1 - Institutionalize collaborative information technology management processes throughout the Coast Guard.

STRATEGY 2 - Link and align information technology initiatives to Coast Guard business.

STRATEGY 3 - Require Coast Guard information technology systems to be interoperable.

STRATEGY 4 - Communicate the value of information technology to the organization.

STRATEGY 5 - Capitalize workforce talents using innovative Information technology tools.

STRATEGY 6 - Implement information technology performance measures.

The IT Management Strategy provides effective strategic direction for IT management throughout the Coast Guard. The implementation of this strategy requires commitment from the entire Coast Guard to work together to achieve the stated IT management vision. This strategy provides IT direction to program managers as they develop their business plans (Appendix F) and define their IT requirements. The CIO, with assistance from the IT Management Board, will develop an action plan to accomplish the initiatives explained throughout this document.

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I. Purpose

The Information Technology Management Strategy provides the overall direction for managing Coast Guard information technology (IT) resources. This strategy establishes the Coast Guard's IT management vision, strategies for achieving the IT management vision, objectives to support the strategies, and specific initiatives to accomplish the objectives.

The scope includes all Coast Guard information technology as defined in the Clinger-Cohen Act (also referred to as the Information Technology Management Reform Act (ITMRA)). The Clinger-Cohen Act was passed to improve the management of IT resources throughout the federal government. Major provisions of the legislation included requiring agencies to establish Chief Information Officers (CIO) with their primary duty to manage agency IT resources, ensuring alignment between IT investments and agency missions and goals, and establishing performance measures for IT efforts. This strategy outlines actions to achieve compliance with the Clinger-Cohen Act and applies to all Coast Guard activities that provide or use information, and oversee, plan, manage, develop, acquire, and operate information capabilities across all Coast Guard mission areas.

II. Introduction

The Coast Guard IT Management Strategy highlights the central role of information in carrying out Coast Guard missions. Information is a corporate resource, and this strategy reflects a change in focus from one of independent program specific systems to partnering to develop enterprise-wide systems. This strategy supports the DOT and the Commandant's strategic direction in addition to projecting the importance of technology for future Coast Guard missions as envisioned by Coast Guard 2020. Coast Guard 2020 projects a look ahead and charts a course to ensure the Coast Guard's readiness and relevance into the 21st century. Information technology is a key enabler that will ensure the Coast Guard transforms Coast Guard 2020 into reality.

The Government Performance and Results Act (GPRA) of 1993 and the Clinger-Cohen Act were passed to promote more effective and efficient government. Information and information technology must be managed as a strategic resource from a Coast Guard-wide perspective, not just to support individual program requirements. Information is a corporate resource and information technology decisions must be based on their contribution to the effectiveness and efficiency of all Coast Guard missions. Information technology management must be aligned with all Coast Guard operational and support program functions, and must employ best business practices to continuously improve customer support, reduce costs, and apply the best available information technology.

The IT Management Strategy was developed under the direction of the Coast Guard's Chief Information Officer (CIO) using a cross-programmatic team of senior managers represented by G-CPP, G-CFS, G-Ad, G-MR, G-OCC, G-S, G-SI, G-SIA, G-SC, G-SL, and G-W. The goal was to build a collaborative IT management vision for the Coast Guard. To assist the CIO in implementing this strategy into the future, this group, chartered as the Coast Guard's IT Management Board, will be responsible for

ensuring the initiatives identified in this document are achieved. The CIO and the IT Management Board will annually review and revise the IT Management Strategy as necessary to ensure that it accurately reflects the current strategic IT direction for the Coast Guard.

III. Information Technology Management Vision

The Coast Guard information technology vision articulates the future state of IT, which supports the Coast Guard's performance and management goals into the 21st century. Progress in achieving the vision is then a measure of the progress in developing solutions which support Coast Guard performance goals.

