

HEWLETT-PACKARD



Migration Toolset/V For MPE V Based HP 3000 Systems

A Compatible Migration Path

Migration from MPE V/E based HP 3000 systems to 900 Series HP 3000 systems is based on full compatibility with the rest of the HP 3000 family. This means that programs written for the 16 bit Stack Architecture based MPE V/E systems can execute on the HP Precision Architecture based 900 Series systems by simply restoring programs and data files.

Compatibility is provided between MPE V/E and MPE XL with a few minor exceptions. The majority of the exceptions to compatibility apply to the use of MPE V architecture dependent or obsolete features. As a result a standard high-level application written in a language such as COBOL, FORTRAN, or Pascal will encounter few, if any, incompatibilities while a program written to perform a low-level, architecture specific function is more likely to encounter differences.

Key Features

The Migration Toolset is a package consisting of a set of migration planning tools and documentation that runs on MPE V/E-based systems. Together, these components are used to estimate the effort required to migrate applications from an MPE V/E based HP 3000 to a 900 Series HP 3000.

Identify Incompatibilities

The Migration Toolset provides an automated means of identifying incompatibilities that may exist in an MPE V/E application. The Toolset executes on MPE V/E based systems and is useful in planning for migration to an MPE XL based system.

The results of the tools should be used to avoid the future use of incompatible features, to isolate existing code that uses an incompatible feature, and to determine the scope of any incompatibilities that are found.

Phased Migration

Included with the Migration Toolset is a Migration Toolset Guide. This manual provides an introduction to a phased migration strategy. This provides a methodology for implementing a migration plan for MPE V/E applications that allows an application and its data to migrate to a 900 Series HP 3000 in phases.

Migration of an application in phases provides a smooth way of taking advantage of the higher performance HP Precision Architecture while keeping an application in produc-

tion. The role that the Migration Toolset and other migration tools, services, and documentation play within the phased migration strategy is described in the Migration Toolset Guide. Reading the Migration Toolset Guide is one of the first steps in learning about phased migration.

Functional Description

Components

The Migration Toolset consists of two migration planning tools; the Object Code Analyzer (OCA) and the Run Time Monitor (RTM). The object Code Analyzer identifies incompatibilities which may exist in programs and Segmented Libraries (SL's). It comprehensively scans individual or groups of programs and SL's and identifies potential incompatibilities. The Run Time Monitor identifies incompatibilities that exist in applications as they execute. It interrogates parameters passed to intrinsics for potential incompatibilities and logs any incompatibilities that are found for future analysis.

Object Code Analyzer

The Object Code Analyzer (OCA) is used to examine MPE V program and SL files to determine if they utilize any MPE V features which may be incompatible with MPE XL. OCA is able to detect definite incompatibilities and to warn of potential incompatibilities. Because it produces warnings and provides general information about a program or SL, OCA's report can be sizeable.

The Object Code Analyzer (OCA) is a dialog-driven tool that accepts a list of programs and SL's to be analyzed for incompatibilities. Wild card specification of file names, like the MPE V :LISTF command, is supported. All programs and SL files which match the searching criteria will then be analyzed by OCA.

The fact that OCA performs its ' analysis without running the selected program provides several distinct advantages over run-time analysis:

- An entire program file or SL is processed, not just those portions of a program that execute over a certain period of time.
- Analysis can take place when the load on the system is light and can be scheduled in batch mode if desired.
- The analysis is also not dependent upon MPE Files or TurboImage databases that may be required to run a given program.

Run Time Monitor

The Run Time Monitor (RTM) is a tool that detects incompatibilities in a program as it executes. When a program executes, any calls to intrinsics with potential incompatibilities are intercepted by RTM. RTM reviews the parameters being passed to the intrinsic and if a changed or unsupported parameter is being passed, the event will be logged to the system log file by RTM. A separate reporting program may be run later which will list the incompatibilities logged by RTM.

The fact that RTM detects incompatibilities at run time has distinct advantages:

- Since the parameters are known, an intrinsic which has an incompatibility related to a specific parameter is not logged unless that parameter is passed to the intrinsic.
- RTM also includes a controlling utility which allows the selection of the types of incompatibilities that should be logged. This capability allows you to monitor specific subsets of incompatibilities according to your needs.
- RTM is enabled and disabled globally by the system manager. Once enabled, RTM operation is completely transparent to the rest of the system.

The results from the Object Code Analyzer and Run Time Monitor together provide a complete and detailed analysis of programs and SL's for incompatibilities that should be considered during the planning stage of migration to 900 Series HP 3000 systems.

Migration Toolset Guide

The Migration Toolset Guide gives a clear picture of the overall migration process, outlining the suggested stages and various options available during each stage.

The reports generated by both OCA and RTM include a reference number listed for each incompatibility. This number is useful because it provides a standard incompatibility identification that is used in the documentation and between the tools that make up the Migration Toolset.

Limitations

The Migration Toolset does not analyze source code nor make any changes based upon the information it gathers. It analyzes intrinsic incompatibilities only. While it identifies where incompatibilities exist, in many cases the tools and documentation cannot determine the change that needs to be made to an application. This is because the Migration Toolset, in many cases, does not know what the programmer had in mind when a given feature was used.

HP does not recommend that migration plans be finalized based upon the information gathered from this version of the Migration Toolset. Instead, it is recommended that the results of the execution of the Toolset be cataloged for use when a migration plan is finalized and implemented.

While the Migration Toolset cannot determine the type of changes, if any, that must be made, the Migration Manual Series (planned to be available First Quarter 1988) will provide the information needed. The information in these manuals will also be useful in finalizing the migration plan for an application.

System Environment

Migration Toolset/V is supported on MPE V/E UB-Delta-4 MIT and subsequent releases of MPE V/E.

Ordering Information

The right to use the Migration Toolset/V on an HP 3000 computer is available according to the terms and conditions of the Hewlett-Packard Software Purchase Agreement.

Product Number	Product Description
32428A	Migration Toolset/V
	Includes: Object Code Analyzer Run Time Monitor Migration Toolset Guide

Technical information in this document is subject to change without notice.