Software Product Description

PRODUCT NAME: VAX DATATRIEVE, Version 5.1 **SPD 25.44.22**

DESCRIPTION

VAX DATATRIEVE is a query and report system for the VMS Operating System. It provides a uniform access method for data stored by RMS, VAX Rdb/VMS, and VAX DBMS files on VMS and data residing in certain IBM® mainframe databases accessed through VIDA for DB2™. Using VAX DATATRIEVE, a novice or experienced user can retrieve or modify data without considering the underlying storage method or physical location.

Modes of Operation

VAX DATATRIEVE presents information in several different formats. Information can be displayed using simple defaults or can be reported on through a more flexible report writer. Information can be displayed on a terminal or workstation, printed on a hard-copy device, or written to a file. Information can also be displayed with user-defined VAX FMS and VAX TDMS forms or presented graphically. Hard copy of the graphic display can be printed on a printer attached to the terminal. VAX DATATRIEVE also provides an efficient way to access information stored on other VAX or PDP-11 systems linked by DECnet.

VAX DATATRIEVE can be used interactively to retrieve, modify, store, or delete data using a simple set of commands. Frequently used combinations of commands can be stored as named procedures and invoked by name. Programs written in other VAX languages can call VAX DATATRIEVE, allowing them to be independent of underlying data storage methods and physical location.

A DECwindows interface to VAX DATATRIEVE is provided. This allows the user to perform a subset of the DATATRIEVE functions using menu bars, scroll bars, pop-up menus, pull-down menus, and buttons.

Data Dictionary

VAX DATATRIEVE is dictionary driven. Data descriptions are stored in and retrieved from VAX CDD/Plus. VAX DATATRIEVE includes commands to store, examine, modify, and delete definitions in the dictionary and can use definitions stored by other VAX layered products, such as the VAX DBMS Data Definition Language (DDL) or VAX Rdb/VMS metadata definitions.

VAX DATATRIEVE includes full support for DMU format dictionaries. It includes support for record and domain definitions in CDO format dictionaries, including the ability to access shareable fields. Relationship tracking is also supported for these entities.

Protection

Protection is handled by the VAX CDD/Plus. VAX DATATRIEVE can access data only through definitions in the VAX CDD/Plus. Locking the definition prevents the user from accessing the data. Access control can be based on name and login account. Additional control using the password or terminal class (local, remote, or dialup) can be specified for DMU format dictionaries.

Remote Data Access

VAX DATATRIEVE provides access to data on remote VAX or PDP-11 systems provided DATATRIEVE has been installed on the remote system. VAX DATATRIEVE uses the local data dictionary on the remote node and will divide processing between the host and the remote system to reduce the traffic over the Phase IV DECnet communications link.

For the Nonprogrammer

VAX DATATRIEVE provides the novice user with a tutorial mode called GUIDE Mode.

VAX DATATRIEVE offers ADT (Application Design Tool) for the more experienced user who wants to define his own data structures. ADT takes the user step-by-step through the definition of a domain based on an RMS data file.

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If VAX DATATRIEVE is used on the same information by experienced and novice users, the novice user can use the full power of the language by invoking procedures designed by the more experienced user.

For the Programmer

VAX DATATRIEVE is a highly structured language that provides automatic access optimization, data type conversion, and data validation. Looping and control structures, such as IF THEN ELSE, BEGIN END, REPEAT, WHILE, CHOICE and FOR (each record) can be combined and nested to create complex, powerful commands.

VAX DATATRIEVE responds to programming errors with clear, explicit error messages. The user can issue an EDIT command to invoke a text editor with an erroneous statement as input text, correct the mistake, and resubmit the command. This editor can be either EDT, TPU, or VAX Language-Sensitive Editor (LSE), and is controlled by a user logical name assignment.

Data Definition

VAX DATATRIEVE stores the fixed attributes of each record in the record definition. In addition to COBOL-like attributes, DATATRIEVE allows validation criteria, fields whose values are computed at run-time, missing value expressions, and default values.

VAX DATATRIEVE supports most data types used by VAX FORTRAN, VAX COBOL, VAX PL/I, VAX C, and VAX BASIC. VAX DATATRIEVE also supports Varying String and Segmented String data types in VAX Rdb/VMS databases.

Views

A VIEW is an alternative description of data. It can be used to allow a user access to a subset of the data items in a record. It can restrict a user by including only some of the data items in a record, or it can combine data items from several files. Information can be linked through common values (or set linkages in VAX DBMS) to produce complex hierarchical structures. Using a predefined VIEW, a user can access and display data from several files at once with the same commands used on a single file. Data accessed through a VIEW can be printed and modified, but data cannot be stored or erased using a VIEW.

