Software Product Description

PRODUCT NAME: **DEC Trellis Object System for VMS, Version 1.0** **SPD 32.40.00**

DESCRIPTION

The DEC Trellis Object System is a comprehensive object-oriented application development system. It includes a strongly-typed object-oriented language, an interactive tool kit, SQL database support, persistent workspaces, and type library. The tool kit provides users with the ability to browse, edit, debug and compile their programs. All the tools and the incremental compiler support the object-oriented style of programming.

Features

The DEC Trellis Object System provides the application developer the following features and capabilities:

Language

The Trellis language is an object-oriented language incorporating a type hierarchy with multiple inheritance and compile-time type checking. These features facilitate the design, implementation, and evolution of large, complex computer programs. The notion of types and a type hierarchy allows the program design to be documented and conveyed to future maintainers. The compile-time type checking ensures the correct usage of objects and helps eliminate many common programming errors. There are a number of other features that significantly enhance the expressiveness of the language, these include; parameterized types, iterators and exception handling.

The DEC Trellis language can be integrated with other object-oriented languages and conventional languages. Operations in DEC Trellis can invoke procedures written in other langauges and procedures from other languages can invoke DEC Trellis operations. The DEC Trellis type library provides support for passing data among programs written in languages that support the VMS Calling Standard.

Programming Environment

The DEC Trellis programming environment consists of a set of integrated tools which are designed to assist the programmer with the different tasks involved in developing application programs. The tools have a consistent DECwindows user interface and share a common programming environment database. The selection mechanism provided by the user interface enables the tools to share information.

DEC Trellis provides the following tools:

Browsing Tools

Category, Type Module, and Definition List Tools - Allow users to browse through the programming environment database.

Hierarchy Tool - Used to browse inheritance relationships between types.

Development Tools

Editor Tool - Works in conjunction with the List tools to allow users to browse the source code associated with type modules and definitions. The editor is also the focal point for modifiying the environment database (i.e., is the interface to the incremental compiler).

Cross Reference Tool - Displays usage relationships between types.

Grass Catcher and Error Tools - Help manage the compilation task by keeping track of inconsistent definitions and displaying errors.

Evaluator Tools - Allow users to evaluate DEC Trellis expressions and to inspect and respond to the results.

Debugging Tools

Breakpoint Tool - Used to set breakpoints at entry and exit points of operations.

Activity Viewer - Used to inspect the state of the call stack for a particular activity.

Inspectors Tool - Used for looking at the internal state of objects.

Environment Tools

Storage Tool - Displays information about how memory is being used, and lets users do garbage collections.

Persistence

DEC Trellis provides persistent objects and interfaces to external data stored in the RMS file system or in a Rdb/VMS database. Persistent objects are provided through DEC Trellis workspaces. Workspaces provide a one-level storage model with storage management.

Application Generation

DEC Trellis provides facilities that help the programmer to determine the set of types required for a particular application. After developing an application using the DEC Trellis environment, a programmer can use the Trellis CLOSURE facility to extract the Trellis code needed to run the application. The CLOSURE facility will determine the set of types that an application uses. The programmer can also create run-time only versions of an application that significantly reduce the size of the workspace. These "execute only" applications can be run on any VMS systems that may or may not be licensed to support DEC Trellis. The "execute only" applications can be copied to any valid VMS system free of charge. The following restrictions apply:

- Applications cannot include subtypes of the type Trellis_Tool.
- Applications cannot perform compilations.

Type Library

DEC Trellis provides an extensive type library that serves as a building block for application development. Primitive types such as integer, strings, and booleans are supported as well as a set of collection types such as sets, sequences, and queues. There are interfaces to the file system, an interface to the multiple activity system and other I/O capabilities. In addition, DEC Trellis includes a window system and a DECwindows type library.

SQL Interface

The SQL interface enables DEC Trellis programmers to access Rdb/VMS. The interface supports both SQL and dynamic SQL. Programmers can use either depending on their application needs.

SOURCE CODE INFORMATION

DEC Trellis source code has been provided in the Type Library. This source code is covered by the product warranty unless modified or extended through subtyping. Changes to the source code automatically invalidate all express or implied warranty on such code.

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation, or VAXserver configuration as specified in the System Support Addendum (SSA 32.40.00-x).

SOFTWARE REQUIREMENTS *

For Systems Using Terminals (No DECwindows Interface):

VMS Operating System

* Refer to the System Support Addendum (SSA 32.40.00-x) for availability and versions of required software and for information regarding components of VMS DECwindows.

ORDERING INFORMATION

Software Licenses: QL-YLVA*-**
Software Media: QA-YLVA*-**
Software Documentation: QA-YLVA*-GZ
Software Product Services: QT-YLVA*-**

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

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Digital Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

LICENSE MANAGEMENT FACILITY SUPPORT

This layered product supports the VMS License Management Facility.

License units for this product are allocated on a User/Activity basis.

For more information on the License Management Facility, refer to the VMS Operating System Software Product Description (SPD 25.01.xx) or the License Management Facility manual of the VMS Operating System documentation set.

For more information about Digital's licensing terms and policies, contact your local Digital office.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Digital. For more information, contact your local Digital office.

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.