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MANTIS Administration OpenVMS/UNIX

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AD/Advantage® MANTIS Administration OpenVMS/UNIX

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We welcome your comments

We encourage critiques concerning the technical content and organization of this manual. Please take the survey provided with the online documentation at your convenience.

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About this book

Using this document

MANTIS® is an application development system that consists of design facilities (for example, screens and files) and a programming language. This manual provides administration and maintenance information for the Master User.

Document organization

The information in this manual is organized as follows:

Chapter 1—Operating environment overview
Explains the logical organization of the MANTIS operating environment.

Chapter 2—System design and customization
Describes the system design and customization functions available only to the Master User.

Chapter 3—Entity creation and maintenance
Describes transferring entities among users, managing shared entity information, patching MANTIS entities, maintaining help libraries, and maintaining MISAM files.

Chapter 4—Batch operation
Describes the facilities MANTIS provide to support alternative input/output modes.

Chapter 5—Performance improvements
Offers suggestions to improve system performance.

Chapter 6—AD/Advantage overview
Describes the components of AD/Advantage.

Chapter 7—Setting up AD/Advantage
Describes how to sign-on to Ad/Advantage and the parameters necessary for operations.

Chapter 8—Maintaining AD/Advantage
Describes what is necessary to maintain AD/Advantage.

Chapter 9—Using templates
Describes steps necessary to understanding, using, printing, and creating templates.

Appendix A—Supplied components
Describes the supplied components for AD/Advantage.

Appendix B—Using the MANTIS terminfo construction utility to define terminfo settings (UNIX only)
Describes the MANTIS Terminfo Construction utility and mantis.ti, a database of terminfo settings.

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Revisions to this manual

The following changes have been made for this release:

- Changed Publication Number from P25-1320-09 to P39-1320-00.
- Changed Publication Name to AD/Advantage MANTIS Administration OpenVMS/UNIX.
- Updated copyright date.
- Updated document release date.
- Updated “Facility Selection” screen and information in the “System design and customization” beginning on page 39.
- Added “List of current MANTIS users” screen and information beginning on page 51.
- Added “Display of MANTIS security patch information” screen and information beginning on page 54.
- Added “Search Facility Control” in table in “Write facility programs” on page 63.
- Updated “Universal Export Facility” screen in “Import/export MANTIS entities”on page 73.
- Updated first screen of Universal Export Facility screens in “Exporting” on page 74.
- Updated second screen of Universal Export Facility screens in “Exporting” on page 75.

- Replaced portions of the “Set global resource quota (UNIX only)” section beginning on page 109.
- Added portions of the *AD/Advantage Administration Guide*, P19-7002, (beginning with Chapter 6— “AD/Advantage overview” making that document obsolete.

Conventions

The following table describes the conventions used in this document series:

Convention	Description	Example

`Constant width type`	Represents screen images and segments of code.	`Screen Design Facility`
		`GET NAME LAST`
		`INSERT ADDRESS`

Brackets [ ]	Indicate optional selection of parameters. (Do not attempt to enter brackets or to stack parameters.) Brackets indicate one of the following situations.	
	A single item enclosed by brackets indicates that the item is optional and can be omitted. The example indicates that you can optionally enter a program name.	`COMPOSE [`*`program-name`*`]`
	Stacked items enclosed by brackets represent optional alternatives, one of which can be selected. The example indicates that you can optionally enter NEXT, PRIOR, FIRST, or LAST. (NEXT is underlined to indicate that it is the default.)	**NEXT** **PRIOR** **FIRST** **LAST**

Convention	Description	Example
Braces { }	Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select. The example indicates that you must enter FIRST, LAST, or a value for *begin*.	{ **FIRST** / ***begin*** / **LAST** }
Underlining (In syntax)	Indicates the default value supplied when you omit a parameter. The example indicates that if you do not specify ON, OFF, or a row and column destination, the system defaults to ON.	**SCROLL** [**ON** / **OFF** / [***row***][,***col***]]
	Underlining also indicates an allowable abbreviation or the shortest truncation allowed. The example indicates that you can enter either PRO or PROTECTED.	PROTECTED
Ellipsis points...	Indicate that the preceding item can be repeated. The example indicates that you can enter (A), (A,B), (A,B,C), or some other argument in the same pattern.	(*argument*,...)

Convention	Description	Example
UPPERCASE	Indicates MANTIS reserved words. You must enter them exactly as they appear. The example indicates that you must enter CONVERSE exactly as it appears.	`CONVERSE` *name*
Italics	Indicate variables you replace with a value, a column name, a file name, and so on. The example indicates that you can supply a name for the program.	`COMPOSE [`*program-name*`]`
Punctuation marks	Indicate required syntax that you must code exactly as presented. ( ) parentheses . period , comma : colon ' ' single quotation marks	[LET] *v* $\left[\begin{matrix}(i)\\(i,j)\end{matrix}\right]$ [ROUNDED(*n*)] = *e1* [, *e2*, *e3*..
UNIX OpenVMS	Information specific to a certain operating system is flagged by a symbol in a shadowed box (e.g., UNIX) indicating which operating system is being discussed. Skip any information that does not pertain to your environment.	UNIX DBA will run on any terminal that supports the cursor library.

MANTIS documentation series

MANTIS is an application development system designed to increase productivity in all areas of application development, from initial design through production and maintenance. MANTIS is part of AD/Advantage, which offers additional tools for application development. Below are listed the manuals offered with MANTIS in the OpenVMS™ and UNIX® environments, organized by task. You may not have all the manuals that are listed here. For a synopsis of each manual, refer to the *AD/Advantage MANTIS Application Development Tutorial OpenVMS/UNIX*, P39-1340.

Getting started

- *AD/Advantage MANTIS 2.8.x Installation and Startup OpenVMS/UNIX*, P39-0027*

General use

- *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300*
- *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310
- *AD/Advantage MANTIS Messages and Codes OpenVMS/UNIX*, P39-1330*
- *AD/Advantage MANTIS Application Development Tutorial OpenVMS/UNIX*, P39-1340
- *AD/Advantage MANTIS SUPRA SQL Programming OpenVMS/UNIX*, P39-1345
- *AD/Advantage MANTIS Rdb Programming UNIX*, P39-1350
- *AD/Advantage MANTIS Oracle Programming UNIX*, P39-1355

Manuals marked with an asterisk (*) are listed twice because you use them for different tasks.

Master User tasks

- *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300*
- *AD/Advantage MANTIS Administration OpenVMS/UNIX*, P39-1320
- *AD/Advantage MANTIS Messages and Codes OpenVMS/UNIX*, P39-1330*
- *AD/Advantage MANTIS 2.8.x Installation and Startup OpenVMS/UNIX*, P39-0027

Manuals marked with an asterisk (*) are listed twice because you use them for different tasks.

Educational material

MANTIS educational material is available from your regional Cincom education department.

1

Operating environment overview

This chapter explains the logical organization of the MANTIS operating environment. This includes information on how MANTIS entities are named, where they are stored, and how they are accessed. In addition, you will find information on running MANTIS with SUPRA® and SPECTRA™. For information on the physical organization of MANTIS (system directory and file names), refer to your Installation Primer.

Logical names

A logical name is an identifier or variable that stands for another name or value. The MANTIS operating environment is organized and controlled by logical names. Considerations for using logical names in various operating environments are listed below.

- **OpenVMS** Logical names used by MANTIS correspond directly to VMS logical names. These logical names can be defined in any logical name table, as long as the table is included in the list defined by logical name LNM$FILE_DEV (in table LNM$SYSTEM_DIRECTORY).
- You can configure the resources used by a MANTIS class for private, group, or system wide uses, depending on which logical name tables are chosen for the MANTIS logical names. You can use PROCESS, JOB, GROUP, SYSTEM, or your own logical name tables.
- To designate a private MANTIS class, the logical name MANTIS_CLASS should translate to a unique four-character identifier. The MANTIS_FILE should also be unique.

- The logical names MANTIS_INIT, MANTIS_INPUT, MANTIS_OUTPUT, MANTIS_ERRLOG, and MANTIS_USER are normally process-specific (private). While you may want a group of users to share the same MANTIS_INIT file, the need for unique keyboard configurations generally warrants creating a separate file for each user.

- The logical name GBL$MANTIS_INTERF is redefined by MANTISSUB.COM when a VMS sub process is invoked. This logical name is only used when you specify a global section as the means of passing parameters to an INTERFACE program via the CALL statement. The global section and the logical name must be unique to each MANTIS process.

- The logical names MANTIS_EDIT, MANTISMPR_HELP, MANTIS_SPAWN, MANTIS_CREATE, MANTIS_CREFTN, and MANTIS_CRENON identify read-only files that do not vary across users or systems.

- The logical name MANTIS_CMD is transient and only used during the execution of MANTIS sub processes.

- **UNIX** In MANTIS for UNIX, logical names are implemented as environment variables. You must ensure that any shell variables you want to affect MANTIS are exported or inherited into the environment where MANTIS is executing.

- MANTIS uses the logical names listed in the following table for OpenVMS. Some of the logical names are set up by the MANTIS commands (mant, mhlp, mhtg, mig, mop, mpr). You must set up MANTIS_CLASS for each MANTIS user so that the correct MANTIS File is identified. You can also set up the following logical names, as required:

  - MANTIS_INIT For Batch MANTIS setup

  - MANTIS_OPTIONS For nonstandard MANTIS Options

Logical names for OpenVMS and UNIX are listed in the following two tables.

Logical name	Description
*xxxx*_MANTIS	Identifies the MANTIS class directory, where '*xxxx*' is the class name (the logical name translation of MANTIS_CLASS).
CSVIPLVS	Identifies the SUPRA RDM shareable image.
GBL$MANTIS_INTERF	Identifies the logical name for the per-user, MANTIS Call Interface global section.
LSE$ENVIRONMENT	Identifies a binary environment file containing language-specific definitions to be read in as part of LSE startup. An environment file for the MANTIS language is supplied as part of the MANTIS release. However, you need to define LSE$ENVIRONMENT to point to the MANTIS environment file.
LSE$SECTION	Identifies a user's default LSE editor.
LSE$SYSTEM_ENVIRONMENT	Identifies a binary system environment file containing language specific definitions to be read in as part of LSE startup.
MANTIS_CISAM_TM_ LOGNAME	Identifies the C-ISAM_TM transaction log file used by C-ISAM for logging of C-ISAM_TM transactions. It is used for restoring the C-ISAM files if they are rolled back, and to provide a recovery mechanism.
MANTIS_CLASS	Identifies the name for this MANTIS class.
MANTIS_CMD	Identifies the name of the DCL command to be performed by the MANTIS sub process.
MANTIS_CREATE	Identifies an FDL file that creates a sequential output file with CARRIAGE RETURN carriage control. This is true when an ACCESS statement uses the NEW parameter, when the SAVE FILE command is issued, and when diagnostic error messages are output via MANTIS_ERRLOG to a file.
MANTIS_CREFTN	Identifies an FDL file that creates a sequential output file with FORTRAN carriage control when you set OUTPUT PRINTER to a file without using the CLASS attribute.

Logical name	Description
MANTIS_CRENON	Identifies an FDL file that creates a sequential output file with no special carriage control when you OUTPUT PRINTER to a file using the CLASS attribute, or when the REVERSE attribute for a DBCS printer is not explicitly turned off.
MANTIS_EDIT	Identifies the dummy file MANTIS_LIBRARY:MANTIS.EDIT, which is required by the TPU editor.
MANTIS_ERRLOG	If present, identifies the terminal or file where MANTIS diagnostic messages are output.
MANTIS_FILE	Provides the logical name for the MANTIS Data File.
MANTIS_GROUP	Identifies the UIC Group when upgrading from MANTIS 2.1.
MANTIS_HELP	Identifies a file containing VMS-style help for MANTIS.
MANTIS_INIT	Identifies a file containing MANTIS batch commands which are executed when MANTIS is initialized.
MANTIS_INPUT	Provides the logical name for the MANTIS Command Input File (default is SYS$INPUT).
MANTIS_LIBRARY	Identifies the MANTIS library directory.
MANTIS_MACROS240	Identifies files containing custom macros for using any VT240 or VT340 terminals. These are loaded by MANTIS when it detects that the user has a VT240 or VT340 terminal.
MANTIS_OPTIONS	Identifies a MANTIS Options source or binary file to be executed during MANTIS initialization.
MANTIS_OUTPUT	Provides the logical name for the MANTIS Output Log File (default is SYS$OUTPUT).
MANTIS_RDI_IF	Identifies the MANTIS interface to Rdb/VMS SQL.
MANTIS_SHARE	Specifies the name of an external Shared Entity Pool File to load into the shared memory during MANTIS initialization. Alternatively, specifies the name of a Shared Entity List in the MANTIS File to build a Shared Entity Pool.

Logical name	Description
MANTIS_SHRLIB	Specifies a path to locate all shared library files. You must set this environment variable so that MANTIS can locate shared libraries that are not in your current directory, or the full path is not provided in the MANTIS Interface Design View.
MANTIS_SPAWN	Identifies the name of the subprocess control file. By default, the subprocess control file is MANTIS_COMS:MANTISSUB.COM.
MANTIS_SQL_DBNAME	*Optional*. Identifies the default SUPRA/SQL database name to sign on to.
MANTIS_SQL_PASS	*Optional*. Identifies the default SQL user password for external SUPRA/SQL database access.
MANTIS_SQL_USER	*Optional*. Identifies the default SUPRA/SQL username for external SUPRA/SQL database access.
MANTIS_SUP_IF	Identifies the SUPRA/SQL interface.
MANTIS_TRANSFER	Identifies the name of the MANTIS intermediate data Transfer File used by the Transfer Facility.
MANTIS_USER	Identifies the MANTIS user in question when diagnostic messages are output.
SUPRAPDM	Identifies the SUPRA PDM shareable image.
TPU$SECTION	Identifies the default TPU editor. If the logical name TPU$SECTION is not defined, the logical name TPUSECINI is used to identify the TPU editor.
ULTRAPDM	Identifies the ULTRA 1.5 PDM shareable image. Do not define this logical name unless you are running ULTRA Release 1.5.

The following table lists logical names under the UNIX operating environment:

Logical name	Description
MANTIS_CLASS	The 1–4 character MANTIS class name identifying the MANTIS File to use.
MANTIS_CREATE	Identifies the default FDL file for external file creation.
MANTIS_FILE	Identifies the MANTIS File. It is set by the MANTIS commands, and derived from the value of MANTIS_CLASS.
MANTIS_HELP	Identifies the MANTIS online HELP library file (a MISAM file).
MANTIS_INIT	Identifies a file containing MANTIS batch commands which are executed when MANTIS is initialized.
MANTIS_OPTIONS	Identifies a MANTIS Options source or binary file to be executed during MANTIS initialization.
MANTIS_SHARE	Specifies the name of an external Shared Entity Pool File to load into the shared memory during MANTIS initialization. Alternatively, specifies the name of a Shared Entity List in the MANTIS File to build a Shared Entity Pool.
MANTIS_SQL_DBNAME	*Optional*. Identifies the default SUPRA/SQL database name on which to sign on.
MANTIS_SQL_PASS	*Optional*. Identifies the default SQL user password for external SUPRA/SQL database access.
MANTIS_SQL_USER	*Optional*. Identifies the default SUPRA/SQL username for external SUPRA/SQL database access.
MANTIS_TRANSFER	Identifies the MANTIS Transfer File used by the Transfer Facility.
MANTIS_TERM	If set, is used instead of TERM to identify the terminal type. Setting MANTIS_TERM is the recommended approach if you require TERM to be set differently for other applications.

Logical name	Description
MANTIS_TERMINFO	If set, identifies a directory containing terminfo files for MANTIS use. This directory is searched first, and then the system terminfo directory is searched to locate an entry for TERM/MANTIS_TERM. MANTIS automatically uses the supplied terminfo files in the MANTIS data directory, so only set MANTIS_TERMINFO if you wish to use terminfo files that reside in a different directory.
PAGER	If PAGER is not set, MANTIS uses the “pg” command.
TERM	Identifies a TERMINFO entry describing the terminal.