Vision

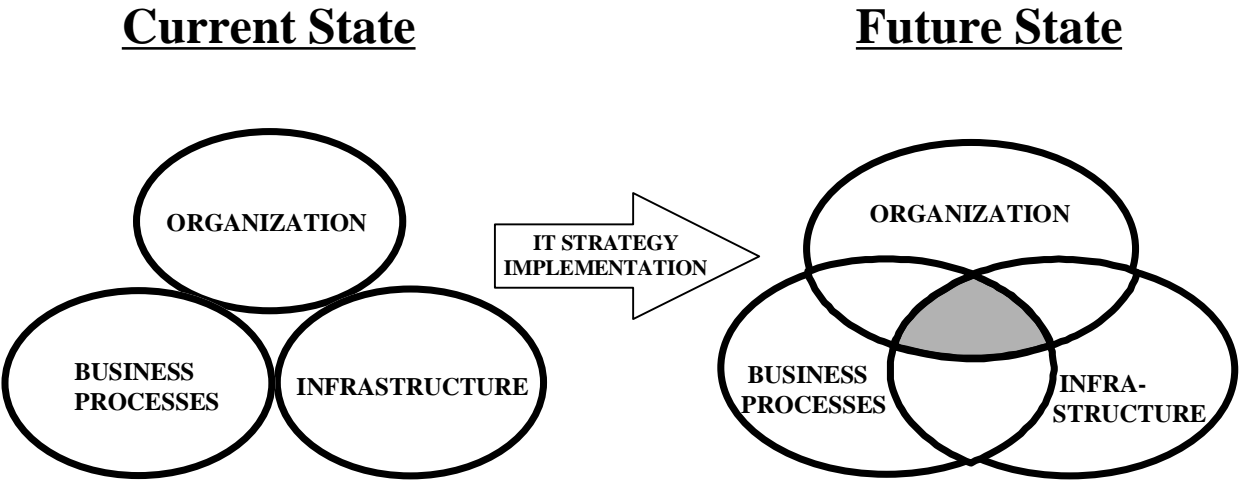
The Coast Guard, as the world's premier maritime service, delivers the right information to the right people at the right time to support all Coast Guard missions.

Achieving the desired state described by this vision will require changes in the way jobs are currently performed and will take collaborative efforts to fully exploit information technology. It will necessitate partnerships throughout the Coast Guard to focus on developing and implementing interoperable capabilities and systems that seamlessly integrate all operational and support activities. The vision, as stated, will be achieved when the following future state elements are achieved:

Future State Vision Elements

- *Coast Guard Information is timely, available and accessible for users inside and outside the organization.*
- *Coast Guard information technology, as a catalyst for business process improvement, drives significant operational efficiencies and effectiveness.*
- *Coast Guard information technology fosters responsible stewardship: the wise utilization of the resources (people, platforms, information, funding) provided to accomplish our missions.*
- *Coast Guard information technology architecture provides a transparent human/system interface.*
- *Coast Guard information technology infrastructure is secure and reliable.*
- *The workforce values Coast Guard information technology as a means of improving productivity and job satisfaction.*
- *Coast Guard information technology is an investment of choice because it leverages scarce resources, enables cost savings/avoidance, allows performance measurement and provides new mission capabilities.*

To successfully achieve the IT management vision, the Coast Guard must have a clear understanding of IT and how it relates to our organization, our business processes and our infrastructure. In the following diagram, these three critical areas are depicted in a current and future state. The organization circle includes agency culture, organizational structure, and roles and responsibilities. The business processes are how the organization performs its functions and makes decisions. The infrastructure circle includes all the resources and physical assets of the organization. Currently, these three key aspects of our organization view IT in completely different ways leading to IT solutions that are poorly integrated across all three areas. As we better align the understanding and use of IT for the three areas, IT will be integrated across the different views and seamlessly provide the right information at the right time to the right place to achieve all Coast Guard missions. IT is the enabler to maximize organizational performance.



IV. Information Technology Management Strategies

Achieving the IT management vision will require changes to the Coast Guard culture and business processes. The CIO, in collaboration with all assistant commandants and field commanders, will lead this change. These strategies, objectives, and initiatives provide focused guidance that will drive the changes and improve mission accomplishment. Success will be found through the exploitation of information technology, ultimately resulting in the achievement of the IT management vision.

STRATEGY 1 - Institutionalize collaborative information technology management processes throughout the Coast Guard.

Information is a corporate resource and must be managed for the collective benefit of the organization. IT processes and the responsibilities of those who manage and use information must be clearly understood and communicated to drive intelligent resource decisions. The goals of this strategy are to:

- *maintain an enterprise-wide view in IT decision making.*
- *focus IT processes to be responsive to organizational needs and deliver timely solutions.*
- *ensure existing IT resources are more effectively used both individually as well as collectively.*

Objective 1.1 - Utilize a doctrinal approach for managing IT resources.

Initiatives: Develop an IT Management Plan which provides a high-level description of how the Coast Guard incorporates, uses and operates IT, including how it documents and protects information.
Develop format for Appendix F of the Business Plans showing linkage to IT Management Plan.

Objective 1.2 - Develop effective, collaborative enterprise-wide decision making processes for IT investments throughout their life cycle.

Initiatives: Develop an IT Investment Process that includes all funding sources (AC&I, OE, RDT&E, RT) and integrates into the Coast Guard planning, programming and budgeting process.
Establish baseline funding of all IT expenditures.

Objective 1.3 - Delineate roles and responsibilities for managing IT.

Initiatives: Define roles and responsibilities of the CIO/CRC/CFO and how they report to G-CCS.
Develop IT Concept of Operations (CONOP).
Formally charter IT boards to assist CIO in managing IT resources.

