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# NASA Procedural Requirements

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2016[Printable Format \(PDF\)](#)[Request Notification of Change](#) (NASA Only)

## Subject: Managing Information Technology

**Responsible Office: Office of the Chief Information Officer**[| TOC](#) | [Preface](#) | [Chapter1](#) | [Chapter2](#) | [Chapter3](#) | [Chapter4](#) | [Chapter5](#) | [Chapter6](#) | [Chapter7](#) | [Chapter8](#) | [Chapter9](#) | [Chapter10](#) | [Chapter11](#) | [Chapter12](#) | [AppendixA](#) | [AppendixB](#) | [ALL](#) |

## Chapter 7. Application Portfolio Management

### 7.1 Application Portfolio Management Requirement

NASA shall develop and maintain an application portfolio management process to drive application standardization and efficiency.

### 7.2 Background

7.2.1 Application Portfolio Management (APM) is a process that organizes applications into relevant portfolio categories so their performance can be assessed. The objective of APM is to leverage a portfolio view of existing IT application assets throughout NASA to improve the performance of the individual assets within the portfolio as well as the performance of the portfolio as a whole.

7.2.2 NASA utilizes a portfolio management approach to establish and maintain the applications baseline and identify gaps in capability and opportunities for consolidation. This information supports application investment decisions.

7.2.3 NASA has defined four application portfolios:

- a. Science and Engineering applications, which enable the use of scientific knowledge and the utilization of natural laws and physical resources in order to design and implement materials, structures, machines, devices, systems, and processes that realize a desired objective and meet specified criteria. Sample subportfolios include Analysis & Statistics tools (e.g., structural/thermal, forensics, mathematical, etc.), Visualization tools (e.g., graphic charting, Computer-Aided Design (CAD), multimedia, etc.) and Knowledge Discovery tools (e.g., data mining, modeling, and simulation).
- b. Project Management applications, which enable the planning, organizing, and managing of resources to bring about the successful completion of specific project goals and objectives. Sample subportfolios include Management of Process tools (e.g., configuration management, risk management, quality management, requirements management, etc.).
- c. Business Management applications, which enable the management of business functions and organizational activities to maintain continuity across the business and value-chain participants and the management of enterprise planning and transactional-based functions. Sample subportfolios include Financial Management tools (e.g., payroll, billing and accounting, internal controls, etc.), Human Capital Management tools (e.g., skills management, career development and retention, benefits management, etc.), Knowledge Management tools (e.g., information mapping/taxonomy, categorization, etc.) and Asset/Supply Chain Management tools (e.g., property/asset management, facilities management, etc.).
- d. Infrastructure applications, which include all IT applications that enable e-mail, instant messaging, collaborative workgroup services, help desk services, data dictionary, directory services and any other services focused on facilitating access to information. Sample subportfolios include Collaboration tools (e.g., e-mail, calendaring, threaded discussions, etc.), Communications tools (e.g., instant messaging, audio, and video conferencing, etc.) and

Customer Relationship Management tools (e.g., call Center management, customer surveys, etc.).

### 7.3 Application Portfolio Management Roles and Responsibilities

7.3.1 The NASA CIO shall work with the Offices of Program Analysis and Evaluation and the Chief Engineer to develop an APM process that organizes the Agency's investments in IT tools and applications to ensure integration and eliminate unnecessary duplication.

7.3.2 The NASA CIO shall establish, own, facilitate, and continuously improve the APM process, database, and performance reporting (such as a balanced scorecard) to the IT SIB and appropriate Agency councils (OMC, PMC, SMC).

7.3.3 The NASA CIO shall be responsible for ensuring that the IT Application Portfolios are in alignment with the NASA mission and strategy as well as compliant with NASA IT Security policy.

7.3.4 The NASA CIO shall evaluate annually the IT Application Portfolios to determine how well they perform from a current and future business perspective, from an architectural perspective (full life-cycle view from inception through sunset), from a technical/operations and maintenance perspective, and from a financial/efficiency performance perspective.

7.3.5 Business area owners (e.g., Chief Engineer, Chief Financial Officer, etc.) shall own portfolio/subportfolio assets and define the requirements for the functionality and service levels required for the use of the assets.

7.3.6 Both business area owners and the NASA CIO shall agree on performance standards for the entire portfolio of assets (e.g., filling-in business capability gaps, reducing redundant capabilities, etc.).

7.3.7 The NASA CIO and business area owners shall jointly address deficiencies found during the annual assessment.

7.3.8 Center Application Portfolio Managers shall work with the NASA CIO to facilitate the process of assessing Center applications against criteria and overall portfolio performance objectives.

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