MANTIS file

The MANTIS File is an indexed file containing all the MANTIS entities available to the user. It must always be identified by the logical name MANTIS_FILE. The contents of this file include:

- MANTIS user definitions
- Programs, screen and file designs, and so on, for each user
- MANTIS error message texts

The MANTIS File is required by MANTIS as well as the MANTIS utility programs Print, Options Compiler, and Copy. The MANTIS Copy utility can be used during a MANTIS installation to upgrade or downgrade MANTIS files to different release levels of the product (see "Maintain customized entities" on page 72 for more information on using MANTIS Copy utility for this purpose). For information on the Options Compiler and the Print utility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

The following operating system considerations apply to the MANTIS File:

- **OpenVMS** You should set the protection on the MANTIS File to allow access to the required set of users. For a system wide MANTIS class, the required access to the MANTIS File is normally obtained by virtue of the privileges with which the system wide MANTIS image is installed. See "Systemwide MANTIS (OpenVMS only)" on page 29 for more information on systemwide privileges.
- **OpenVMS** If the MANTIS File is to be RMS Recovery Unit (RU) journaled, you must either have SYSPRV privilege, or have the same UIC group number as the owner of the MANTIS File AND have GRPPRV privilege. See "Recovery Unit (RU) journaling support (OpenVMS only)" on page 37 for more information on RU Journaling support.
- **UNIX** The MANTIS File is a MISAM file (MANTIS Indexed Sequential Access Method). A MISAM file is composed of four physical files and the logical name MANTIS_FILE identifies the generic name for all of the component files. For example, if MANTIS_FILE=man_test, then the component files are man_test.* where *=ki, mp, nx, st.

MANTIS classes

A MANTIS class is a collection of MANTIS users who share the same MANTIS File, unique to the class. Assigning users to classes allows you to limit the scope of shared resources.

A MANTIS class is represented by a 1–4 character class identifier that is stored in the logical name MANTIS_CLASS. MANTIS uses the class identifier as a prefix for resource names for the MANTIS global section of shared entities and for resource names specified in the MANTIS ENQUEUE and DEQUEUE statements. The Shared Entity Pool and ENQUEUE resources are tied to a physical MANTIS File, which means that they are only shared among users of the same MANTIS class. If users in different MANTIS classes attempt to share the same MANTIS File, the integrity of that file will be compromised because ENQUEUED resources are exclusive to each class.

The MANTIS facilities use the ENQUEUE and DEQUEUE statements to ensure MANTIS File integrity.

For example, you can have two MANTIS classes running the same application for test and production purposes, with class names “test” and “prod,” respectively. The application can coordinate exclusive access to code and/or file data via the ENQUEUE statement. Only one user in class “prod” can obtain a given resource at a time, and likewise in class “test.” But the “prod” user and the “test” user can get the resource at the same time. Conversely, you cannot use the MANTIS ENQUEUE statement to lock a resource across different MANTIS classes.

OpenVMS considerations

For the purpose of resource locking, you can specify that the MANTIS class have either a groupwide or systemwide attribute, which is determined as follows:

- The logical name MANTIS_CLASS is translated (resulting in “class”).
- The logical name class_MANTIS is translated and its logical name table is noted.
- If it is the SYSTEM logical name table, MANTIS is given the systemwide attribute.
- Otherwise MANTIS is given the groupwide attribute.

Groupwide and systemwide MANTIS are discussed below.

Groupwide MANTIS (OpenVMS only)

In a groupwide MANTIS, the global section of shared entities will be a groupwide global section, and the MANTIS ENQUEUE statement will request groupwide resource locks. Groupwide MANTIS requires certain privileges to perform some functions, as shown in the table below.

Privilege	Description
TMPMBX	Required for subprocess creation; in other words, the CALL statement (for external interfaces), the PERFORM statement, and the PERFORM shorthand command ($) in Program Design.
PRMGBL	Required if a permanent global section of shared entities are specified in the Update Shared Entity List Facility.
OPER	Required if MANTIS_ERRLOG is defined as another device, such as the system console.
GRPNAM	Required to define group level logical names using the SET $LOGICAL statement.

Systemwide MANTIS (OpenVMS only)

In a systemwide MANTIS, the global section of shared entities will be systemwide, and the MANTIS ENQUEUE statement will request systemwide resource locks. For systemwide MANTIS to function correctly, certain VMS privileges are required to grant resources on a systemwide basis. These privileges are in addition to the basic privileges to run a groupwide MANTIS and are shown in the table below. These privileges can be granted to each user, but the recommended procedure is to install the systemwide MANTIS image with the required privileges as discussed in "Privileged systemwide MANTIS and dynamic image activation (OpenVMS only)" on page 30.

Privilege	Description
SYSPRV	Required if not all users of the systemwide MANTIS class have read/write access to the MANTIS File. If the systemwide MANTIS image is installed with this privilege and the user does not have SYSPRV, MANTIS will ensure that SYSPRV is suppressed when opening external files or passing control to dynamically loaded images (ACCESS, CALL, EDIT, EDITRCV, EXEC_SQL, PERFORM, OUTPUT PRINTER, SAVE FILE, ULTRA and VIEW statements).
SYSLCK	Required for the ENQUEUE statement (and, hence, most MANTIS facility programs) to work.
SYSGBL	Required if the global section of shared entities is required. If this privilege is not available, then the global section creation will fail. However, MANTIS will continue to initialize without a shared entity section.
SYSNAM	Required to define system level logical names using the SET $LOGICAL statement.

Privileged systemwide MANTIS and dynamic image activation (OpenVMS only)

MANTIS uses VMS dynamic image activation (LIB$FIND_IMAGE_SYMBOL) in the following instances:

- CALL statement when activating an internal interface program
- ULTRA statement when activating PDM
- VIEW statement when activating RDM

If the systemwide MANTIS image is installed as a known image with privileges, there are certain restrictions affecting dynamic image activation. If these restrictions are not enforced, then dynamic image activation will fail and MANTIS will generate a program fault. The restrictions are as follows:

- All logical names used to locate the dynamically activated image must be defined in EXEC mode in the SYSTEM logical name table.
- All shareable images linked with the dynamically activated image must be defined in EXEC mode logical names in the SYSTEM logical name table, or they must reside in the SYS$SHARE system directory.
- All shareable images involved must be installed as known images.

For example, if your CALL statement invokes an image identified by the logical name MY_PROG, MY_PROG must be an EXEC mode logical name in the SYSTEM logical name table. If the internal interface program (MY_PROG) is linked to a shareable image such as COMMONSHR.EXE, then either COMMONSHR must be an EXEC mode logical name in the SYSTEM logical name table, or a copy of COMMONSHR.EXE must reside in SYS$SHARE. Both MY_PROG and COMMONSHR must be installed as known images.

Use the DCL command ANALYSE/IMAGE to list all the shareable images linked with a given image.

Terminal support

The following sections provide information on terminal support for various operating systems.

OpenVMS support

In OpenVMS environments, MANTIS provides color support for your screen designs. MANTIS does not fully support VT52 terminals without full options such as bright, underline, reverse video, and scrolling regions. MANTIS can be run on such terminals in a downgraded mode, and by appropriately defining the available keyboard keys to MANTIS and turning off attributes that the terminal does not support.

MANTIS obtains all output device control character sequences from VMS TERMTABLE images via VMS SMG$ library routines. The default device characteristics defined in SYS$SYSTEM:TERMTABLE.EXE will be sufficient for most installations. However, you can override the defaults for your terminal or create a TERMTABLE entry for a unique printer or terminal device.

One way to do this is to create your own TERMTABLE.EXE and identify it by the logical name TERM$TABLOC. The procedure for doing this is given in the *VMS Run Time Library Screen Management (SMG$)* manual.

Be aware, however, that MANTIS makes special use of private strings and private booleans so any termtable entry you create must not attach any new meanings to these. In particular:

String/Boolean	Description
SMG$PRIVATE_BOO_1	for “Does this entry use ReGIS macros?”
SMG$PRIVATE_STR_1	Reserved for DBCS initialization sequence
SMG$PRIVATE_STR_2	Reserved for DBCS off sequence
SMG$PRIVATE_STR_3	Reserved for DBCS on sequence

There are two ways to match your output devices with TERMTABLE device entries:

- Ensure the terminal type, as shown by the DCL command SHOW TERMINAL, matches the NAME statement in your TERMTABLE.TXT source file.
- Use the CLASS attribute in the MANTIS ATTRIBUTE statement to specify the device name as indicated by the NAME statement in your TERMTABLE.TXT source file.

The DCL global symbol, MANTIS_TERMINAL, is created when the user initialization procedure for a class MANTIS_USER_INIT.COM, is executed. This symbol is used to identify the input terminal device for the MANTIS process and all its spawned sub processes. The procedure which controls MANTIS subprocess execution, MANTISSUB.COM, requires MANTIS_TERMINAL as its input source (SYS$INPUT) in order to successfully perform an ATTACH command to pass control back to MANTIS. If MANTIS _TERMINAL does not correctly identify the MANTIS input device, you may receive the following VMS warning:

```
%SYSTEM-W-NONEXPR, nonexistent process
```

While these messages do not necessarily prevent MANTIS from functioning normally, they imply the premature termination of MANTIS sub processes with consequent overheads of having to spawn new sub processes for every MANTIS PERFORM statement, $ command in Program Design, or CALL statement for external INTERFACE programs.

UNIX support

In UNIX environments, MANTIS uses Curses to perform all terminal I/O. The logical name TERM is used by Curses to identify your terminal capabilities database. Curses relays function key codes to MANTIS after translating through the terminal capabilities database.

MANTIS requires a number of Curses functions (CAPNAMES) to be defined in your terminal capabilities database. If you do not define a capname, the corresponding terminal function will not be available to MANTIS.

Two special keys, GOLD and GOLD2, are defined and used to introduce function key sequences. For example, to select option 1 from a menu (MANTIS logical key PF1) you press the physical key sequence GOLD/1 (press GOLD then press 1). The physical key sequence for the MANTIS key PF10 is GOLD2/10 (press GOLD2, then 1, then 0) and so on. A complete list of capnames, MANTIS keys, and their corresponding functions used in the UNIX environment are listed in the following table.

The capnames, MANTIS key name and the corresponding MANTIS functions are shown in the following table. The MANTIS function shown is the Batch MANTIS function.

		Default MANTIS function	
Capname	**MANTIS key name**	**NORMAL**	**GOLD**
kcud1	DOWN	{DOWN}	{DOWN}
kcuu1	UP	{UP}	{UP}
kcub1	LEFT	{LEFT}	{LEFT}
kcuf1	RIGHT	{RIGHT}	{RIGHT}
kf0	KF0	{SELECT}	{PF0}
kf1	PF1	{GOLD}	{GOLD}
kf2	PF2	{GOLD2}	{GOLD2}
kf3	PF3	{INSERTON}	{INSERTOFF}
kf4	PF4	{DELCHR}	{DELEOF}
kf5–kf63	F5–F63	None	None

		Default MANTIS function	
Capname	**MANTIS key name**	**NORMAL**	**GOLD**
kc1	KP1	{WINBOTL}	{PF1}
kind	KP2	{WINDOWN}	{PF2}
kc3	KP3	{WINBOTR}	{PF3}
kpp	KP4	{WINLEFT}	{PF4}
kb2	KP5	{SCROLLALL}	{PF5}
knp	KP6	{WINRIGHT}	{PF6}
ka1	KP7	{WINTOPL}	{PF7}
kri	KP8	{WINUP}	{PF8}
ka3	KP9	{WINTOPR}	{PF9}
kprv	MINUS	{SELUP}	{CANCEL}
knxt	COMMA	{SELDOWN}	{PA1}
kent	ENTER	{ENTER}	{ENTER}
kmsg	PERIOD	{SELKANJI}	{CANCEL}
kbs	BACKSPACE	{TABBOF}	{TABBOF}
khome	HOME	{CURWTOPL}	{CURWTOPL}
kend	END	{CURWBOTL}	{CURWBOTL}
khlp	HELP	{HELP}	{HELP}
kcmd	DO	None	None
kich1	INSERT	{INSERT}	{INSERT}
kdch1	DELETE	{DELPRV}	{DELPRV}
kill	INSERTLINE	None	None
kdll	DELETELINE	None	None

MANTIS is designed for the standard VT100 compatible keyboard, specifically the auxiliary keypad (application keypad). The key mapping for a VT100 auxiliary keypad is shown in the following table:

	Default MANTIS function		
VT100 key	**NORMAL**	**GOLD**	**Capname**
PF1/GOLD			kf1
PF2/GOLD2			kf2
PF3	INSERTON	INSERTOFF	kf3
PF4	DELCHR	DELEOF	kf4
KP7	WINTOPL	PF7	ka1
KP8	WINUP	PF8	kri
KP9	WINTOPR	PF9	ka3
MINUS	SELUP	CANCEL	kprv
KP4	WINLEFT	PF4	kpp
KP5	SCROLLALL	PF5	kb2
KP6	WINRIGHT	PF6	knp
COMMA	SELDOWN	PA1	knxt
KP1	WINBOTL	PF1	kc1
KP2	WINDOWN	PF2	kind
KP3	WINBOTR	PF3	kc3
ENTER	ENTER	ENTER	kent
KP0	SELECT	PF0	kf0
PERIOD	SELKANJI	CANCEL	kmsg

To obtain the MANTIS program function, use the GOLD/<KEY> physical key sequence. For example, the MANTIS logical key GOLD/kpp generates a PF4 program function (the same as GOLD/KP4 in VAX VT100 terminology).

To obtain the MANTIS terminal function, press a keypad key on its own (kprv to recall the previous command in program design, etc.).

MANTIS is supplied with a terminal capabilities source file (mantis.ti) that supports a variety of terminal types. You can use the MANTIS Terminfo Construction utility to define or modify terminfo settings in mantis.ti (see "Using the MANTIS terminfo construction utility to define terminfo settings (UNIX only)" on page 287 for instructions).

SUPRA RDM/PDM access (OpenVMS only)

If you have SUPRA PDM and RDM files, MANTIS dynamically loads the shareable images the first time they are required. In order for MANTIS to locate the shareable images, you need to define the following logical names:

- SUPRAPDM (identifies SUPRA PDM)
- CSVIPLVS (identifies SUPRA RDM and ULTRA RDM)
- ULTRAPDM (identifies release 1.5 of ULTRA)

If you are running ULTRA instead of SUPRA, use ULTRAPDM to identify the PDM. Do not use this logical name if you are using SUPRA.

To run a systemwide MANTIS, the considerations about privileged images and EXEC mode logical names discussed in "Privileged systemwide MANTIS and dynamic image activation (OpenVMS only)" on page 30 apply to these logical names and to the shareable images they identify.

SPECTRA considerations (OpenVMS only)

If you are running SPECTRA along with MANTIS, you can run it from the MANTIS Facility Selection menu. When you select SPECTRA from the Facility Selection menu, you effectively use the MANTIS statement PERFORM to run SPECTRA in a subprocess. By default, selecting SPECTRA invokes the DCL command procedure RUNSPECTRA.COM. This procedure prompts you for a database name, and then runs the SPECTRA executable image. If you reattach to MANTIS and select SPECTRA again, you will resume at the point where the attach was performed. If MANTIS is terminated while SPECTRA is still active, MANTIS performs a run down process on the SPECTRA image and SPECTRA becomes inactive.

Recovery Unit (RU) journaling support (OpenVMS only)

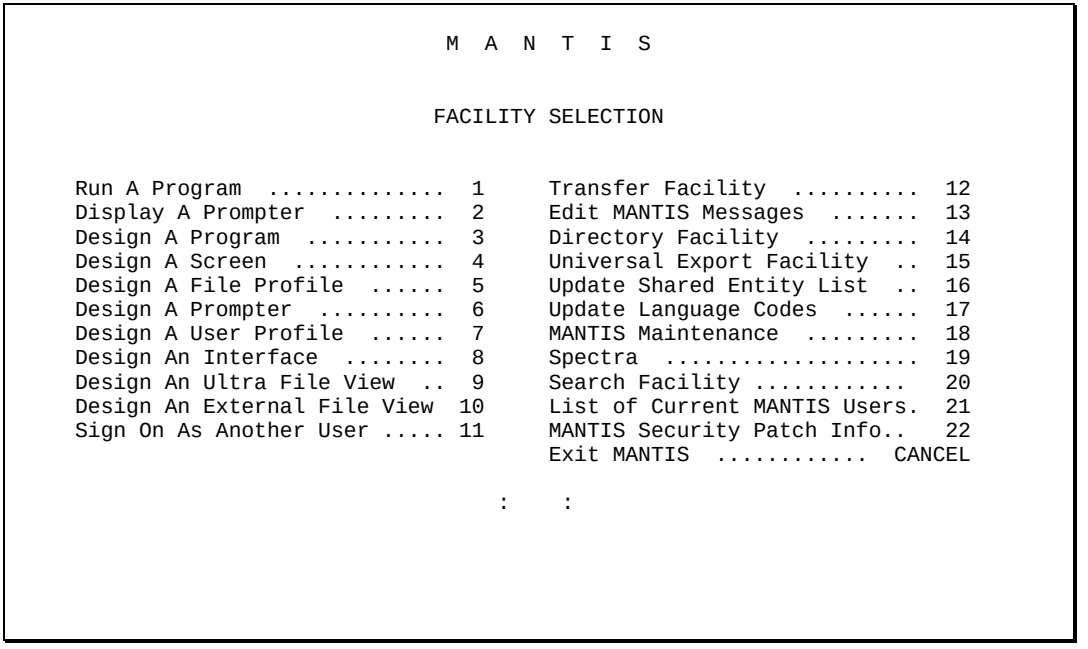
In OpenVMS environments MANTIS supports RMS Recovery Unit Journaling for both the MANTIS File and external RMS files. To use this support, it must be enabled in the MANTIS product security patch.