Objective 1.4 - Develop enterprise-wide processes for technology forecasting, innovation, monitoring, evaluation, and adoption.

Initiatives: Formalize relationship between the designated Area Staff Technology Officers (STO) and rest of IT community.
Include R&D projects in IT planning process.

STRATEGY 2 - Link and align information technology initiatives to Coast Guard business.

Information technology must be used to improve the operational and support missions of the Coast Guard. The Coast Guard's business processes must be understood, requirements documented, and IT solutions delivered so that the desired outcomes are achieved. The goals of this strategy are to:

- *ensure an enterprise approach is used to integrate operational and support requirements.*
- *ensure Coast Guard program directors use business area analysis and business process reengineering tools as they define IT requirements.*
- *integrate IT solutions across all assets and platforms to provide operational commanders total situational awareness.*

Objective 2.1 - Continue to build on previous IT modeling activities.

Initiatives: Validate 26 Coast Guard business processes identified during the Jumbo SIRMP process and assign stewards and accountability.
Integrate IT investment portfolio with existing business plans and Agency Capital Plan.
Develop Systems Plan which shows relationships among all Coast Guard information systems.
Implement C4I Operational Architecture and Transition Plan as integral component of the enterprise IT architecture.

Objective 2.2 - Implement a unified IT requirements process.

Initiatives: Develop IT requirements process that includes prioritization to aid in making IT investment decisions.
Develop standard business case format.
Require business case analysis to justify all IT investments.

Objective 2.3 - Make IT a catalyst for business process redesign efforts.

Initiatives: Develop and implement a standardized process redesign methodology.
Educate management about the benefits of using a standard redesign methodology.
Designate the Systems Directorate as a process redesign lab.

STRATEGY 3 - Require Coast Guard information technology systems to be interoperable.

Information systems must be developed with an enterprise-wide focus. Information technology systems must be interoperable, seamless, secure, and reliable. An integrated architecture for operational and support systems must be established and adhered to. System

security and reliability must be continually emphasized when developing and implementing IT solutions. The goals of this strategy are to:

- *ensure the IT infrastructure is flexible and scaleable to adapt to evolving mission requirements and surges in mission performance.*
- *ensure that information is protected at the appropriate level as required by the nature of the information.*
- *ensure that databases permit global access to corporate information.*
- *ensure that all IT systems are built to enterprise standards.*

Objective 3.1 - Develop, publish, and implement a cohesive, flexible set of hardware, software, and interconnectivity standards.

Initiatives: Develop and promulgate Coast Guard Common Operating Environment (COE) to include the Information System Technical Architecture (ISTA).
Develop Coast Guard application development standards.
Develop a Coast Guard IT infrastructure modernization plan.

Objective 3.2 - Ensure security and reliability considerations are at the forefront of all IT activities.

Initiatives: Develop, promulgate and ensure compliance with enterprise security policy.
Create and fund Computer Incident Response Team (CIRT).
Ensure all IT systems meet reliability standards.
Ensure all Coast Guard systems satisfy Y2K requirements.

Objective 3.3 - Implement a standardized Coast Guard systems development process.

Initiatives: Develop and promulgate Coast Guard Systems Development manual.
Develop an IT project managers handbook.
Include data, training, and support issues in all systems development efforts.

Objective 3.4 - Develop IT systems using Coast Guard data standards.

Initiatives: Complete Coast Guard data standardization.
Educate system developers and managers on existence and require mandatory use of standard data dictionary and data elements.
Make data dictionary accessible to all users via automated means.

Objective 3.5 - Create and use a Coast Guard IT configuration management process.

Initiatives: Define roles and relationships of Coast Guard IT configuration management groups/boards.
Develop IT configuration management process as part of the IT CONOP.

Objective 3.6 - Ensure global access of corporate information.

- Initiatives: Implement remote access solutions.
Establish adequate network infrastructure and funding strategy to maintain and operate.
Implement Coast Guard-wide video-teleconferencing technology.
Carry out Coast Guard Data Center Consolidation Strategy.

STRATEGY 4 - Communicate the value of information technology to the organization.

The CIO must be the leader in articulating the IT management vision and strategies and demonstrate the value of IT to the organization. Employees throughout the Coast Guard have the responsibility to manage information and utilize IT tools for the benefit of the entire organization. The goals of this strategy are to:

- *ensure all dealings with customers and partners are enhanced through information access and exchange.*
- *ensure employees view IT systems as an integral tool in the performance of their tasks.*
- *ensure that government and industry “best practices” are utilized.*
- *ensure that the smart use of IT results in enhanced performance.*

Objective 4.1 - Instill in all employees a basic understanding of the importance of IT.

- Initiatives: Articulate IT management vision and IT management strategy.
Educate Coast Guard employees on the value and use of IT.
Ensure employees are trained in Records Management.

