

Kuwait Automated Support System (KASS)-- A Truly Unique Project

By

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The Navy Fleet Material Support Office (FMSO), as one of its major mission areas, provides Central Design Agency services to the Naval Supply Systems Command (NAVSUP) sponsored and directed automation projects. While these projects run the gamut from the enormity of the Stock Point ADP Replacement (SPAR) project to the diversity of the Management Information System for International Logistics (MISIL), none stand out as being quite so unique, quite so unusual, as the Kuwait Automated Support System (KASS) Project.

The truly unique nature of KASS lies mostly in what it will ultimately accomplish--total automation and integration of all the support functions of a military service. In the case of KASS, the military service is the Kuwait Air Force and Air Defense (KAF/AD), and the systems being integrated include supply, aircraft maintenance, air defense maintenance, finance and accounting, personnel, administration, training, ammunition management, communications and flight operations. While the functional scope of the KASS project spans a variety of specialty areas, it is precisely this feature that makes it stand out as possibly the most unique and capable military support system of its kind in the world. Although there have been many computerized systems developed that have combined two or three separate functional areas, none have been so far reaching as to achieve the full integration of every major support area into one state-of-the-art, on-line, interactive data base system. Here, complete integration means not only complete data storage in a single location to avoid redundancy and duplication, but also effortless movement between and retrieval of data from different functional areas. This allows the user to get any information he requires from whatever functional area he needs at one terminal, on-line, in real time.

KASS DEVELOPMENT

Acting as technical advisors to the KAF/AD, through a Foreign Military Sales (FMS) case, FMSO's International Logistics Support Department is leading the development of the KASS system. The organizational approach chosen for the project includes FMSO functional analysts who oversee design and development efforts, while the actual programming and documentation is produced by contractors. There are presently four major contractors providing ADP services for the project: two in the United States doing system development work, a U.S. freight forwarder who provides automated item tracking, and a firm in France which provides automated cataloging and tracking services for KAF/AD items procured in Europe.

KASS COMMUNICATIONS

Very early in the project, the need for a reliable data transmission capability was recognized by the KAF/AD, and FMSO was tasked to provide a communications network along with the KASS computer system. Working through U.S. contractors, an intricate network of microwave communications facilities was planned, assembled, delivered, and installed in Kuwait. This microwave network now provides both voice and data communications connections between all the major KAF/AD installations, and a tie into a worldwide satellite communications network. Through this system, the KAF/AD can reliably transmit and receive voice and data communications among all of its activities, even with the more severe weather conditions that frequently plague the Middle East desert region. Additionally, the worldwide satellite communications capability allows

the KAF/AD to receive daily updates of ordering information and status from the U.S. and Europe, as well as the ability to display this information on-line to authorized users throughout the KASS system.

KASS COMPUTER HARDWARE

The subject of KASS computer hardware really needs to be divided into two parts: the FMSO test bed, where all the KASS system development work takes place, and the KAF/AD Computer Center, where all the KASS programs are in production and used constantly by the KAF/AD in management of their support functions. The FMSO test bed operates an IBM 3081 Model D mainframe computer, the same type of Brand R computer hardware that the Navy has selected for its Inventory Control Points (ICP) computer replacement efforts. The KAF/AD Computer Center presently operates an IBM 4341 Model 12 mainframe computer, and will very shortly commence operating an IBM 3081 Model K as well (see Figure 1). This IBM 3081 configuration provides the test bed and operational site with the more sophisticated IBM technology available, and puts the KASS system on the leading edge of computer systems development.

KASS COMPUTER SOFTWARE

Here again, this subject really needs to be discussed in two parts: operating systems software, the basic programming that allows the computer to function, and application software, the programming that gives the user the functions he needs. Called environmental software, the KASS operating system employs Multiple Virtual Storage (MVS) as the basic operating system, Information Management System (IMS) as a data management and communications system, and a variety of other software products that facilitate smooth and efficient computer operations. The other side of the "software" story is the programming of actual transactions that makes the supply, maintenance, personnel, and other systems function. Here, KASS employs IBM's Advanced Development Facility (ADF) to program all the on-line transactions in the system, and uses a fourth generation computer language for ad hoc query and report generation.