To update a recovery unit journaled file requires SYSPRV privilege, or your UIC group number must match the UIC group number of the owner of the file and you must have GRPPRV privilege.

2

System design and customization

The Master User's Facility Selection menu provides system design and customization functions not available to other users. When you sign on as Master User, you receive the Facility Selection menu shown below. This menu contains the facilities available to all users as well as the facilities that provide extended functions available only to the Master User. To select a facility, enter the facility number in the selection field and press RETURN or press the corresponding PF key.



This chapter describes the system design and customization functions available only to the Master User. For information on other Master User functions, see “System design and customization” on page 39. For information on other MANTIS facilities, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

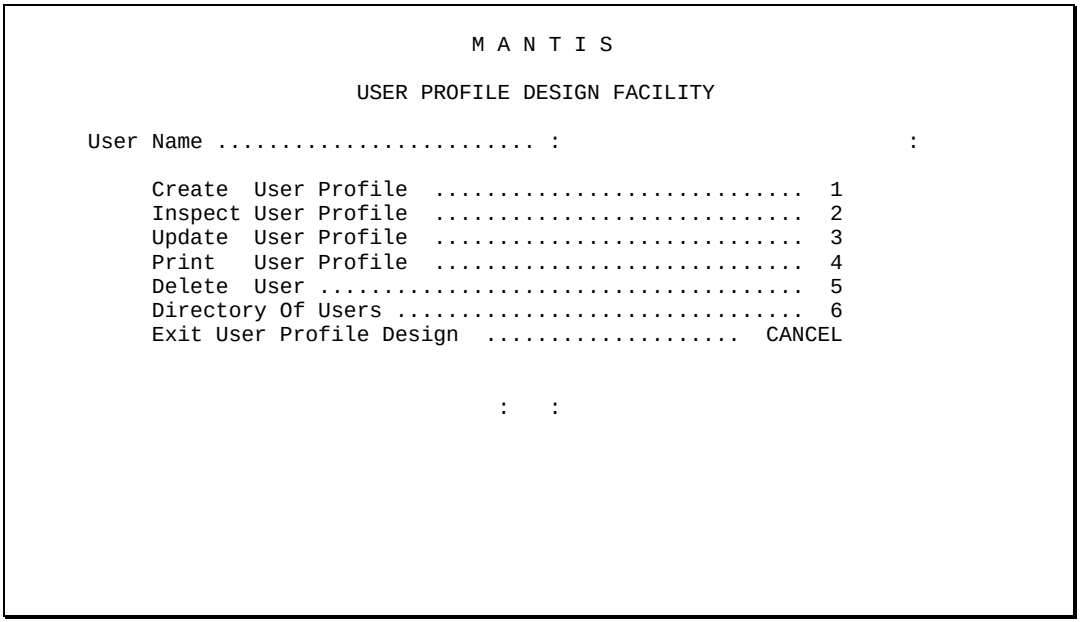
The following table lists and provides section references for the tasks performed only by the Master User.

Function	Section reference
Design user profiles	“Design user profiles” on page 41
Edit MANTIS messages	“Edit MANTIS messages” on page 56
Update language codes	“Update language codes” on page 61
Write facility programs	“Write facility programs” on page 62
Customize sign-on and sign-off options	“Customize sign-on and sign-off options” on page 65
Import/export MANTIS entities	“Import/export MANTIS entities” on page 73

Design user profiles

User access to MANTIS is determined and controlled by user profiles. A user profile contains sign-on name and password specifications as well as information such as printer settings, language defaults, and so on. The Master User creates and maintains all user profiles using the User Profile Design Facility. This facility allows you to create, inspect, update, print and delete a user profile at any time.

To access the User Profile Design Facility, select Design a User Profile from your Facility Selection menu by typing a 7 in the selection field and pressing RETURN or by pressing PF7. MANTIS returns the User Profile Design menu shown below.



The remainder of this section describes the functions you can perform from this menu.

Create/update user profile

To create a new user profile or update an existing one, enter a 1–16 character name for the user you want to create/update in the User Name field on the User Profile Design menu (shown in "Design user profiles" on page 41), then select either Create a User Profile or Update a User Profile by typing the selection number in the selection field and pressing RETURN or by pressing the corresponding PF key.

Whether you are creating a new user profile or updating an existing one, you will receive the definition screen shown below. If you are creating a new user profile, the screen will contain the name you entered on the User Profile Design Facility menu and the remaining fields will contain default values. If you are updating an existing user profile, the screen will contain all of the information for the specified user.

```
                              M  A  N  T  I  S


                          USER PROFILE DESIGN FACILITY

Name ............................. : NEW_USER         :
Password ......................... :                  :
Description ...................... :                                  :
Facility Program ................. : MASTER:START_FACILITY
Associated Printer ............... : mantis.lis                       :
Default Language ................. : ENGLISH          :
Default SQL DBTYPE ............... : SUPRA     :
Status ........................... : ACTIVE    :
Statements Per Slice.............. : 10000  :
Slices Before Interrupt .......... : 1      :
Middle East Countries Terminal ... : N


Help Library .....:                                                    :
```

To create or update a user profile, enter data in the fields as described on the following pages.

Name

Description *Required*. Displays the name you entered in the User Name field on the User Profile Design menu.

Format 1–16 alphanumeric characters

Password

Description *Optional*. Specifies the password for the user.

Format 1–16 alphanumeric characters

Considerations

- Passwords can include spaces, special characters, trailing blanks, and lowercase characters.
- You can assign the same password to several users.

SUPRA users only: The MANTIS password you assign to a particular user must be the same as the password on the SUPRA Directory if that user is to use SUPRA RDM or DRDM.

Description

Description *Optional*. Describes the user.

Format 1–64 alphanumeric characters

Facility Program

Description *Optional*. Indicates which facility program will display the functions and facilities available to the user.

Default MASTER: START_FACILITY

Consideration MASTER: START_FACILITY contains all standard MANTIS facilities. If standard facilities are not suitable for a particular user, you can write a special facility program and enter the program name here. See "Write facility programs" on page 62 for information about writing a facility program.

Associated Printer

Description *Optional*. Indicates the printer definition for the user.

Default MANTIS.LIS

Format **OpenVMS** 1–30 character printer ID in the format *filename* [/*options*...] where: *filename* is the OpenVMS file specification for all printer output.

/*options* can be any of the qualifiers used in the print command specified by the PRINTCMD MANTIS option. For example, the output can be directed to a particular printer or queue using "/QUEUE=*queue-name*."

UNIX 1–30 character printer ID in the format [-*option*...] *filename* [-*option*..] where: *filename* is the UNIX file specification for all printer output.

-/*options* can be any of the qualifiers used in the UNIX print command specified by the PRINTCMD MANTIS option.

Consideration To disable automatic spooling of printer output, specify ATTRIBUTE (PRINTER)="NOSPOOL"

- **OpenVMS** If any options are specified, MANTIS spools the file listing when it is closed by executing a DCL PRINT command in a subprocess. If no options are specified, MANTIS will mark the print file for automatic spooling on close, unless you disable it as described above.
- To direct output to a particular printer include '/QUEUE=*queue_name*'.
- To delete the output file after spooling, specify /DELETE.

Default Language

Description *Optional*. Indicates the language for this user.

Default ENGLISH

Consideration The language specified here is the one under which MANTIS searches for error messages, prompters and screens for the user. MANTIS first attempts to find the entity in the specified language, then searches for the ENGLISH equivalent. Any language entered here must be present in the MANTIS file of languages. See "Update language codes" on page 61 for details.

Default SQL DBTYPE

Description *Required*. Specifies the default SQL database system. Refer to the appropriate MANTIS SQL Support manual for more information.

Status

Description *Required*. Indicates whether the user is active or inactive. An inactive user cannot access MANTIS.

Default ACTIVE

Considerations

- You must specify a status of ACTIVE to allow the user access to MANTIS.
- If you want to deny access to a user, you can assign an inactive status by typing any word other than ACTIVE (for example, DELETE). When the user attempts to sign on, they will receive the message "Status of User is *xxx*" (where *xxx* is any status other than ACTIVE). To reestablish access for the user, enter ACTIVE.

Statements Per Slice

Description *Optional*. Specifies the number of statements that will be counted as a program slice.

Default 10000 statements per slice

Format 1–32767

Considerations

- The user can override this value by including a SLICE statement in the program. SLICE is included for IBM compatibility.
- For more information on the SLICE statement, refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310.

Slices Before Interrupt

Description *Optional*. Specifies the number of slices (see above) executed before MANTIS issues a warning of a potential program loop to this user's terminal.

Default 1

Considerations

- The user can override this value by including a SLOT statement in the program. SLOT is included for IBM compatibility.
- For more information on the SLOT statement, refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310.

Middle East Countries Terminal

Description *Optional*. Indicates that numeric fields are displayed with numerals from right to left.

Default N

Options Yes/No

Consideration If you specify Yes, numeric fields are displayed with numerals from right to left.

Help Library

Description *Optional*. Specifies the default HELP library for the user. If prompters belonging to the user are not found in the MANTIS File, the HELP library will be specified, by default, when HELP is invoked. You can always specify the HELP library in the PROMPT statement.

Consideration The file specification, for example, XXXXXX, can be used to identify multiple help files for various languages. If the signed on user's language is LLLLLL, and XXXXXX_LLLLLL is a defined logical name, then MANTIS uses XXXXXX_LLLLLL as the name of the help library; otherwise, MANTIS uses XXXXXX.

OpenVMS In OpenVMS, standard defaults will apply, (HLP$LIBRARY, HLP$LIBRARY_1, etc.).

When you finish creating or updating the user profile, press RETURN to store the definition. To cancel the profile design at any time and return to the User Profile Design facility menu, press CANCEL.

Inspect user profile

The Inspect User Profile option allows you to view a profile of a user on your MANTIS system. When you enter a user name (as stored in the Directory of User Profiles) on the User Profile Design Facility menu and select this option, the screen shown below appears, displaying the profile setting for the specified user. You cannot alter the profile from this screen. To exit to the User Profile Design Facility menu, press RETURN.

```
                              M  A  N  T  I  S


                          USER PROFILE DESIGN FACILITY

Name ............................. : USERNAME     :
Password ......................... : USER              :
Description ...................... :                                  :
Facility Program ................. : MASTER_START_FACILITY            :
Associated Printer ............... : mantis.lis                       :
Default Language ................. : ENGLISH          :
Default SQL DBTYPE ............... : SUPRA      :
Status ........................... : ACTIVE    :
Statements Per Slice.............. : 10000   :
Slices Before Interrupt .......... : 1      :
Middle East Countries Terminal ... : N

Help Library .....:                                                    :
```

Print user profile

This option allows you to print a paper copy of the specified User Profile design. Output is routed to the designated printer, and your password will be printed.

Delete user profile

When you delete a user profile, all of the MANTIS entities associated with that user (programs, screens, files, etc.) are deleted before the User Profile is deleted. To delete a user profile, type the name of the user in the User Name field on the User Profile Design menu, and then type a 5 in the selection field and press RETURN, or press PF5. MANTIS redisplays the screen and prompts you to confirm the deletion as shown below.

```
                          M  A  N  T  I  S

                     USER PROFILE DESIGN FACILITY


      User Name :..................... : USERNAME              :


           Create  User Profile  .................  1
           Inspect User Profile  .................  2
           Update  User Profile  .................  3
           Print   User Profile  .................  4
           Delete  User  .........................  5
           Directory Of Users  ...................  6
           Exit User Profile Design  ........  CANCEL

+-------------------------------------------------------------------------+
¦                User Profile and Library will be deleted                 ¦
¦                                 USERNAME                                ¦
¦                     Press <ENTER> to confirm Delete                     ¦
+-------------------------------------------------------------------------+
```

When you press ENTER, the screen is cleared and you are presented with the following message that gives you one more opportunity to cancel the deletion:

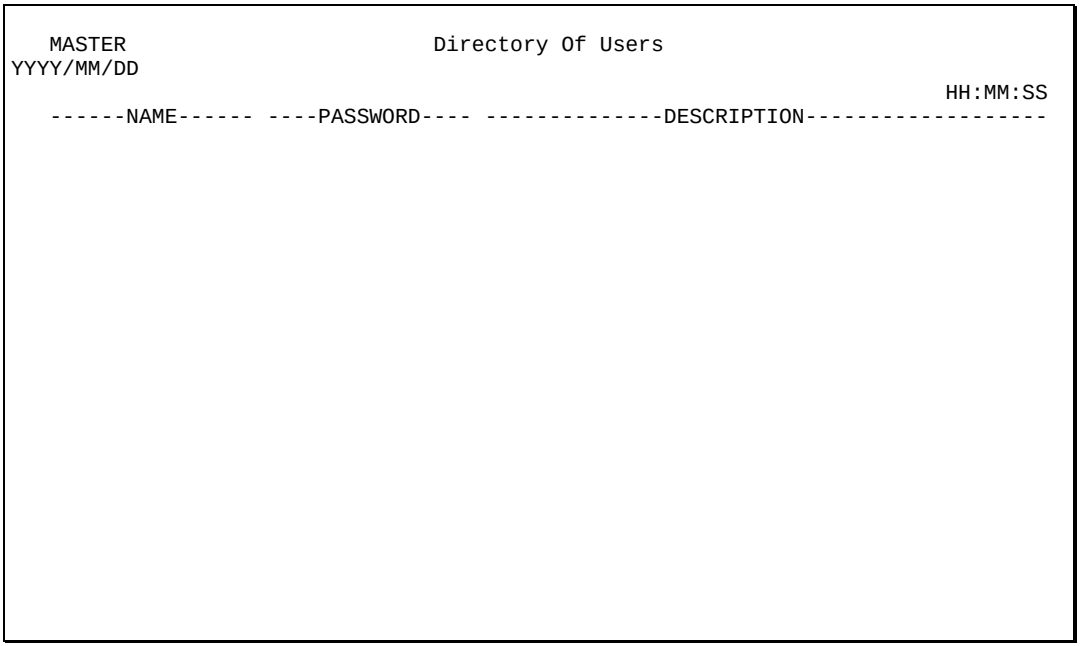
```
Use <KILL> to terminate DELETE; Else
Press <RETURN> to delete user 'user-name' (NN)
```

NN is the MANTIS internal user code of the user (*user-name*).

If you want to continue with the deletion, press ENTER or any other key. If you do not want to delete this user and all associated user entities, press the TAB key to position the cursor in the Reply Field (columns 72–76 on the bottom line), and enter KILL followed by RETURN.

View directory of user profiles

The Directory of Users option allows you to view a list of all the user profiles in your MANTIS File. When you select this option from the User Profile Design Facility menu, the following screen appears.



Press RETURN to page through the directory and to return to the User Profile Design Facility menu at the end of the directory. Press CANCEL to return to the menu at any time.

MANTIS maintains the following fields for this screen:

USERID

Description *Display*. MANTIS displays the current user ID.

REPOINT

Description *Optional*. Specifies a directory reposition command. The directory is repositioned on or after the specified position.

Consideration Enter a space to reposition at the start of the directory.

NAME

Description *Display*. Provides the name of the user.

PASSWORD

Description *Display*. Provides the user's password.

DESCRIPTION

Description *Display*. Provides the description of the user, as supplied when the user's profile was created.