Objective 4.2 - Communicate IT success stories inside and outside the Coast Guard.

- Initiatives: Develop marketing plan to capture and disseminate IT success stories.
Partner with other government agencies and industry to exchange IT best practices.

STRATEGY 5 - Capitalize workforce talents using innovative information technology tools.

Information technology tools and solutions must be provided to tap into the talents and skills of all employees. To succeed and retain the best workforce, the organization must make the transition to the “knowledge worker.” The goals of this strategy are to:

- *ensure that employees are encouraged to find innovative uses of IT tools resulting in improved productivity.*

- *ensure that IT systems have a common look and feel agency-wide and are adaptive to unique user needs.*
- *ensure that employees once properly trained to do their jobs require no further training to operate the IT systems they use to perform their functions.*

Objective 5.1 – Ensure the human/systems interface is a major design consideration.

Initiative: Develop human/systems interface standards and include in all system development initiatives.

Objective 5.2 - Equip all employees with a basic, standardized IT skill set.

Initiatives: Educate employees about Coast Guard IT at all accession points.
Familiarize Coast Guard managers and supervisors on effective use of IT and IT doctrine, policy, and procedures.
Incorporate IT skill requirements in military requirements exams/position descriptions.
Provide IT continuing education.
Partner with CG Academy to ensure IT competencies are included in core curriculum.

Objective 5.3 - Take advantage of IT to improve workforce performance.

Initiatives: Explore computer based training technologies.
Implement distance learning technologies such as computer based training, teleconferenced lectures, and correspondence courses.
Provide tools for telecommuting.
Ensure all employees have adequate training on all automated systems required to perform their jobs.

STRATEGY 6 - Implement information technology performance measures.

The GPRA, Clinger-Cohen Act, and Chief Financial Officers Act highlighted the need and importance of measuring IT investments. Technology is changing very rapidly and must be thoughtfully inserted into the organization in an efficient and effective manner. Measuring the contribution of IT to mission performance is critical, especially in the constrained federal budget climate. The goals of this strategy are to:

- *ensure that IT investments are linked to program outcomes or support business plans.*
- *ensure that IT life-cycle costs are accurately determined.*
- *ensure meaningful IT measures are developed.*
- *ensure that good resource stewardship is recognized and rewarded.*

Objective 6.1 - Develop IT performance measures that support productivity growth and organizational performance.

Initiatives: Partner with G-CRC to incorporate IT measures into Coast Guard Performance Goals.
Ensure all IT systems have an approved performance management plan.

Establish and implement a formal IT system review process.

Objective 6.2 - Ensure that Coast Guard IT products and services meet customer service standards.

Initiatives: Develop critical success factors for IT projects.
Develop customer service standards and measures.
Develop a process to obtain and measure customer feedback.

Objective 6.3 - Determine the value of Coast Guard IT resources and make the most appropriate IT investments.

Initiatives: Consider Life Cycle Cost (LCC) and Total Cost of Ownership (TCO) for all IT investment decisions.
Develop standardized methodology to measure Return on Investment (ROI) and require its use.
Develop/select an activity-based costing methodology to determine the value of IT assets.
Ensure all IT projects are documented and that the life-cycle of information is addressed.

Objective 6.4 - Measure progress of IT strategy implementation toward IT vision elements.

Initiatives: Develop measures against the IT management vision.
Annually review progress made toward meeting IT vision and present to senior management using a “dashboard gauge” approach.

V. Strategy Deployment and Implementation

The IT Management Strategy provides all Coast Guard employees access to the strategic direction for IT management in the Coast Guard. This document complements the Coast Guard’s “Family of Plans” and provides overall direction for managing Coast Guard IT resources. The implementation of this strategy requires commitment from the entire Coast Guard to work together to achieve the stated IT management vision.

The CIO, in partnership with the Resource Director and the Chief Financial Officer, will direct the Coast Guard’s funding decisions to ensure maximum IT resource allocations. The CIO has the responsibility for ensuring that Clinger-Cohen Act mandates are executed both in the spirit and intent of the law. This IT Management Strategy provides guidance to achieve Clinger-Cohen Act mandates and provides a road map for pursuing IT improvements well into the future. In addition, this strategy provides IT direction to Assistant Commandants as they develop their business plans (Appendix F), define their program IT requirements, and assist the CIO in meeting Clinger-Cohen Act mandates.

The CIO, with assistance from the IT Management Board (composed of senior IRM representatives of each Assistant Commandant, G-A, G-CCS, G-H and G-L), will develop an action plan to accomplish the initiatives detailed throughout this document. Further, the CIO and the IT Management Board will annually review and revise the IT Management Strategy as necessary to ensure that it accurately reflects the current strategic IT direction for the Coast Guard.