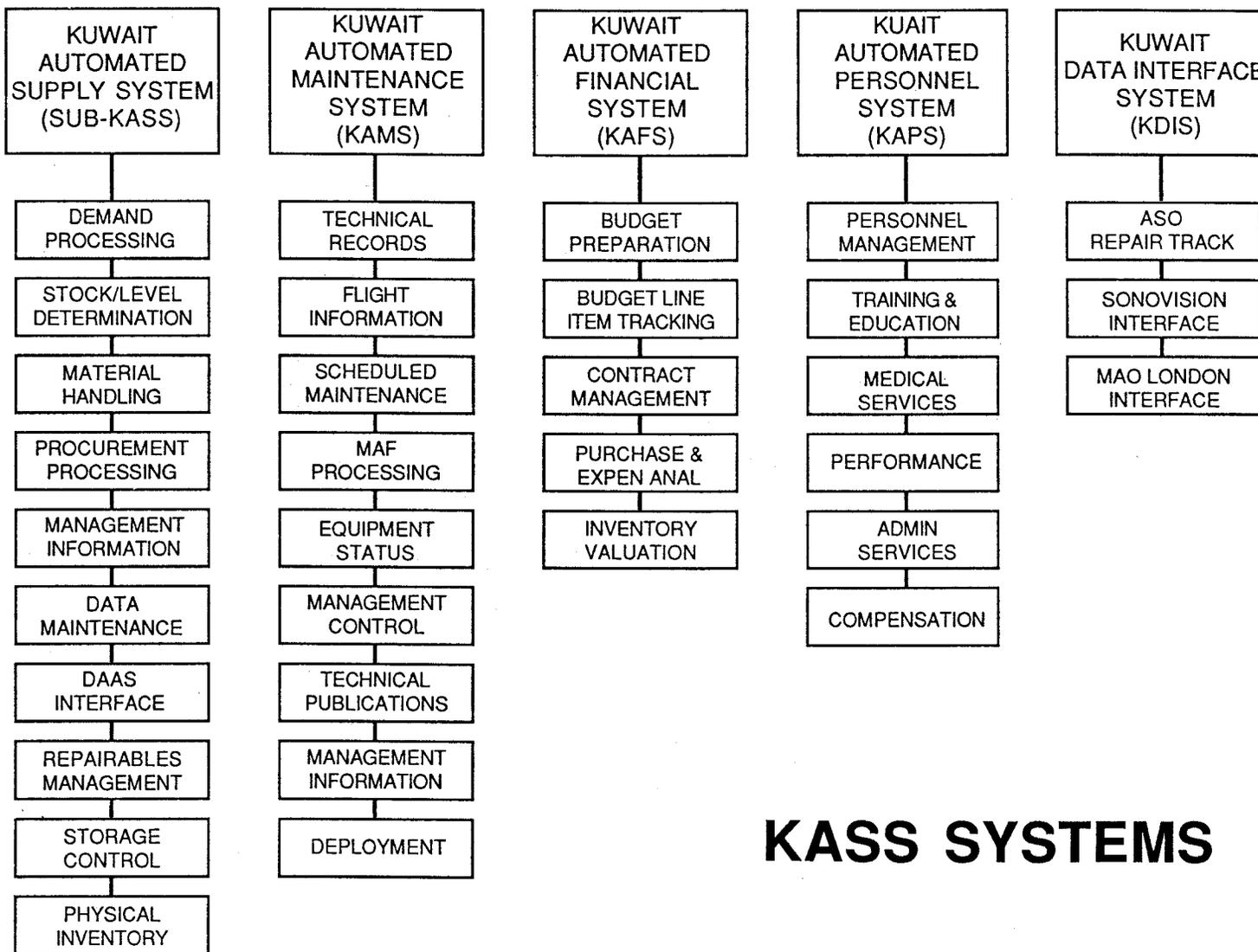
FEATURES OF KASS

Being *user friendly* was a major requirement of the KASS system from the onset of development, and has been a theme carried throughout all the functional areas. KASS has removed the need for users to memorize codes or constantly refer to references in order to use the system. Some of the user friendly features:

- Screens are clear and brief and appear in English or Arabic as required.
- Error messages are shown on the screen in statements that are easy to read and understand.
- Users do not need to memorize codes to operate the system.
- Users are required to input only absolutely necessary information.
- Sign-on procedures are simple, but allow several levels of security.

Additionally, KASS is designed to allow use of information immediately (on-line). KASS reduces the need for large volume reports, and allows users to look at information required to perform their work at conveniently-located computer terminals.

KASS security considerations have also been important throughout the development process. Users are assigned confidential "passwords" for access to the KASS system, and are also assigned "profiles" which only allow access to certain files. KASS also has security features which prevent others from gaining access to files identified by the KAF/AD as restricted.



KASS SYSTEMS

THE KASS SUB-SYSTEMS

Since user adjustment to computerized functions is typically the key to successful automation efforts, KASS development has taken a phased approach, with each functional area presently at a different state of development.

Supply management functions automated so far include on-line retrieval of cataloguing information, on-line entry and management of KAF/AD inventory items, on-line entry of KAF/AD user demands and issues, and on-line entry and retrieval of demands to the United States. Additionally, automatic level setting, stock reservation, receipts, inventory adjustments, and procurement are fully automated.

In maintenance, a prototype allowing for data entry/update/retrieval of aircraft status and flight scheduling information is now operational. Soon all maintenance actions and operational readiness reporting of aircraft, Air Defence weapon systems, and motor pool equipment will be automated in a phased approach. By 1986, the KASS system will be tracking repairables movement in Kuwait, and parts movement in the United States repair cycle. When completed, the maintenance system will have automated configuration changes, Maintenance Action Form processing, maintenance scheduling, and maintenance analysis.