List of current MANTIS users

The number of current MANTIS Users on the system determines the List of Current MANTIS Users. This Facility gives information such as the number of “User Seat Licenses”, “Developer Seat Licenses”, “Currently Used Licenses”, along with information about all MANTIS Users who are currently on the system.

To access the List of Current MANTIS Users Facility, select List of Current MANTIS Users from your Facility Selection menu by typing a 21 in the selection field and pressing RETURN. MANTIS returns the List of Current MANTIS Users screen shown below.

```
        *** List of Current Mantis Users on System at this time:  10:21:49 ***

   User Seat Licenses  :         100         Currently Used User Seats:      2
   Developer Seat Licenses:       20         Currently Used Developer Seats: 2

Seat     Mantis User Unix User Mantis   Logged   Logged    Process  User  Group  TTY
Type     Name        Name      Class    in Time  in Date    ID      ID    ID     Name
------   ----------- --------- ------   -------  -------    ------- ----  -----  -----
DEVEL    MASTER      mantis    man_T28 10:06:30 01/21/2000 23004    208   509    ttyq3
USER     EXAMPLES    mbrenner  man_D28 10:16:24 01/21/2000 24549    201   509    ttyqa
USER     MIKE        mbrenner  man_T28 10:18:21 01/21/2000 25056    201   509    ttyqb
DEVEL    DEVTEST     bratliff  man_T28 10:21:23 01/21/2000 28570    5843  509    ttyqc




End of User List
1=NEXT SCREEN    2=PREVIOUS SCREEN   3=FIRST SCREEN  4=EXIT ==➔  4
```

Field descriptions for this screen are as follows:

User Seat Licenses

Description Contains the number of User Seat Licenses obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Currently Used User Seats

Description Contains the current number of User Seat Licenses that is currently being used on the system.

Developer Seat Licenses

Description Contains the number of Developer Seat Licenses obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Currently Used Developer Seats

Description Contains the current number of Developer Seat Licenses that is currently being used on the system.

Seat Type

Description Indicates the user Seat Type

Types

DEVEL	Indicates Developer Seat MANTIS User.
MASTER	Indicates MASTER Seat MANTIS User.
USER	Indicates User Seat MANTIS User.

Consideration The MASTER Seat Type is reserved for the MANTIS MASTER User. This seat is only used within MANTIS when all Developer Seats are in used and the MANTIS MASTER User sign on. Normally the MASTER User is assigned a seat type of DEVEL, if all Developer Seats are not in use.

MANTIS User Name

Description Identifies the MANTIS User; this is the MANTIS User profile name that is currently using MANTIS.

UNIX User Name

Description Identifies the Unix User; this is the UNIX User profile name that is currently using MANTIS.

MANTIS Class

Description Identifies the MANTIS Class that this MANTIS User is currently using within MANTIS.

Logged in Time

Description Identifies the Time that this MANTIS User logged into MANTIS.

Logged in Date

Description Identifies the Date that this MANTIS User logged into MANTIS.

Process ID

Description Identifies the Unix Process ID assigned to the “mantis.exe” for this MANTIS User process.

USER ID

Description Identifies the UNIX User ID assigned to the Unix User profile name.

Group ID

Description Identifies the UNIX Group ID assigned to the Unix User profile name.

TTY Name

Description Identifies the Unix TTY Name assigned to the MANTIS Terminal being used. If running MANTIS in batch mode, the TTY Name will contain **batch** for the name.

End of User List

Command	Key	Description
NEXT SCREEN	1 or PF1	Displays the next 12 MANTIS Seat Licenses that are currently being used in the MANTIS System.
PREVIOUS SCREEN	2 or PF2	Displays the Previous 12 MANTIS Seat Licenses that were on the previous screen. Note, the list of MANTIS Seat Licenses may not be the same, since MANTIS Users could have logged out of MANTIS since this screen was displayed.
FIRST SCREEN	3 or PF3	Displays the First 12 MANTIS Seat Licenses that were on the first screen. Note, the list of MANTIS Seat Licenses may not be the same, since MANTIS Users could have logged out of MANTIS since this screen was displayed.
EXIT	4 or PF4	Returns to the MANTIS Main Menu.

Display of MANTIS security patch information

The display of the MANTIS Security Patch Information is determined by the current setting of the environment variable MANTIS_PATCH on the system. This Facility gives information about the MANTIS Security Patch such as Customer_ID/Account Number, the Security Patch Expiry Date, the number of User and Developer Seat Licenses, Authorize Sign On Access to Protected Users, Authorize Read Access to Protected Libraries, along with a list of Authorized MANTIS Product Options.

To access the display of MANTIS Security Patch Information, select MANTIS Security Patch Info from your Facility Selection menu by typing a 22 in the selection field and pressing RETURN. MANTIS returns the MANTNIS Security Patch Information screen show below:

```
                *** Mantis Security Patch Information ***

Customer Account Number    : 1234567         License User Seats         :  25
Security Patch Expiry Date : 31-DEC-2001     License Developer Seats    :   3

Authorize Sign On access to Protected Users :    (4,5,7)
Authorize Read Access to Protected Libraries:    (4,5,7,8)

Authorize Mantis Product Options
--------------------------------
Product 2   (Enable bind command support)
Product 4   (SUPRA/SQL Support)
Product 6   (Allow execute of BOUND user programs)
Product 8   (AD/ADVANTAGE Support)
Product 9   (ORACLE/SQL Support)
Product 10  (CISAM TM Support)
Product 12  (MANTIS SEARCH FACILITY Support)

Press Enter Key to Return to Menu
```

Field descriptions for this screen are as follows:

Customer Account Number

Description Contains Customer Account Number obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

License User Seats

Description Contains the number of User Seat Licenses obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Security Patch Expiry Date

Description Contains the MANTIS Security Patch Expiry Date obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Consideration This is the Date that this MANTIS Security Patch will expire on. MANTIS will issue a warning message once this DATE comes within 30 days of expiring. At that time you should contact your CINCOM representative to obtain a new MANTIS Security Patch.

License Developer Seats

Description Contains the number of Developer Seat Licenses obtained from the MANTNIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Authorized Sign On Access to Protected Users

Description Contains the Protected Libraries internal numbers that the MANTIS Security Patch will allow Read Access privileges to, obtained from the MANTNIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media

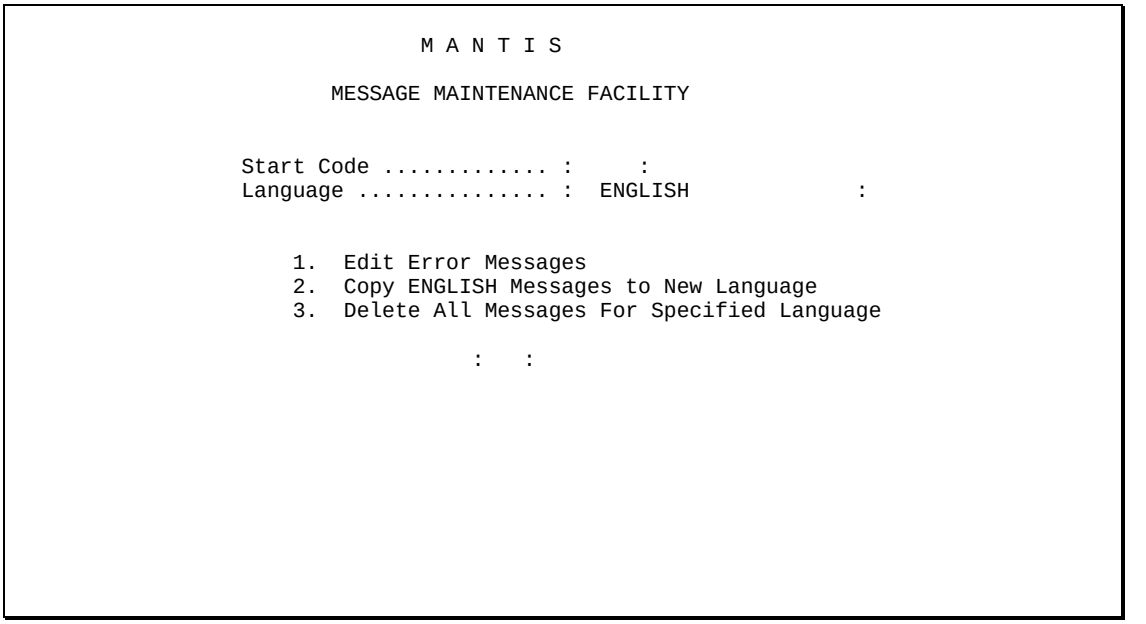
Authorized MANTIS Product Options

Description Contains a list of Authorized MANTIS Product Options that the MANTIS Security Patch will allow MANTIS support for, obtained from the MANTIS_PATCH environment. The MANTIS_PATCH is the encrypted security patch that was delivered with the product installation media.

Edit MANTIS messages

As Master User, you can edit the MANTIS error and informational messages using the Message Maintenance Facility. The main purpose of this facility is to allow you to create and update messages in languages other than English.

To access the Message Maintenance Facility, select the Edit MANTIS Messages option from the Facility Selection menu by typing a 13 in the selection field or by pressing RETURN, or by pressing PF13. The Message Maintenance Facility menu appears as shown below.



To edit MANTIS messages, enter data in the fields on this screen as described on the following page.

START CODE

Description *Optional*. Indicates an initial position in the list of MANTIS messages for the specified language. This initial list position applies to menu options 1 (edit) and 2 (copy).

Default The first message in the database (alphanumeric order)

Format 1–3 uppercase characters identifying a MANTIS message code

Consideration For an explanatory list of MANTIS messages, refer to *AD/Advantage MANTIS Messages and Codes OpenVMS/UNIX*, P39-1330.

LANGUAGE

Description *Required*. Specifies the target message database by the language under which the messages are stored.

Default The current value of the built-in variable, LANGUAGE.

Format 1–16 uppercase characters giving the exact language name, as stored in the LANGUAGES file. See "Update language codes" on page 61 for more information on updating language codes.

Consideration The value of LANGUAGE is determined when you sign on as specified in your MANTIS User Profile. This value can be changed by any application by using the LANGUAGE statement. For more information on the LANGUAGE statement, refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310.

Edit messages

When you select the Edit Error Messages option, MANTIS returns the screen shown below containing the list of current MANTIS messages in the specified language. If you specified a Starting Code, the list will be positioned at that code. If you do not specify a starting code the list displays from the beginning as shown below. To page through the list, press ENTER.

```
ENGLISH                          Edit MANTIS Messages                    YYYY/MM/DD
XXX                                                                      HH:MM:SS
CODE--------------------------------DESCRIPTION---------------------------------
 $$$ **********************INTERNATIONAL STRING SUPPORT FOLLOWS******************
 $AA JANUARY
 $AB FEBRUARY
 $AC MARCH
 $AD APRIL
 $AE MAY
 $AF JUNE
 $AG JULY
 $AH AUGUST
 $AI SEPTEMBER
 $AJ OCTOBER
 $AK NOVEMBER
 $AL DECEMBER
 $ZZ ********************************************************************************
 075 The line number is not in the allowed range.
 076 The line number is too long or too complex.
 077 The magnitude of a number is not in the allowed range.
 078 The closing quote is missing from a text literal.
 079 An Invalid DBCS character was encountered.
```

xxx

Description *Optional*. Repositions the message list at or after the specified message code.

Options

space	repositions the list at the beginning
A	Allows you to alter the description of the message. When you key an A in the left-hand column, the cursor appears in the message description field. When you finish altering the description, press ENTER. An asterisk will display in the left column marking the modified line.
I	Inserts a new line or a blank line or between existing lines so that you can enter a new message code and description. When you key an I in the left-hand column, the cursor appears in the message code field. Type in the new code and tab to the message description field to enter the new description, then press ENTER. An asterisk will display in the left column marking the modified line.
D	Deletes a line. Type a D in the left-hand column next to the message you want to delete and press ENTER. An asterisk will display in the left column marking the modified line.

Considerations

- Enter the action indicators in the left-hand column of the row you want to alter, insert, or delete.
- You can enter more than one AID action indicator at a time. When you press ENTER, all fields will be updated.

Copy English messages to new language

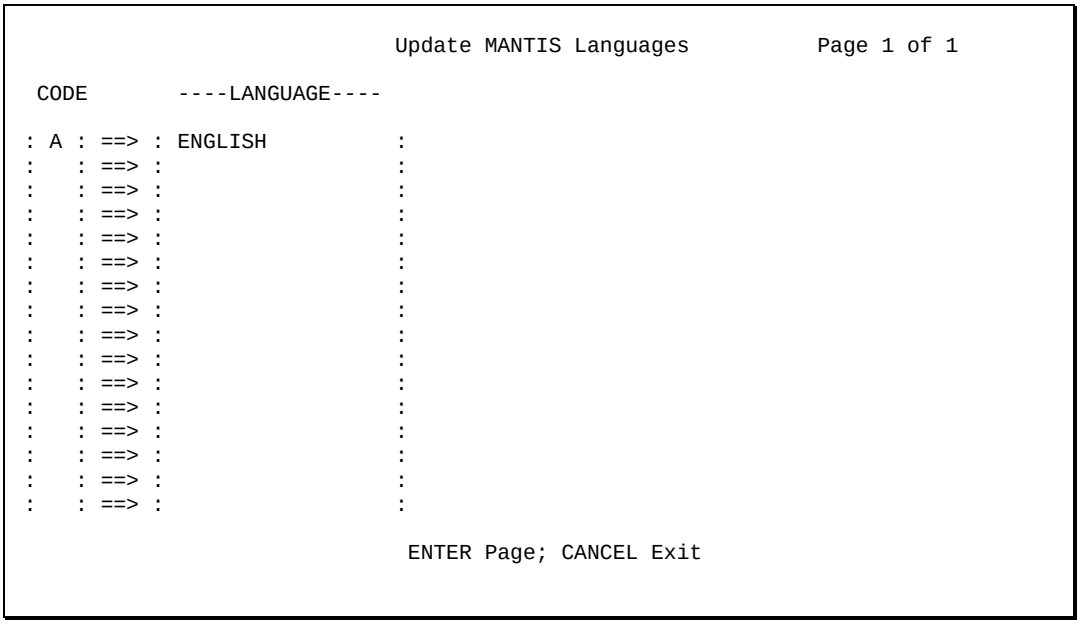
You can use this option when you are translating English messages to another language. This option copies the English message database to the target language, beginning with the specified Starting Code. You can then use the Edit MANTIS Messages option to translate the English messages by altering each one individually. This option will not overwrite messages that already exist in the target language; only English messages with no matching alternate language code are copied.

Delete all messages for specified language

This option is provided for use by Cincom support personnel only. If you want to use this option, contact your Cincom representative.

Update language codes

MANTIS uses a file of language codes and corresponding language names to assist in the support of multiple languages. If your installation uses a language other than English, you must add the language name(s) and assign a language code to each such language. To do this, select the Update Language Codes option from your Facility Selection menu. The screen shown below appears.



English must always be defined with a code of A. To define a new language, select a code (any unique character B–Z; 0–9 for Asian language support only) and enter it and the name of the new language. MANTIS uses the language code internally. On all other facilities, which support multiple languages (Screen Design, Prompter Design, and the MANTIS Message Facility), you use the language name. To delete a language, blank out or erase its code in the table. To exit press CANCEL.

Write facility programs

As Master User, you decide which MANTIS facilities (screen design, file design, or customized routines) are available to each user. To make all of the MANTIS standard facilities available to a user, simply assign the program named:

MASTER:START_FACILITY

to the FACILITY PROGRAM field on the Create a User Profile Design screen (shown in "Create/update user profile" on page 42).

If, however, you do not want the standard facility programs for a particular user, you can write a special facility program for that user.

A facility program is a standard MANTIS program and is referred to as a facility program only to indicate the role it plays in the MANTIS system.

You can use any program as a facility program. The following is a sample facility program that displays a customer entry menu from which the user can choose between order entry (PF1) or customer inquiry (PF2).

```
 10 ENTRY USER_MENU
 20 .SCREEN MENU("ORDERS1:MENU_SCREEN")
 30 .CONVERSE MENU
 40 .WHILE MENU<>"CANCEL"
 50 ..WHEN MENU="PF1"
 60 ...CHAIN "ORDERS_PROGRAM"
 70 ..WHEN MENU="PF2"
 80 ...CHAIN "CUSTOMERS_PROGRAM"
 90 ..END
100 ..CONVERSE MENU
110 .END
120 .CHAIN "MASTER:TERMINATE"
130 EXIT
```

MANTIS provides several standard facility programs. To invoke a facility, use the CHAIN statement (as shown in line 120 in the example above) in the format: CHAIN "[*user-name*:] *program-name*" where "[*user-name*:] *program-name*" is one of the programs listed in the following table.