Program Access

VAX DATATRIEVE can be called from any language that supports the VMS calling standard. VAX DATATRIEVE automatically converts data from its storage format to the format expected by the program. All of the features of interactive VAX DATATRIEVE are available through the call interface and use the same syntax.

Storage Methods

VAX DATATRIEVE uses a single, consistent syntax to provide full access to information stored in VAX RMS sequential or indexed files (VAX RMS relative files are supported for queries only), VAX DBMS, and VAX Rdb/VMS databases. VAX DATATRIEVE can also provide read-only access to information stored in certain IBM mainframe databases through the use of VIDA for DB2. Data from all these sources can be combined into a single VIEW.

If access to a VAX DBMS database involves explicit set walking, or if records must be manually connected or disconnected from sets, the user can employ VAX DATATRIEVE language features that are specific to VAX DBMS access. However, if the user employs VIEWS or implicit set walking, VAX DATATRIEVE can access information in VAX DBMS databases using the same syntax used for data from an RMS file.

Report Generation

The VAX DATATRIEVE REPORT statement can produce simple formatted reports without formatting statements. It also allows the user to override its default format when more complex reports are required. A title, column headers, and page numbers are produced automatically. Simple statements (AT TOP, AT BOTTOM) create page headers and trailers for control breaks, or a report summary. VAX DATATRIEVE provides all of its statistical functions and value expressions within the REPORT statement. Reports can be generated from data stored in VAX RMS files, VAX DBMS and VAX Rdb/VMS databases, certain IBM mainframe databases accessed through the use of VIDA for DB2 or DATATRIEVE VIEWS that combine any of these without any change in the syntax of the REPORT statement.

Graphics

VAX DATATRIEVE includes a number of predefined plots invoked with a single command that takes standard record selection expressions as arguments and creates bar, pie, line, and scattered point plots of the information selected. Plots can be displayed on Digital Equipment Corporation Graphics terminals such as the VT340 (refer to the OPTIONAL HARDWARE section for a list of specific supported terminals). Hard copy can be obtained from terminals by attaching a Digital device which supports the SIXEL protocol (for example, LA50, LA75). For users with DECwindows, graphics can be displayed in DECterm windows.

Compatibility

VAX DATATRIEVE is largely upward compatible from DATATRIEVE-11. A utility is provided with DATATRIEVE-11 to extract the contents of a DATATRIEVE-11 dictionary in a format to be entered into the VAX CDD/Plus. Some syntactic and semantic differences do exist between DATATRIEVE-11 and VAX DATATRIEVE. Procedures copied with the EXTRACT utility can require modification.

SOURCE CODE INFORMATION

The following source code modules are provided with binary, single-use license options on all magnetic distribution media:

- Function definitions
- Text definitions
- Macro library for function and text definitions
- Message text
- Sample callable DATATRIEVE programs
- DATATRIEVE dictionary object definitions:
  - — Plots
  - — Domains
  - — Records
  - — Procedures
  - — Tables
- Language INCLUDE files for the DATATRIEVE Access Block (used by Callable DATATRIEVE)
- Language INCLUDE files for literal values, external symbols and routine entry point definitions
- Language TEMPLATE file for use with VAX Language-Sensitive Editor (LSE)

This source code is provided on an **"AS IS"** basis without any warranty of any kind, either express or implied.

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation, or VAXserver configuration as specified in the System Support Addendum (SSA 25.44.22-x).

SOFTWARE REQUIREMENTS*

For Systems Using Terminals (No DECwindows Interface):

VMS Operating System
VAX CDD/Plus

For Workstations Running VWS:

VMS Operating System
VMS Workstation Software
VAX CDD/Plus

For Workstations Running DECwindows:

VMS Operating System (and necessary components of VMS DECwindows)
VAX CDD/Plus

* Refer to the System Support Addendum (SSA 25.44.22-x) for availability and versions of required software and for information regarding components of VMS DECwindows.

ORDERING INFORMATION

CPU Capacity

Software Licenses: QL-898A*-**
Software Media: QA-898A*-**
Software Documentation: QA-898AA-GZ
DATATRIEVE Handbook: QA-896AA-GZ
Software Product Services: QT-898A*-**

4-User

Software License: QL-898A9-PD

* Denotes variant fields. For additional information on available licenses, services and media refer to the appropriate price book.

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