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RECOMMENDATIONS FOR AN EXECUTIVE INFORMATION SYSTEM (EIS) FOR THE NASA ACCOUNTING AND FINANCIAL INFORMATION SYSTEM (NAFIS)

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RECOMMENDATIONS FOR AN EXECUTIVE INFORMATION SYSTEM (EIS) FOR THE NASA ACCOUNTING AND FINANCIAL INFORMATION SYSTEM (NAFIS)

In partial fulfillment of my Summer Faculty Fellowship contractual obligation, Mr. Alan Forney and Mr. Neil Rodgers provided me with a "statement of work" which in summary required me to:

I.   Survey state-of-the-art computing architectures, tools and technologies for implementing an EIS.

II.   Review MSFC capabilities and efforts to-date in developing an EIS for Shuttle Projects Office and the Payloads Project Office.

III.   Review management reporting requirements for the NAFIS project in the areas of cost, schedule, and technical performance. Insure that the EIS fully supports these requirements.

IV.   Develop and implement a pilot concept for a NAFIS EIS.

The following represents a summary of my findings in fulfillment of this contractual obligation. In addition to the following EXECUTIVE SUMMARY, a separate study was completed and available under a separate cover.

EXECUTIVE SUMMARY

In order for managers to use the NASA Accounting and Financial Information System (NAFIS) more effectively, an EIS component must be added which supplies data specific to the manager's needs through a simple, intuitive graphical interface.[3] This EIS module will deliver mission critical information to the manager in a format which enhances decision making.

The following recommendations represent the summary findings of this initial survey regarding the implementation of a NAFIS EIS:

1. Due to the difficulty of specifying EIS requirements in advance, prototyping is recommended.

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[3]The MITRE Study, examining the MSFC MIS, concludes that a GUI would greatly enhance the MSFC MIS.

a. Prototype should support multiple platforms.
b. Prototype should not be a "throw away" development but should instead be a first step in a production EIS.
c. Prototype should be modular in design and be able to download data from the NAFIS database residing either on the IBM 3090 or the VAX 4000.

2. EIS must provide access to the current E-Mail system and to other Data General (DG) applications used by managers.

3. No new databases should be created to support the EIS. The EIS should, instead, extract data from the NAFIS database as demanded by the decision maker. The EIS should not run in "real" time in terms of the NAFIS database residing on the IBM 3090 host.

4. Due to the existence of multiple environments, multiple locations, and long time horizon, a commercial off-the-shelf (COTS) EIS development tool is recommended. Based upon initial reviews, the ComShare EIS product is recommended in combination with "data pipelines."

5. In order to enhance interoperability between the IBM host and other hardware devices, Hewlett-Packard's NewWave, VAX's Pathworks or ComShare's EasyTrieve should be implemented on personal computers. In addition to adding access across heterogenous devices, these products would reduce overall cost by negating the need for mainframe EIS products.

6. Several recommendations contained in the MITRE Study impinge directly on the EIS and are adopted for the NAFIS EIS:

a. Initial prototype should be in a client/server environment with the travel module.

1) The MITRE Study recommends migration of applications to the client/server environment.
2) The movement to a client/server architecture is necessary to support the EIS capabilities currently in the market and to insure adequate response time.

b. The MITRE Study recommends the movement away from menus to a graphical user interface (GUI). This study likewise recommends an EIS development methodology that makes maximum use of a graphical user interface. For many managers, this will necessitate the replacement of the DG nodes, which cannot support this interface. However, users of NAFIS who do not demand a GUI, such as clerical personnel, may continue to use the DG nodes until they are inconsistent with overall NAFIS goals.