Facility	Program name
Run a program by name	CONTROL:RUN_A_PROGRAM
Design a program	CONTROL:PROGRAM_DESIGN
Design a screen	CONTROL:SCREEN_DESIGN
Design a file	CONTROL:SETS
Design a prompter	CONTROL:PROMPTER
Design an interface	CONTROL:INTERFACE
Design an external view	CONTROL:ACCESS
Design an ULTRA file view	CONTROL:ULTRA_VIEW
Design a Scenario	CONTROL:SCENARIO_MENU
Run a Scenario	CONTROL:SCENARIO_RUNMENU
Universal Export Facility	CONTROL:EXP_MAIN_SCB
Transfer Facility	CONTROL:TRANSFER
Search Facility	CONTROL:SEARCH_FACILITY
Directory of programs	CONTROL:LIST_PROGRAMS
Directory of screens	CONTROL:S_D_DIRECTORY
Directory of files	CONTROL:LIST_SETS
Directory of prompters	CONTROL:LIST_PROMPTERS
Directory of interfaces	CONTROL:LIST_INTERFACES
Directory of external views	CONTROL:LIST_ACCESSES
Directory of RDM views	CONTROL:LIST_VIEWS
Directory of any entity	CONTROL:DIRECTORY
View a prompter	CONTROL:DISPLAY
Sign on as another user	CONTROL:SIGN_ON
MANTIS Run System	MASTER:RUN_SYSTEM
SPECTRA	PERFORM “SPECTRA”
Terminate session	MASTER:TERMINATE

A sample portion of a facility program appears below.

```
10 ENTRY USER_MENU
20 .OUTPUT SCREEN
30 .COMMIT
40 .SCREEN MAP("FACILITY")
50 .IF USER="MASTER"
60 ..UNTIL MAP="CANCEL"
70 ...CONVERSE MAP
80 ...WHEN MAP="PF1" OR OPTION=1
90 ....CHAIN"CONTROL:RUN_A_PROGRAM"
 .
 .
 .
```

If you code “MASTER:START_FACILITY,” all the facility programs are made available to the user. By using the standard MANTIS facility programs and creating your own customized routines, you can completely individualize a user’s facility selections.

Customize sign-on and sign-off options

The Master User can customize sign-on and termination procedures for MANTIS by modifying the MASTER:SIGN_ON screen and the MASTER:SIGN_ON and MASTER:TERMINATE programs. After MANTIS initialization, the first program that is executed is CONTROL:SIGN_ON. CONTROL:SIGN_ON calls MASTER:SIGN_ON via external DO before the sign-on screen is displayed. MASTER:SIGN_ON can be customized to bypass or modify the standard sign-on screen procedure. You can:

- Pass a valid user ID and password back to CONTROL:SIGN_ON. This bypasses the standard MANTIS sign-on screen and transfers control directly to the user's facility program.

- Call an interface program. For example you might want to check security, look up a user ID and password, sign on to a database, permit a user to change his or her user ID and password, or assign the user a different User ID.

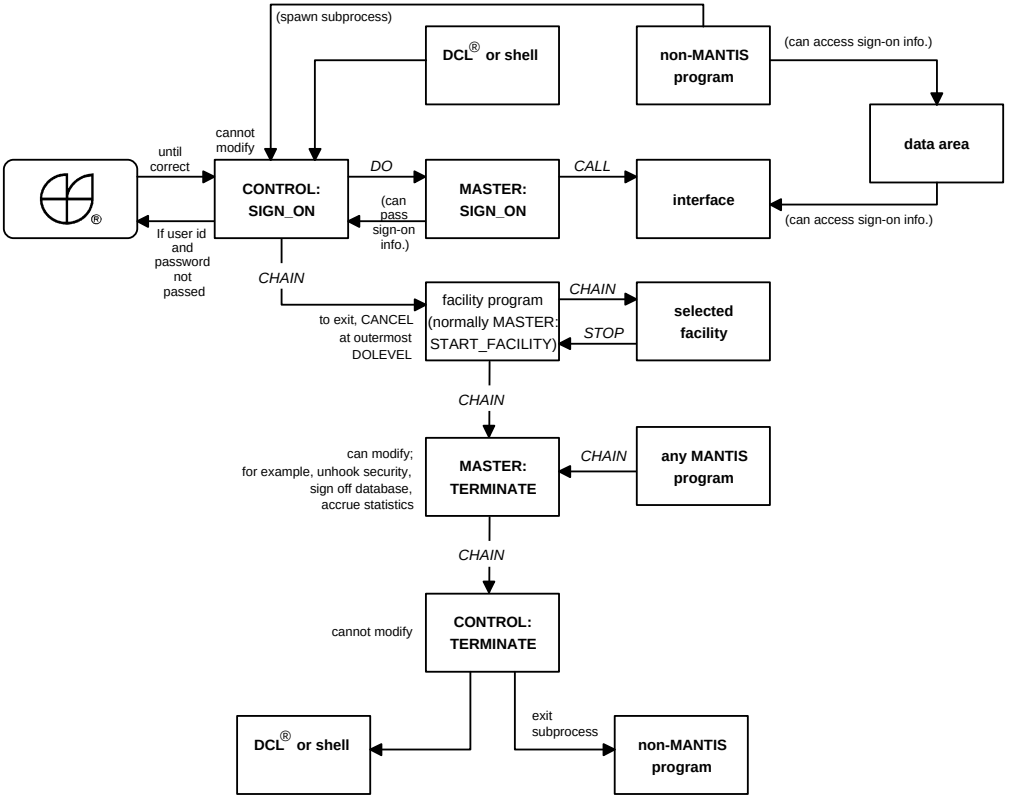
MASTER:SIGN_ON must end with a RETURN or EXIT. CONTROL:SIGN_ON can receive parameters for user ID, password, facility program name, and parameter data to be passed to the facility program as part of the CHAIN.

The CONTROL:SIGN_ON program checks for a valid user ID and password before control transfers to the facility program. If no user ID and password are passed back to CONTROL:SIGN_ON from MASTER:SIGN_ON, the MANTIS sign-on screen (MASTER:SIGN_ON) displays. CONTROL:SIGN_ON also initializes MANTIS based on data in the signed-on user's profile (Help Library, for example). When a valid user ID and password are entered, control passes to the user facility program, typically a menu program. The user facility program is the one specified in the user's profile unless an initial facility program is named as a parameter.

Control is retained within the application program normally until a CANCEL is encountered at the outermost DOLEVEL of the facility program. Then, control is passed to MASTER:TERMINATE via a MANTIS CHAIN. The user facility program supplied with MANTIS is called MASTER:START_FACILITY.

MASTER:TERMINATE enables you to expand or modify the way a MANTIS session ends. You might want to modify it to sign off to a security program or tally usage statistics that can be attributed to a user or program. MASTER:TERMINATE must end with a CHAIN to CONTROL:TERMINATE.

The following figure illustrates the MANTIS flow. The sections that follow describe how to modify the flow.



Customize the sign-on screen

You can customize, with some limitations, the supplied sign-on screen to suit your needs. To begin, fetch the MASTER:SIGN_ON screen using the Screen Design Facility (for information on using the Screen Design Facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300).

The following three fields on the MASTER:SIGN_ON screen MUST keep their original names, sizes, and attributes. You can move the fields to different locations on the screen, but you cannot alter them.

- SIGNNAME—16 characters (not numeric)
- SIGNPASS—16 characters (not numeric)
- NOTE—protected—38 characters (not numeric)

If you alter any of these three fields, users will not be able to sign on. You should back up the MANTIS file before you move these three fields or alter this screen. You should also test your new sign-on screen before using it in your production system. When you test the sign-on screen, leave the Master User signed on at one terminal, and test the new screen from another terminal. You can then correct the screen from the first terminal, if necessary.

Set alternate sign-on

As the Master User, you can decide to bypass the MANTIS sign-on screen completely. To begin, modify the MASTER:SIGN_ON program to pass a valid user name and password to the main sign-on program, CONTROL:SIGN_ON. If you bypass the sign-on screen, the user's Facility Selection menu will be presented.

You can customize the MASTER:SIGN_ON program to:

- Allow different IDs to sign on to the same MANTIS user
- Provide additional security checks or sign on to security facilities

You can also force CONTROL:SIGN_ON to chain to a program instead of to the user facility program and/or to pass a parameter to the chained program by initializing the text variable 'PARAMETER'.

You should leave one terminal signed on to MASTER when making modifications to the MASTER:SIGN_ON program. This allows you to back out the changes if you make an error, which prevents another user from signing on.

The MASTER:SIGN_ON program is shown below.

```
 10 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
 20 .TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
 30 .|
 40 .| THIS PROGRAM IS CALLED BY THE CONTROL:SIGN_ON PROGRAM.
 50 .| IT CAN BE MODIFIED TO SUPPRESS THE STANDARD MANTIS SIGN-ON
 60 .| PROCEDURE BY RETURNING A VALID USER NAME AND PASSWORD IN THE
 70 .| 'NAME' and 'CLEARANCE' PARAMETERS.
 80 .|
 90 .| IN ADDITION, THE USER CAN FORCE "CONTROL:SIGN_ON" TO CHAIN
100 .| TO A PROGRAM OF THE USER'S CHOICE OR TO PASS A PARAMETER
110 .| TO THE CHAINED PROGRAM BY INITIALIZING THE TEXT VARIABLE
120 .| 'PARAMETER'.
130 .|
140 .| THE LAYOUT OF 'PARAMETER' IS AS FOLLOWS:
150 .|
160 .| AAAAAAAAA;BBBBBBBBB
170 .|
180 .| WHERE:
190 .|
200 .| AAAAAAAAA - IS THE PROGRAM TO BE CHAINED TO INSTEAD
210 .|             OF THE USER FACILITY PROGRAM
220 .|
230 .| ;         - IS A MANDATORY SEPARATOR IF 'BBBBBBBBB' IS
240 .|             PRESENT
250 .|
260 .| BBBBBBBBB - IS THE PARAMETER DATA TO BE PASSED TO
270 .|             THE 'AAAAAAAAA' PROGRAM IF 'AAAAAAAAA' IS SUPPLIED,
280 .|             OR TO THE USER FACILITY PROGRAM IF 'AAAAAAAAA' IS
290 .|             NOT SUPPLIED.
300 .|
310 .| BOTH THE 'AAAAAAAAA' AND 'BBBBBBBBB' PARAMETERS ARE OPTIONAL.
320 .|
330 .|
340 .|      YOU MAY WANT THE USER TO SIGN ON USING THE VMS LOGIN NAME AND
350 .|      PASSWORD. YOU WOULD REQUIRE AN INTERFACE PROGRAM TO SUPPLY
```

```
360 .|      THIS INFORMATION. YOUR INTERFACE DESIGN COULD MAP ONTO THE
370 .|      NAME, CLEARANCE AND PARAMETER FIELDS. FOR EXAMPLE:
380 .|
390 .| INTERFACE OBTAIN_USER("MASTER:GETJPI","MASTER")
400 .| CALL OBTAIN_USER
410 .|
420 .|      OR, YOU MAY WANT ALL USERS TO SIGN ON WITH THE SAME USER NAME
430 .|      AND PASSWORD, AND TO BE PRESENTED WITH A SPECIAL INITIAL MENU
440 .|      FOR EXAMPLE:
450 .|
460 .| NAME="ACCOUNTS"
470 .| CLEARANCE="BILLS"
480 .| PARAMETER="ACCOUNTS_PAY"
490 .|
500 EXIT
```

Customize sign-off

When your facility or application program terminates MANTIS, it should CHAIN to the MASTER:TERMINATE program. The MASTER:TERMINATE program can be modified to allow the Master User to perform certain installation-dependent functions before exiting MANTIS.

The MASTER:TERMINATE program is shown below.

```
10 ENTRY TERMINATE(ERRCODE)
20  BIG ERRCODE
30  |
40 .| THIS PROGRAM CAN BE MODIFIED TO INVOKE VARIOUS
50 .| INSTALLATION DEPENDENT HOUSEKEEPING FUNCTIONS
60 .| BEFORE EXITING FROM MANTIS.
70 .|
80 .| CHAIN"CONTROL:TERMINATE",ERRCODE
90 EXIT
```

MASTER:TERMINATE has an optional numeric parameter for the exit status returned by MANTIS. ERRCODE of ZERO means success and MANTIS will exit with the default success status for the platform you are on. Any other value of ERRCODE will cause MANTIS to exit with a status of ABS(ERRCODE). For example:

ERRCODE	MANTIS exit status
-N	N
:	:
-2	2
-1	1
0	0 (UNIX) or 1 (OpenVMS)
1	1
2	2
:	:
N	N

OpenVMS

The default exit status is SS$_NORMAL (1). Exiting MANTIS with other statuses may cause DCL to respond by outputting a corresponding system message.

UNIX

The default exit status is 0. The operating system may affect the MANTIS exit status. For example, $? set to exit status mod 256.

Maintain customized entities

When your MANTIS data file is upgraded or downgraded by the MANTIS Copy Utility (for example, during installation of a new MANTIS release), your customized MASTER programs and screens are replaced by entities of the same name from the new Release MANTIS File. MANTIS Copy merges the new Release MANTIS File with your input MANTIS File to produce the upgraded or downgraded output MANTIS File, and MASTER entities from the new Release MANTIS File are used in preference to those from your input MANTIS File.

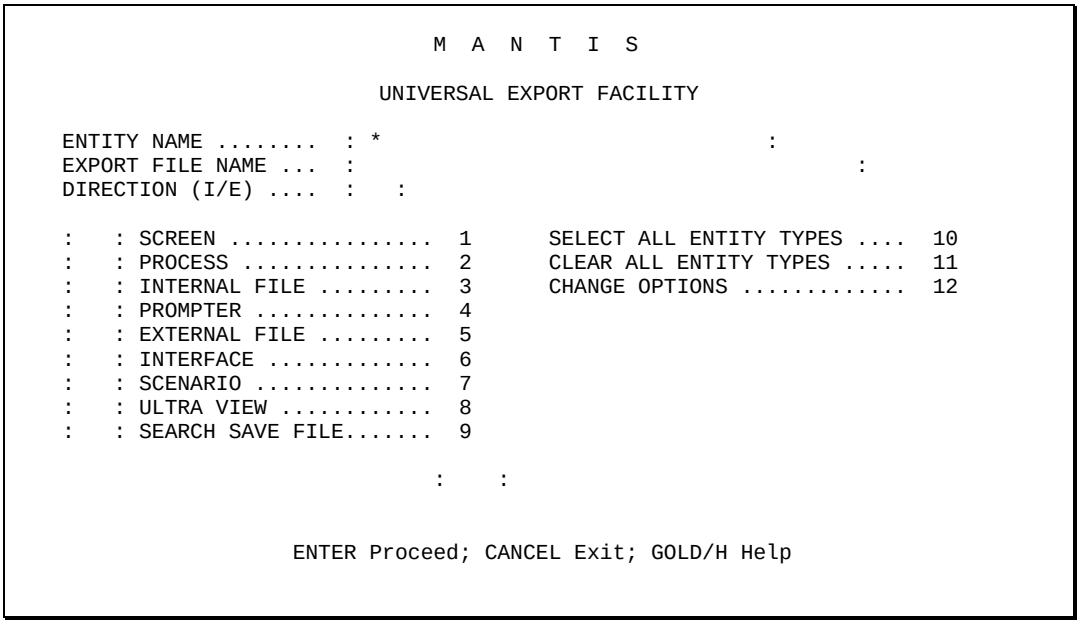
If you want to maintain your customized entities, the easiest way is to keep copies of each one under a different name, for example, MASTER:SIGN_ON_SAVE. Since the new Release MANTIS File will not contain an entity named MASTER:SIGN_ON_SAVE, that entity will be included in the output file produced by MANTIS Copy.

If you have modified several MASTER entities, it may be easier to export them before you run MANTIS Copy, and import them afterwards, provided that the Universal Export Facility is available in both MANTIS releases.

Once MANTIS is running with the upgraded or downgraded MANTIS File, you can easily replace MASTER:SIGN_ON by MASTER:SIGN_ON_SAVE, and so on.

