

**Products Used:**

- Oracle® database
- Sybase® PowerBuilder-based solution
- Microsoft® Windows® environment

**Key Benefits:**

- Fast, easy access to comprehensive financial data
- Capability to integrate multiple financial information systems
- Significant savings in development time and system costs

**Profile:**

Name – United States Air Force Defense Financial Accounting Service (DFAS)

Web site – [www.dod.mil/dfas/](http://www.dod.mil/dfas/)

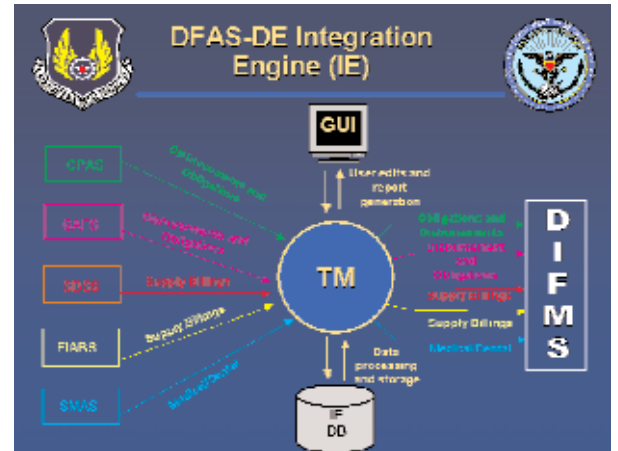
The mission of the Air Force Defense Financial Accounting Service (DFAS) is to provide responsive, professional finance and accounting services for the people who defend America, including members of the U.S. Army, Navy, Air Force, Marines, and Defense Agencies.

Size – Approximately 16,000 DFAS employees serve military and Defense clients via 26 locations worldwide.

## Integrating Financial Data Systems

### Need to Integrate Multiple Financial Information Systems

In 1998, the Air Force tasked Intergraph Corporation to integrate a standard Department of Defense accounting system into the Air Force Materiel Command (AFMC) legacy production, material, and financial systems. Called the Depot Maintenance Accounting and Production System (DMAPS), the system interfaces with 30 different Air Force and Defense Finance and Accounting Service (DFAS) legacy systems.



To implement DMAPS, AFMC and DFAS needed a system to provide software support for the Air Force Depot Maintenance business area. Thus, the two groups selected the NAVAIR Defense Industrial Financial Management System (DIFMS) to provide that support. However, the selection of DIFMS meant it had to be interfaced with existing DFAS financial legacy systems. Therefore, as a critical portion of the overall DMAPS effort, DFAS Denver (DE), DFAS headquarters located in Arlington, Virginia, and Intergraph initiated a sub-project to interface DFAS legacy systems with DIFMS. Working with DFASDE, Intergraph provided the requirements analysis, design, development, test, and support for the systems integration. The challenge was to complete the interface while minimizing any changes or impacts to each system involved.

### The Project Objectives:

- Integrate multiple financial information systems
- Create environment to receive, process, and archive large amounts of data annually
- Implement secure financial network with user access/restriction levels

### The Solution:

Interfacing DFAS legacy systems and DIFMS required a comprehensive middleware solution. Therefore, Intergraph personnel created an integration engine (IE) – a suite of applications responsible for scheduling and executing data exchanges between both DIFMS and DFAS legacy systems. The IE comprised a Transaction Manager (TM), to facilitate the exchange of data between the multiple systems, and a graphical user interface (GUI), to act as a staging area for data that is not directly transferable, allowing users to perform extensions to that data to make it acceptable to DIFMS. Intergraph worked closely with DFAS-DE personnel to define and organize the data requirements for system integration. Since data had to be transferred from legacy systems to a receiver system (DIFMS), the team worked backwards to develop necessary transformation rules. They identified what data sets DIFMS required and located that data in five corresponding legacy systems. Two of the five identified legacy systems possess obligation/disbursement data. The remaining three systems contain supply billing and medical/dental data. Intergraph then defined the rules necessary to interface the data between the legacy systems and DIFMS.

Intergraph analyzed data from the five legacy systems and prepared it for transmission to DIFMS by identifying missing data elements requiring user input, sorting and processing data according to the defined rules to eliminate possible duplicate data transfer, and generating and sending DIFMS input files. The team then prepared formal system design specifications and detailed design documentation, creating a comprehensive implementation plan.

Intergraph used an Oracle® database and Sybase® PowerBuilder-based solution to construct the IE. Using an object-oriented approach, Intergraph developed the IE technical architecture applications, the team completed design of the TM and GUI components by using advanced Oracle queuing capabilities and reusing existing code from DMAPS.

Using a structured configuration management approach, Intergraph documents requirements and control changes to the interfaces and the interfacing DFAS feeder and DIFMS receiving systems as they occur, through interface control documents. Intergraph designed the IE to receive, process, and archive in excess of 10 gigabytes of data annually. System users must purge information periodically, which archives the data in a format necessary for analysis and/or auditing according to Federal Financial Management Requirements (FFMR).

Intergraph incorporated username/password and profile mechanisms into the design of the IE and GUI applications in accordance with applicable Defense Information Systems Agency security technical implementation guidelines for Oracle databases and the Microsoft® Windows® environment. To control access to sensitive financial data, Intergraph implemented user access/restrictions at three levels, including the application administrator, site administrator, and user. Intergraph also implemented restrictions between administrators and users at each AFMC Air Logistics Center. Finally, Intergraph tested system performance throughout the design process and conducted a formal site integration test at DFAS-DE to test system deliverables.

The DFAS-DE middleware solution, with its unique business/transformation rules for processing DFAS legacy systems accounting data into DIFMS unique file formats, significantly reduced required system changes to the DFAS legacy accounting systems. By reducing those changes, DFAS will save years in development time and millions of dollars in system modification costs. Intergraph has met all program milestones under budget and continues to receive DFAS endorsement.

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### **United States Air Force Defense Financial Accounting Service (DFAS)**

In 1991, the Secretary of Defense created the Defense Finance and Accounting Service to reduce the cost of Defense Department finance and accounting operations and to strengthen financial management across the department. Since inception, DFAS has consolidated more than 300 installation-level finance and accounting offices into 26, and reduced the work force from about 27,000 to approximately 16,000 personnel.

### **Intergraph Security, Government & Infrastructure**

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