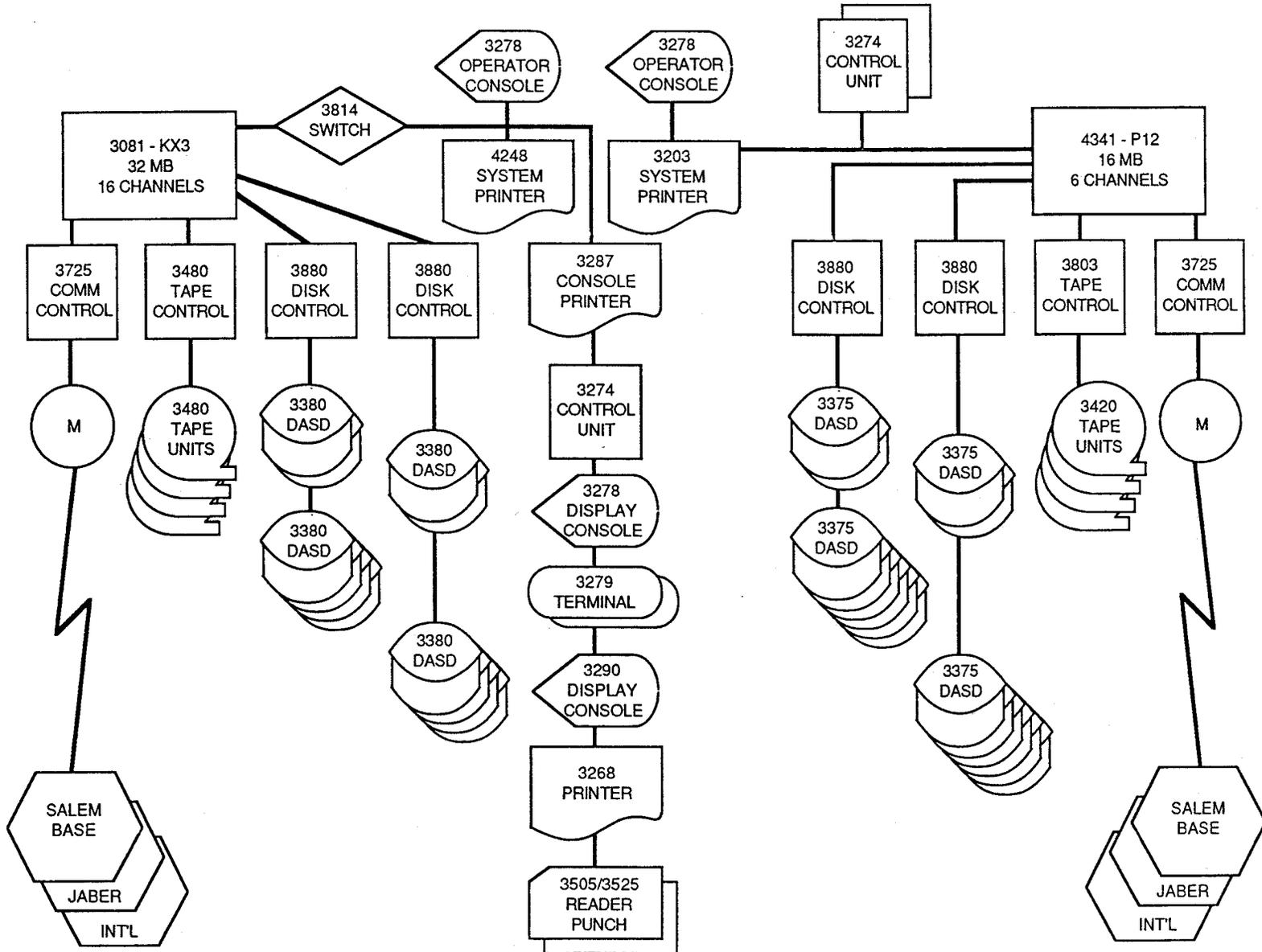
The data interfaces link the KASS system with the rest of the world via satellite communications. Dial-up phone links are currently used to send requisitions or receive status from the U.S. military supply information network and from the freight forwarder in the United States. Future innovations include receiving repair cycle information for repairables, and supplier cataloguing and ordering information about weapon systems purchased by the KAF/AD from Great Britain or any other nation will also be included in KASS.

In the financial system, designated levels within the KAF/AD enter budget information using terminals instead of paper. A consolidated KAF/AD budget is produced automatically for submission to the Ministry of Defence. Authorized KAF/AD personnel can easily revise the budget using a terminal. Future financial applications will include: generation of the budget in Arabic, tracking line item expenditures and contracts, valuing the inventory, and conducting expense analysis.

The automation of the personnel system has begun, with computerization of personnel records, position control, staffing, and work histories. While each individual's personal information will be strictly safeguarded within KASS, the system allows managers to automatically receive up-to-date reports and eliminates manual recordkeeping. When completed, KASS will automate recordkeeping for training, education, medical, administration, and compensation.

THE FUTURE

The future of KASS is one of spectacular promise, with work in the ammunition management and air defence maintenance systems just beginning while the other five support systems continue to develop. KASS developers are breaking new ground in English/Arabic programming and system development, installing sophisticated real-time remote printing operations, and achieving unparalleled success in functional integration of a completely customized, multiple discipline, on-line computer operation. With its unique dual-language and wide scope integration challenge, the KASS project represents the best that FMSO has to offer to the militaries of friendly foreign nations through the Foreign Military Sales program.



KASS KUWAIT 3081/4341 CONFIGURATION

ABOUT THE AUTHOR

Commander Brown has been the Navy Fleet Material Support Office Kuwait Automated Support System (KASS) Project Officer for the last year. A graduate of Northwestern University, he received an MBA from Golden Gate University prior to his assignment at FMSO.