Import/export MANTIS entities

The Universal Export Facility Allows the Master User to import and export entities which belong to other users. This extended functionality is available only to the Master User and has some limitations, which are discussed below. You can export all entities belonging to a particular user, or all MANTIS users' entities. It is also possible for the MASTER user to import entities into another user's library. Import/export options are available on the Universal Export Facility menu shown below.



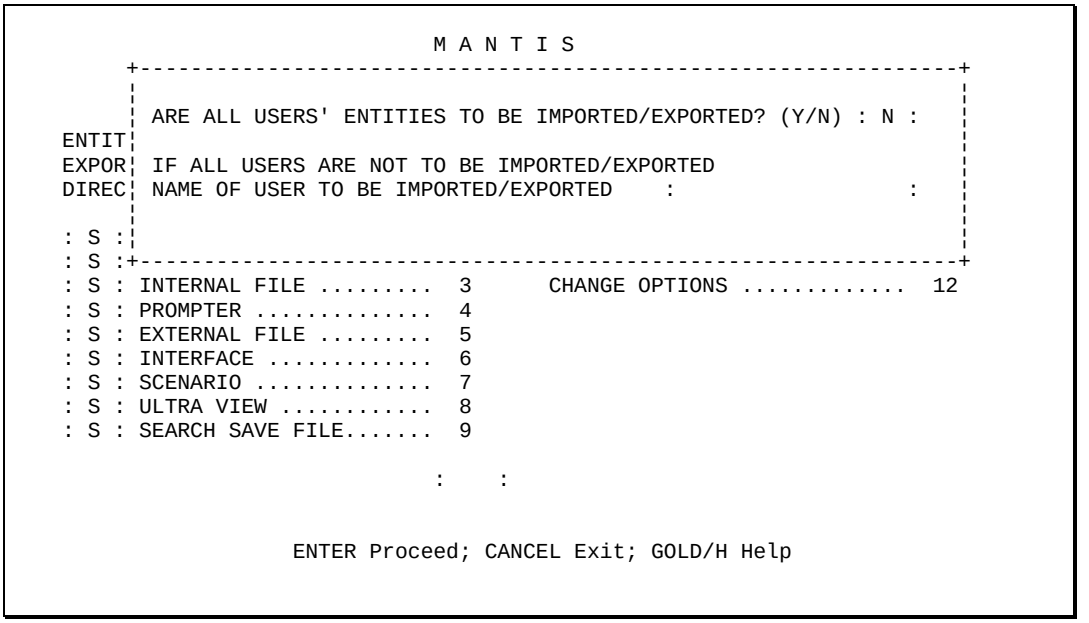
For more detailed information on how to use the Universal Export Facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

Exporting

To Export ALL entities of one or all MANTIS users, you must select all entity types (option 9) from the Universal Export Facility Menu. After pressing RETURN, the Universal Export Facility menu screen is updated as shown in the following screen illustration.

```
                              M  A  N  T  I  S

                         UNIVERSAL EXPORT FACILITY

ENTITY NAME ........  : *                                :
EXPORT FILE NAME ...  : test_file                                    :
DIRECTION (I/E) ....  : e :

:  : SCREEN ..............  1      SELECT ALL ENTITY TYPES ....  10
:  : PROCESS .............  2      CLEAR ALL ENTITY TYPES .....  11
:  : INTERNAL FILE .......  3      CHANGE OPTIONS .............  12
:  : PROMPTER ............  4
:  : EXTERNAL FILE .......  5
:  : INTERFACE ...........  6
:  : SCENARIO ............  7
:  : ULTRA VIEW ..........  8
:  : SEARCH SAVE FILE.....  9

                               :    :


                    ENTER Proceed; CANCEL Exit; GOLD/H Help
```

To continue exporting all entity types, press ENTER again. MANTIS returns the boxed prompt shown below.



To complete the export, enter data in the fields in this box as described below and on the following page. To cancel the export, press CANCEL.

ARE ALL USERS' ENTITIES TO BE IMPORTED/EXPORTED?

Description *Required*. Indicates whether you want to export the entities of ALL users on the system.

Default No Do not import/export entities from all users

Options Yes/No

Considerations

- If you DO want to export all user entities, type a Y in the first field. When you do so, the second field for entering the user name is ignored. This will cause all users' entities to be exported, including MASTER user's entities.

- If you DO NOT want to export all user entities, type an N in the first field. This will cause all the entities belonging to the user you specify in the "name of user to be imported/exported" field to be exported. If the "name of user to be imported/exported" field is left blank, the default name is "MASTER."

General considerations

- If you are EXPORTING all users' entities to another MANTIS file, it is important to select the Include USER Descriptor on Export option from the Universal Export Facility Options. Setting this option will enable the entities to be identified when they are imported to the new MANTIS file. If you do not set this option, it will be impossible to import the entities back into the correct user libraries.

- Conversely, if you are IMPORTING all users' entities, the entities in the export format file must have the descriptor of "USER=*username*" included in them. Otherwise, it will not be possible to import them into the correct user's library. The USER descriptor will be included for each entity in the export format file on export if the Include USER Descriptor on Export option was selected upon export.

IF ALL USERS ARE NOT TO BE IMPORTED/EXPORTED NAME OF USER TO BE IMPORTED/EXPORTED

Description *Optional*. Enabled if you typed N in the above field. Indicates the name of the user whose entities you want to export.

Default MASTER

Consideration If you are importing, all entities corresponding to the specified user name will be imported into that user library.

Importing

When importing entities, if the entities in the export format file have the descriptor of "USER=*username*" included in them, it is possible for MASTER to import entities into the correct users' libraries. This is possible only when you have selected all entity types for Import, and the "Ignore USER Descriptor on Import" option is set to "N" from the Universal Export Facility options screen. The user descriptor will be included for each entity in the export format file on export, if you selected the "Include USER descriptor on Export" option from the Universal Export Facility options screen. When you press RETURN on the Universal Export Facility, a window will appear as shown in "Exporting" on page 74.

If you answer "Y" to the question "Are all users' entities to be imported/exported? (Y/N)," the second field for the user name is ignored. This will cause each entity appearing in the export format file that has a USER descriptor and a valid user name to be imported into the user's library that corresponds to the user name found in the export format file. All entities in the export format file that do not contain a USER descriptor are not imported.

If you answer "N" to the question "Are all users' entities to be imported/exported? (Y/N)," this will cause each entity appearing in the export format file that has a USER descriptor and a user name matching the one specified in the "name of user to be imported/exported" field to be imported into that user's library. If the "name of user to be imported/exported" field is left blank, the default name is "MASTER."

3

Entity creation and maintenance

This chapter describes the following entity creating and maintenance tasks:

- Transferring entities among users in the same or different MANTIS classes or on the same or different systems via the Transfer Facility.
- Managing the shared entity lists and files using the Shared Entity Facility.
- Patching MANTIS entities using the MANTIS Maintenance Facility.
- Generating and maintaining online help libraries in MANTIS for UNIX using the Help Utility and the Help Table Generator utility.
- Maintaining MISAM files through the MISAM File Maintenance utility.

While some of these facilities are available to all MANTIS users, certain tasks within each facility are available only to the Master User. This chapter discusses those tasks only. For complete information on using the facilities presented here, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

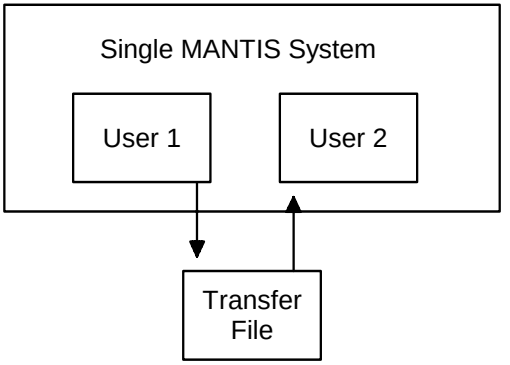
The following table lists and provides section references for the entity creation and maintenance tasks.

Task	See section
Transfer entities between users and systems	“Transfer entities between users and systems” on page 81
Manage shared entities	“Manage shared entities” on page 89
Patch MANTIS entities	“Patch MANTIS entities” on page 112
Generate online help (UNIX)	“Operate the MANTIS help utility (UNIX only)” on page 117
Generate MISAM help (UNIX)	“Create MISAM help files (UNIX only)” on page 119
Maintain MISAM files	“Maintain MISAM files (UNIX only)” on page 122

Transfer entities between users and systems

The Transfer Facility provides a flexible tool for sharing MANTIS entities (screens, programs, etc.) among users in the same or different MANTIS classes or on the same or different systems. The Transfer Facility uses a special “transfer file” (identified by the MANTIS_TRANSFER), to provide flexibility and control over the movement and storage of the entities. The transfer file holds data on a temporary, not permanent, basis and is divided into independent areas, called bins, which can belong to a single user or be shared. Entities can be copied from user to user, system to system, or site to site. The following figures illustrate the transfer of entities from user to user, system to system, and site to site.

The following figure illustrates how to transfer entities from one user to another on a single MANTIS system within the same or different MANTIS class. In this example, User 1 copies the entity from their library to a specific bin in the Transfer File. User 2 then copies the entity from the bin to their library. (User 2 can delete the entity from the bin after copying it.) This permits controlled sharing of MANTIS entities.

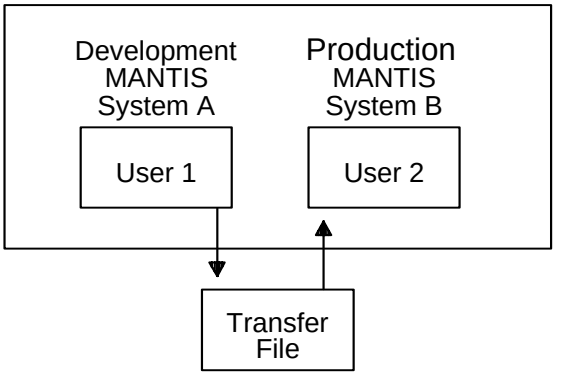


The following figure illustrates transferring entities from one system to another. This process involves two steps:

1. User 1 copies the entity (entities) from their library to a bin in the Transfer File. The Transfer File is then “closed” to System A.

2. The Transfer File is “opened” to System B, and User 2 copies the entity (entities) from the bin to their library.

For data integrity, the Transfer File should remain closed to one system while the second system is working with it. The Transfer File is automatically opened when a user accesses the Transfer Facility; it is automatically closed when the Transfer Facility is not in use.



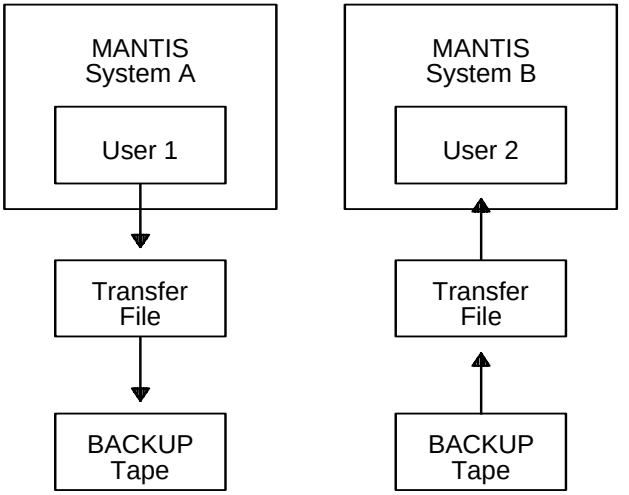
The following figure illustrates transferring entities from one site to another. Use these four steps for transferring entities from one site to another:

1. User 1 copies entities into the specified bin. The Transfer File is "closed" to User 1.

2. User 1 then copies the Transfer File to magnetic tape.

3. This tape is physically taken to the other site, and restored onto the second system.

4. User 2 copies entities from the bin.



As the Master User, you can decide how the Transfer Facility will be set up and what security measures you need to take to ensure system integrity. For example, you can restrict use of the Transfer Facility to the Master User only, or provide access to a group of individuals (through the use of facility programs—see "Write facility programs" on page 62).

There are special features of the Transfer Facility that are only available to the Master User. These features are:

- Lock/Unlock the Transfer Facility
- Delete all Bins in a Transfer File
- Transfer user-specific entities from bin to library

Details of these features are discussed in the following sections. For details on the complete functionality of the Transfer Facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

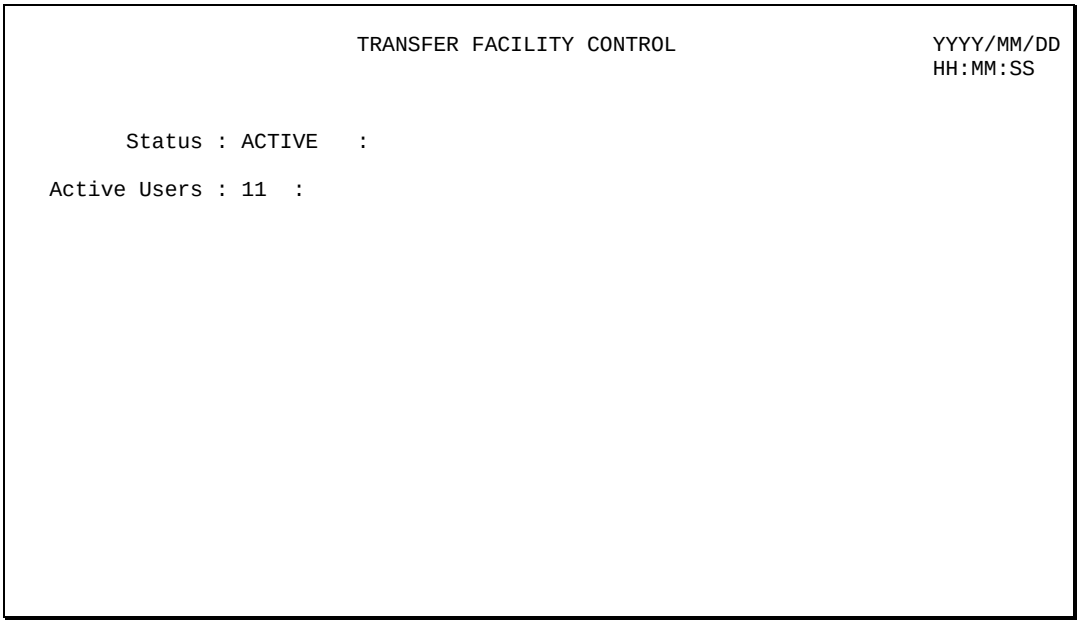
The Master User's Transfer Facility menu is shown below.

```
                    TRANSFER FACILITY                          YYYY/MM/DD
                                                               HH:MM:SS

              Bin :                 :
         Password :                 :

  Create A New Bin  ..........................  1
  Copy From Library To Bin  ..................  2
  Copy From Bin To Library  ..................  3
  Delete From Bin  ...........................  4
  List Contents Of Bin  ......................  5
  Change Password For Bin  ...................  6
  Directory Of Bins  .........................  7
  Turn Print On/Off  .........................  8
  Help  ......................................  9
  Lock/Unlock Transfer Facility  .............  10
  Delete Entire Bin  .........................  12
  Delete All Bins In Transfer File  ..........  13
  Exit  ...................................... CANCEL

                       :    :
```

The layout of the Transfer File differs from one version of MANTIS to another. When using the Transfer Facility, ensure that the versions of the Transfer File and the MANTIS data files are the same. If you are uncertain, copy in a new Transfer File from the installation area for the version of MANTIS being used. Using the wrong version can corrupt the MANTIS data file.

Lock/unlock transfer facility

You can use the Lock/Unlock Transfer Facility option to enable and disable the Transfer Facility. When you lock the Transfer Facility, other MANTIS users cannot access it. When you select the Lock/Unlock Transfer Facility option from the Master User's Transfer Facility menu, the following screen will appear.



The following fields are maintained on this screen.

Status

Description *Required*. Indicates whether the Transfer Facility is active (unlocked) or inactive (locked).

Default ACTIVE

Consideration To lock the Transfer Facility, set the status to any value other than ACTIVE (for example, INACTIVE). To unlock the Transfer Facility, set the status back to ACTIVE.

Active Users

Description *Display*. Indicates the number of active users on the system.

Consideration Active Users is a display field only and cannot be altered.

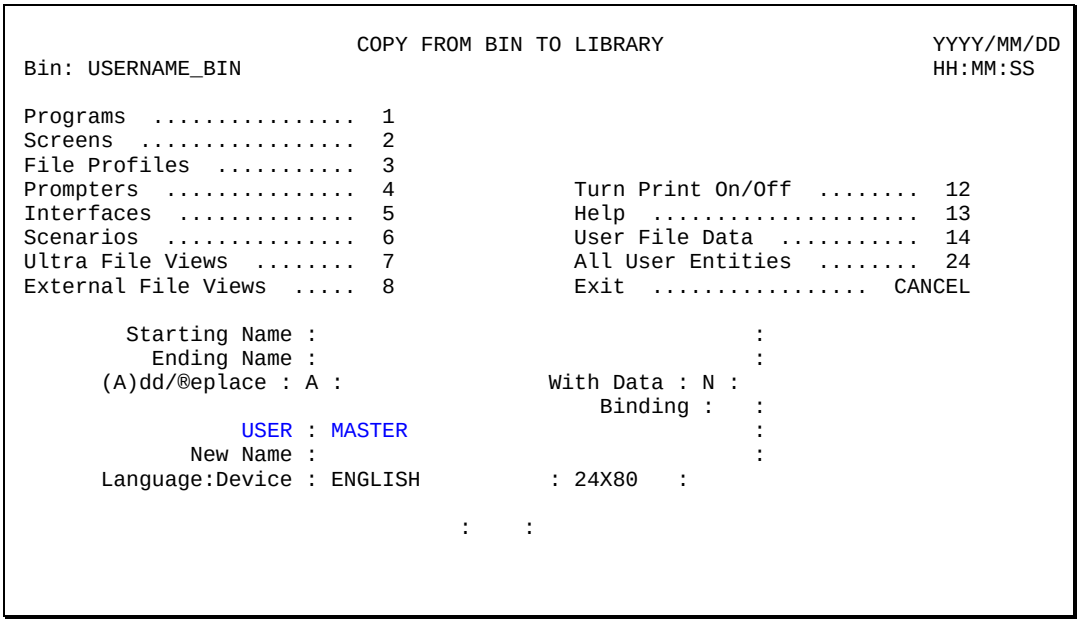
Delete all bins

The Delete All Bins option allows you to delete all bins in the Transfer File. When you select this option, a prompt appears, as shown below, asking you to confirm the deletion. The Transfer Facility must be locked (see “Lock/unlock transfer facility” on page 85) before you can delete all bins.

```
                          TRANSFER FACILITY                      YYYY/MM/DD
                                                                 HH:MM:SS

                     Bin :                 :
                Password :                 :

           Create A New Bin  ..........................  1
           Copy From Library To Bin  ..................  2
           Copy From Bin To Library  ..................  3
           Delete From Bin  ...........................  4
           List Contents Of Bin  ......................  5
           Change Password For Bin  ...................  6
           Directory Of Bins  .........................  7
           Turn Print On/Off  .........................  8
           Help  ......................................  9
           Lock/Unlock Transfer Facility  .............  10
           Delete Entire Bin  .........................  12
           Delete All Bins In Transfer File  ..........  13
           Exit  ...................................... CANCEL

                                : 13 :
Press <ENTER> to confirm Deletion of all Bins
```

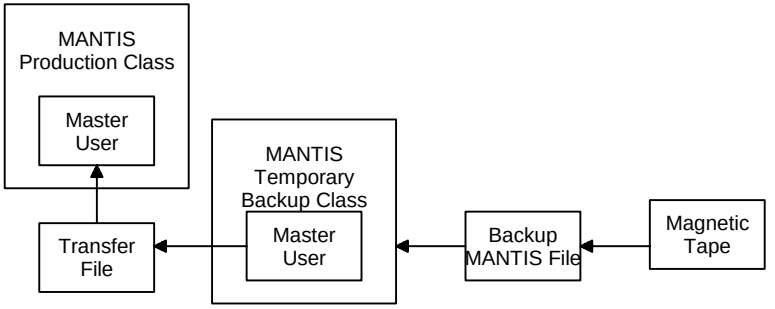
Transfer user-specific entities

The USER field is an extra field available to the Master User on the Copy from Bin to Library screen, shown below. This field allows the Master User to copy entities from the bin into a specific user library. The field is specifically designed to allow transfer of patched CONTROL entities from transfer files supplied by Cincom. (Note that this field does not appear on the Delete From Bin screen.)



Recover entities from a magnetic tape

You can selectively recover entities from a magnetic tape copy of your MANTIS File. The following figure illustrates this process:



This magnetic tape backup of the MANTIS file is loaded into a temporary file. Using MANTIS from another MANTIS class generated especially for this purpose, the Transfer Facility is run to copy the specified entities from the temporary MANTIS File to the Transfer File. The Transfer Facility is then used again to copy the entities into the original MANTIS File.

Manage shared entities

The Shared Entity Facility allows you to manage Shared Entity Lists and Shared Entity Pool Files, from which a Shared Pool can be created. A Shared Pool is a collection of MANTIS File entities that reside in a shared memory segment. A Shared Pool is associated with a single (unique) MANTIS class, and the pool entities are shared by the MANTIS users in that MANTIS class. Using the Shared Pool rather than the MANTIS File to store entities not only makes retrieval more efficient (particularly for larger designs (>4K)) but also can also potentially eliminate disk access to the MANTIS File. Memory requirements for individual MANTIS processes can also be reduced because MANTIS program code can be shared between processes. Unlike shared programs, other types of entities in the Shared Pool (screens, files, etc.) are not really shared but are copied into the private address space of each MANTIS process that references them. Also unlike shared programs, these entities are not stored in a format that is prepared for runtime execution.

A Shared Pool is generated from a Shared Entity list or from a Shared Entity Pool File (which is created from a Shared Entity List). A Shared Entity list is stored in the MANTIS File under a specified name and identifies a collection of MANTIS File entities that may be loaded into shared memory during MANTIS initialization. Each Shared Entity list item consists of an entity type, a fully qualified entity name (referred to as Libname), and an optional status. The values and meanings of the status field are provided in “Update shared entity list” on page 97. Some list item examples are shown below:

Type	Libname	Status
PROCESS	EXAMPLES:APPLICATIONS	
PROCESS	EXAMPLES:GAMES	IGNORE
SCREEN	EXAMPLES:APPLICATIONS	
DATA	EXAMPLES:PRICE_PORT	
INTERFACE	EXAMPLES:TEST	NOTFOUND

During MANTIS initialization, the logical name MANTIS_SHARE can be set to either a Shared Pool file name or a Shared Entity list name, and if the SHARE MANTIS option is not set to NONE, the specified Shared Pool file/list will be loaded into shared memory when the first user of each MANTIS class signs on.

If MANTIS_SHARE is not defined, a program can still map to an existing shared memory segment containing a Shared Pool, provided that SHARE=NONE is not in effect. However, unless MANTIS_SHARE is defined, your MANTIS process cannot create a new-shared memory segment.

The Shared Pool can store the following entity types:

- ACCESS—An external file design.
- DATA—An internal MANTIS File data set. You can only load the entire file contents. The MANTIS FILE statement used to access the data must specify the read-only access password to access the Shared Pool data; otherwise, the MANTIS File data set is accessed.
- FILE—An internal MANTIS file design.
- INTERFACE—An interface design.
- PROCESS—A MANTIS program. Program code will only be shared in RUN mode execution. Any application initiated by the Program Design Facility cannot reference shared program code in the Shared Pool.
- PROMPTER—A prompter design. The Libname used to specify a prompter does not identify a specific language code, so if there are multiple language versions of the prompter in the MANTIS File, they will all be included in the Shared Pool.
- SCREEN—A screen design. As with prompters, multiple language and device specific versions of a screen will all be loaded into the Shared Pool.
- ULTRA—An ULTRA file view design.

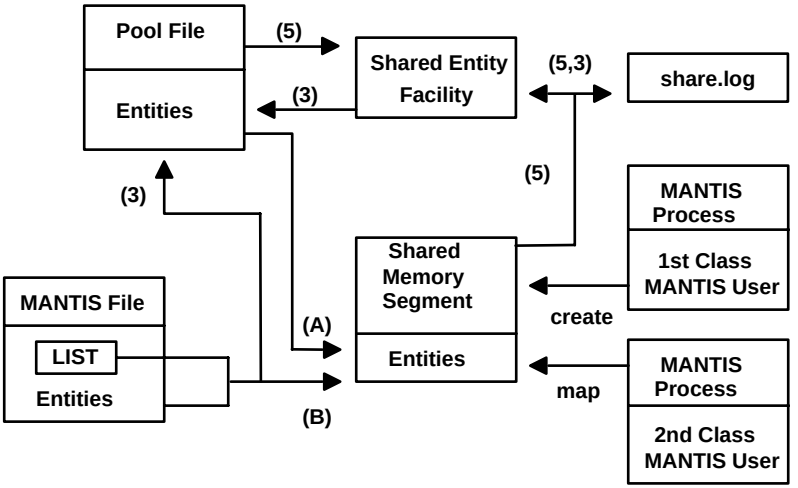
The DATA type may also be used to load all entities of a specified type, as shown below:

Type	Description
DATA EXAMPLES:PROGRAMS	Load all Programs
DATA EXAMPLES:SCREENS	Load all Screens
DATA EXAMPLES:SETS	Load all internal file designs
DATA EXAMPLES:ACCESS	Load all external file designs
DATA EXAMPLES:ULTRA	Load all ULTRA designs
DATA EXAMPLES:INTERFACES	Load all INTERFACE designs
DATA EXAMPLES:PROMPTERS	Load all Prompter designs

The Shared Pool does not support data from external help libraries or external files.

You cannot load MANTIS programs from the Shared Pool into the Program Design Facility or any other MANTIS design facility. Therefore, when you edit an entity, you are always working with the version of the entity stored in the MANTIS File, not the Shared Pool. Because of this, entities stored in the Shared Pool can easily become out of date, especially if your MANTIS class uses a permanent (SHARE=PERMANENT) shared memory segment. To account for this, the Shared Entity Facility includes support for Shared Pool verification. This feature reports on the status of every entity in the Shared Pool by comparing them with their MANTIS File counterparts. See “Verify shared entity pool” on page 107 for more information on verifying the Shared Pool.

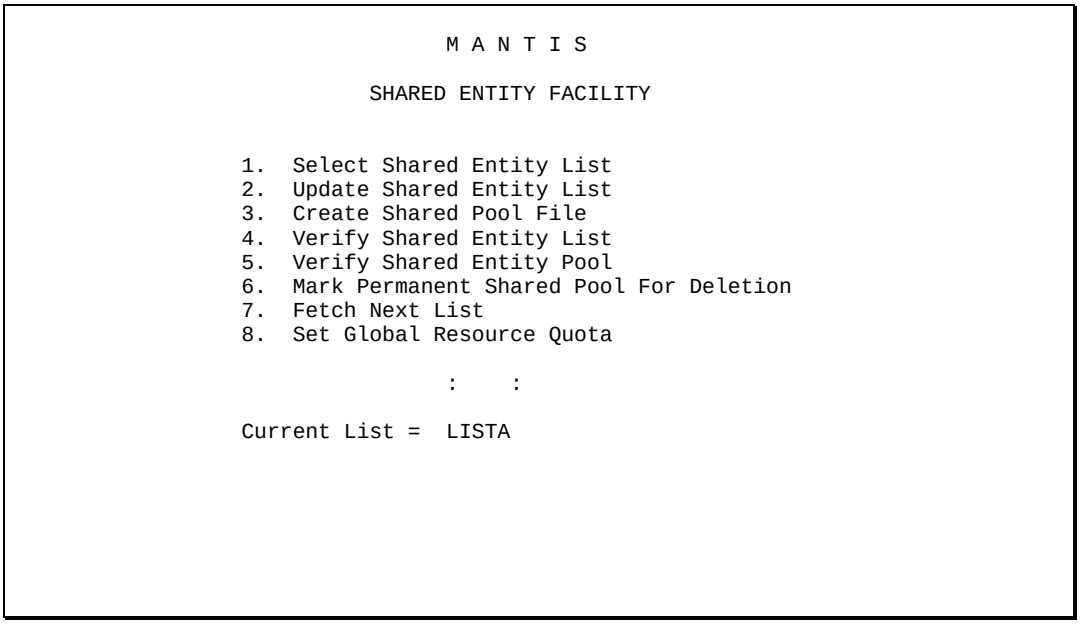
The following figure provides an overview of shared entity management.



KEY:

(A) MANTIS_SHARE logical identifies Pool File name
(B) MANTIS _SHARE logical identifies Entity List name
(3) Shared Entity Facility option to Create Pool File
(5) Shared Enity Facility option to Verify Shared Pool

To access the Shared Entity Facility from the Facility Selection menu, type 16 in the selection field and press ENTER or press PF16. The Shared Entity Facility menu is displayed as shown below.



The working Shared Entity list is displayed in the Current List field. You can access a different list by entering the name of the list in this field.

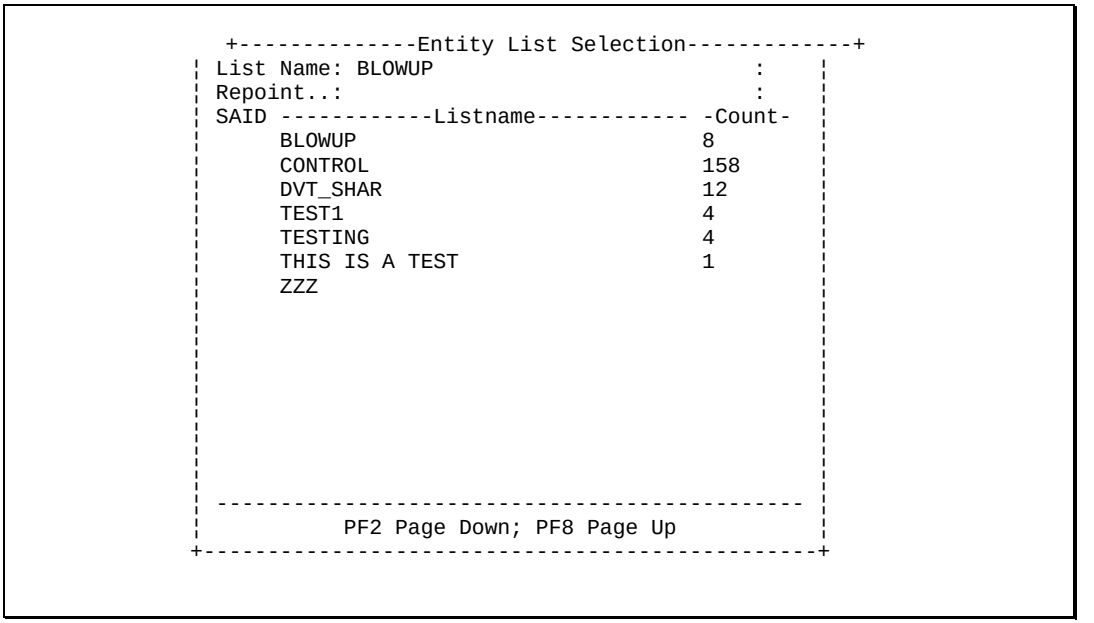
The options on the Shared Entity Facility menu are described in the following sections.

Select shared entity list

This option displays the Entity List Selection screen that allows you to perform the following functions:

- Select an Entity List
- Create an Entity List
- Rename an Entity List
- Delete an Entity List

The Entity List Selection screen is shown below.



The fields on the Entity List Selection screen are described on the following pages.

List Name

Description *Display*. Displays the working list name.

Consideration List Name is a display field only and cannot be altered.

Repoint

Description *Optional*. Repositions the directory in alphabetical order.

Consideration If you press ENTER, the current value in the Repoint field is used to fetch the next list name for line 1 of the display. For example, enter "S" to view only those lists whose names start with a character greater than or equal to "S."

SAID

Description *Optional*. Specifies the action you want to take on the list. Actions are carried out when any valid PF key or ENTER is pressed.

Options Enter one of the following action codes:

S	Selects a list as the current working list. You can only select one list at a time.
A	Alters the list name. Use this to rename the list.
I	Inserts a new list name. A null entity list is added to the MANTIS File. To add items to a list, use the Update Shared Entity List option (see "Update shared entity list" on page 97).
D	Deletes the list from the MANTIS File. This delete action is delayed until all other actions have been carried out. You are then prompted to confirm the delete. Note that in batch mode, no confirmation is requested before deletion.

Listname

Description *Optional*. Specifies the name of a Shared Entity List.

Format 1–30 character entity list name

Consideration The list name identifies the list for other functions such as Create Shared Pool File. When a Shared Pool is created from the list, the list name is also stored in the pool for identification. You cannot enter a name in the Listname field until you type an action code of A (Alter) or I (Insert) next to it.

Count

Description *Display*. Displays the number of entities in the list.

Consideration This field is display only and cannot be modified. The only way to modify the contents of an entity list is through the Update Shared Entity List option (see "Update shared entity list" on page 97).

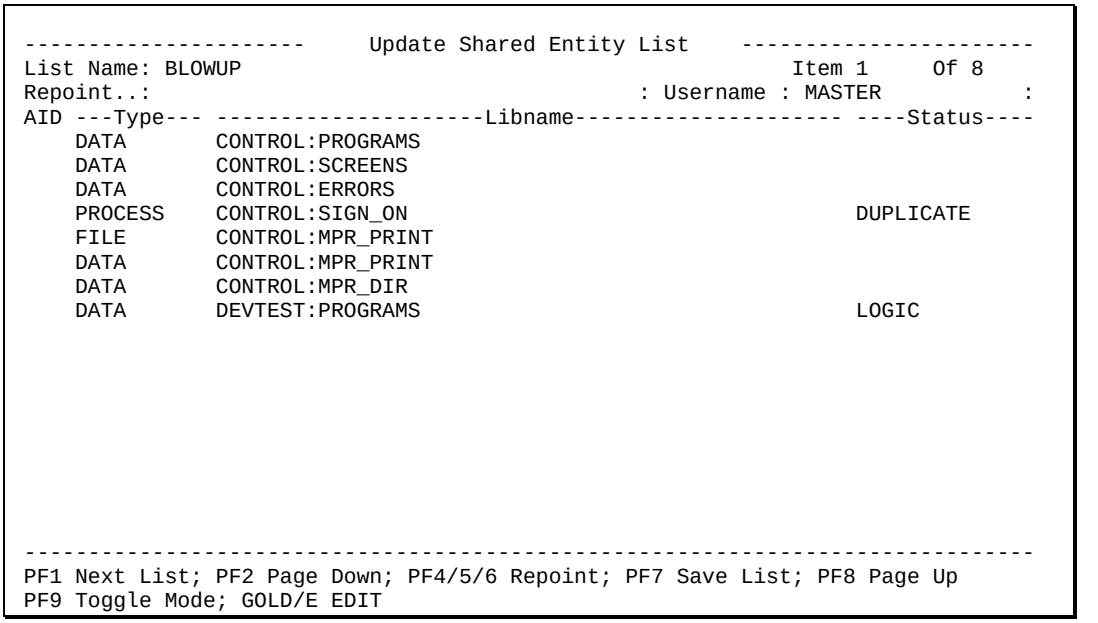
Available PF keys are displayed in bright intensity at the bottom of the screen. Use PF2 to page through the directory of entity list names. Use PF8 to display the previous page of the directory. Provided that the directory is not already positioned at the first list in the MANTIS File, PF8 moves the view of the directory up by one page length, or to the first entity list name.

Update shared entity list

The Update Shared Entity List option displays the current entity list for viewing and/or updating. The option operates in the following modes:

- Entity List Update Mode. The current list is a working copy of a list stored in the MANTIS File. Changes made to the list are committed to the MANTIS File when any program function key is pressed (except CANCEL).
  - Error List Mode. Only list items with an error status are made available for viewing/update. The word “Error” is highlighted at the top of the screen (“Error Item *n* Of *n*”). The Facility automatically enters error-processing mode when errors occur during Pool File Creation from an entity list, or during Entity List Verification. The Facility goes out of error mode after an external EDIT, or when you press PF9.
  - Full List Mode. All the list items are made available for viewing/update. Use PF9 to force the Facility into error mode processing.
- Shared Pool List Mode. The current list is derived from the verification of a Shared Entity Pool. So changes made to the list are not written to the MANTIS File. The SAVE list function (PF7) is provided so that a derived Pool list can be saved in the MANTIS File.
  - Error List Mode. Functions the same as in Entity List Update mode.
  - Full List Mode. Functions the same as in Entity List Update mode.

The Update Shared Entity List screen is shown below:



The fields on the Update Shared Entity List screen are described on the following pages.

List Name

Description *Optional*. Displays the current working list, either an entity list as stored in the MANTIS File, or the name of the list used to generate the Shared Pool that is being verified.

Consideration When you use PF7 to save a list under a new name, this field is temporarily unprotected so you can enter the new name.

Item *n* Of *n*

Description *Display*. Indicates the position of the displayed list items within the overall list. When error-processing mode is in effect, “Item” is preceded by the highlighted word “Error.”

Consideration The first number indicates the list position of the first list item displayed on the screen. The second number specifies the total number of items in the list. In error processing mode, the numbers refer to the error list items only.

Example In error processing mode, “Error Item 1 of 10” says that there are 10 error items in the list and that the first of those error items is displayed on the top line of the display. You can reposition the display by entering a display line item number in the unprotected numeric field.

Repoint

Description *Optional*. Repositions the list according to the text string you enter.

Consideration The display will be repositioned with the found line item at the top of the display. You must press one of the following PF keys to action the Repoint field:

- PF4—Searches the Type column for an occurrence of the string
- PF5—Searches the Libname column
- PF6—Searches the Status column

Username

Description *Optional*. Specifies the default MANTIS user name that is used when a user name is omitted from Libnames entered in the Libname field.

Default Current user name

Consideration You can change the default name to any valid MANTIS user name.

AID

Description *Optional*. Specifies the action you want to take on the items in the line.

Options

A	Alters a line item. You can also use A on a blank line to insert new list items.
I	Inserts a line item. The line item will be inserted BEFORE the line item being overtyped.
D	Deletes a line item. The delete action is not carried out until all Alter and Insert actions are completed. Then you will be prompted to confirm the deletion. Note that in batch mode no confirmation is requested.

Type

Description *Required*. Specifies the type of MANTIS entity.

Format A recognizable abbreviation of one of the following strings must be entered:

ACCESS	External file design
DATA	Internal MANTIS File data set
FILE	Internal MANTIS File design
INTERFACE	Interface design
PROCESS	MANTIS Program
PROMPTER	Prompter design
SCREEN	Screen design
ULTRA	ULTRA file view design

Libname

Description *Required*. Specifies the library where the MANTIS entity resides.

Format [*username*:]*entity-name*

Consideration If you omit *username*, the default user name specified in the Username field is used.

Status

Description *Display*. Displays the error status values resulting from Shared Entity List or Shared Pool verification and from the Create Shared Pool function. Also allows you to comment out list items.

Options The following two values can be set by the Master User:

Blanks

IGNORE

The following error status values are set by the Shared Entity Facility:

DUPLICATE	Indicates that the list item is duplicated previously in the list. Only returned during the Create Shared Pool function.
ERROR	Indicates that a serious error occurred during processing. Could indicate a corrupt Shared Pool or MANTIS File. Can be returned during Create Shared Pool, Verify Shared Entity List, or Verify Shared Pool functions
LOGIC	Indicates that the program logic is invalid. The number and/or placement of logic block terminator verbs (END, BREAK, NEXT and EXIT) are at odds with the logic block initiator verbs (IF, WHILE, FOR, etc., and ENTRY).
NOTFOUND	Indicates that the list item was not found in the MANTIS File. Can be returned during Create Shared Pool, Verify Shared Entity List, and Verify Shared Pool functions.
OUTDATED	Indicates that the Shared Pool version of the list item is different from the MANTIS File version. Can only be returned during the Verify Shared Pool function. For data sets and multiversion screens and prompters, OUTDATED is returned if any of the Shared Pool entities fail to compare equally with the MANTIS File version, and when the MANTIS File contains more versions/records than are present in the Shared Pool being verified.

Available PF keys are shown in bright intensity at the bottom of the screen. The following table lists and describes the PF keys for the Update Shared Entity List screen.

PF key	Function	Description
PF1	Next List	Loads the next entity list in the MANTIS File for Full Entity List mode editing. Lists are stored in ascending order. When the current list is the last one, selection returns to the first list. This function terminates the Create Shared Pool option if it is active.
PF2	Page Down	If more line items are available for display, the page is refreshed with the next line item on line 1.
PF4	Repoint by Type field	Uses the contents of the Repoint field to search the Type column for a match. For example, if Repoint contains “SCR,” the display page will be refreshed with the first screen line item found following the top line item. The search wraps around so that all line items are searched.
PF5	Repoint by Libname field.	Uses the contents of the Repoint field to search the Libname column for a match. See example for PF4.
PF6	Repoint by Status field	Uses the contents of the Repoint field to search the Status column for a match. See example for PF4.
PF7	Save List	Saves the list under a new name. You can use this function to save lists produced from Verify Shared Pool option. You can also use it to copy a list if you want to make a different version. When you press PF7, the List Name field is unprotected so you can type in the new list name. You can enter any name that does not already exist in the MANTIS File. The new list becomes the working list, and processing continues in the current mode.

PF key	Function	Description
PF8	Page Up	Repositions the display by moving the list up one page length.
PF9	Toggle Mode	Toggles between Error List and Full List modes. This function has no effect when there are no list items with an error status.
GOLD/E	Edit List	Invokes the default external editor. The full list is passed to the external editor, retaining the aligned column appearance of the display. The only requirement is to keep the fields of each line item separated by white space (blank or tab). Field validation features are not available. Any invalid Type/Status values are ignored when the list is returned to the facility from the editor. Invalid values in the entity Type field will be converted to "??????" and the line item given a status of IGNORE. An external EDIT forces Full List mode into effect, but you can return to Error List mode by pressing PF9.

Create shared pool file

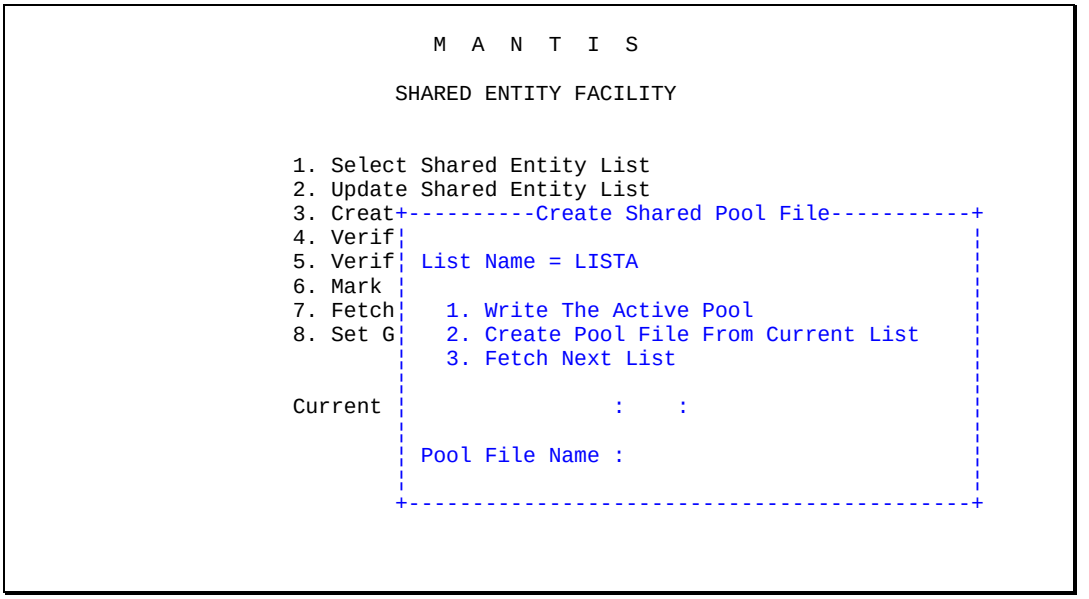
The purpose of a Shared Pool File is to reduce the time required to build the Shared Pool during MANTIS initialization. A Shared Pool File is simply a dump of a Shared Pool, so it can be loaded very quickly into a shared memory segment.

To use a Shared Pool File, you must identify it using the logical name MANTIS_SHARE. You can alternatively set MANTIS_SHARE to the name of a Shared Entity List, but it takes longer to build the Shared Pool from a list. If your application only ever uses a permanent (SHARE=PERMANENT) shared memory segment, then there is little advantage in using a Shared Pool File in preference to a Shared Entity List, because (typically) the shared memory segment would very rarely have to be reloaded.

There can only be one Shared Pool per MANTIS class, so unless your MANTIS program is the first in the class, it will most likely just map onto an existing Shared Pool.

Use the Create Shared Pool File option to build the Shared Pool File from a Shared Entity List or from the active (that is, shared memory resident) Shared Entity Pool.

When you select Create Shared Pool File from the Shared Entity Facility menu, the submenu shown below appears. This submenu allows you to select the source for Shared Pool File creation and the target Shared Pool File specification.



The fields on the submenu are described below. The menu options that allow you to create a Shared Pool File are then described.

List Name

Description *Display*. Displays the current entity list name that will be used to create the Shared Pool File when the Create Pool File From Current List option is selected.

Pool File Name

Description *Required*. Specifies the external file specification for the Pool file.

Consideration This field is split into two parts so that long file specifications may be entered. You can break the file specification at any point and continue it on the next line.

Write the active pool

This option copies the contents of the active Shared Pool to the specified Shared Pool File. The active Shared Pool is located in the shared memory segment that is mapped to the MANTIS process.

Create pool file from current list

The current list, shown in the List Name field, is used to build a pool buffer in process private memory. If there are no errors, the pool buffer is written to the specified Shared Pool File. If there are any errors, the Update Shared Entity List screen is displayed in Error List mode so that you can view and correct them.

The following error statuses may be returned:

- ERROR—A serious error occurred while loading a MANTIS File entity.
- DUPLICATE—The list item is duplicated previously in the list.
- LOGIC—The PROCESS (program) logic is invalid. The number and/or placement of logic block terminator verbs (END, BREAK, NEXT and EXIT) are at odds with the logic block initiator verbs (IF, WHILE, FOR, etc., and ENTRY).
- NOTFOUND—The entity was not found in the MANTIS File.

Every entity added to the Shared Pool is logged in the share log file (SHARE.LOG) in the current directory. Check the log for more information on errors related to DATA sets and multiversion SCREENs/PROMPTERs.

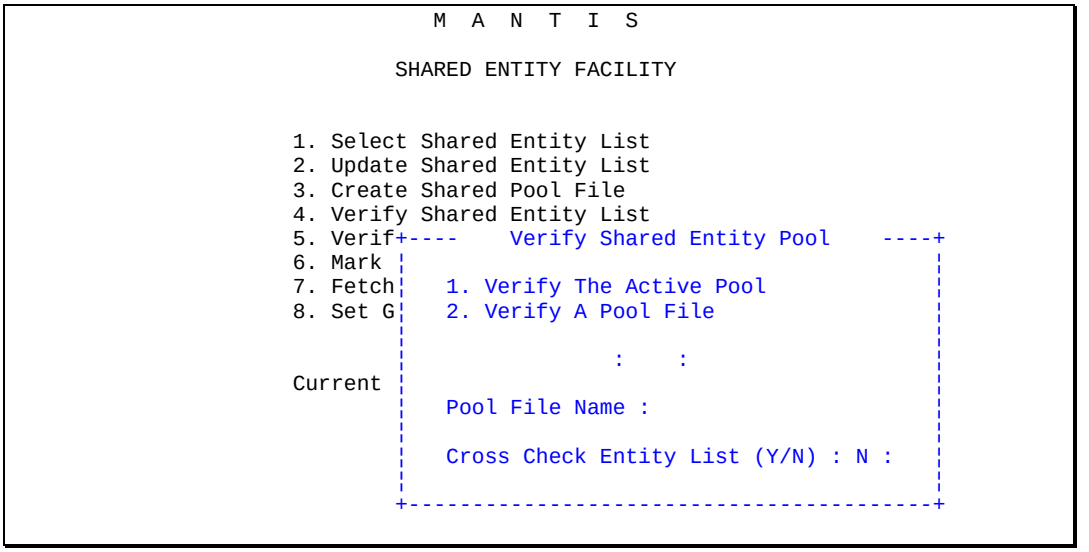
Verify shared entity list

When you select this option, MANTIS attempts to build a Shared Pool from the current Shared Entity List. The resultant pool buffer is discarded, but any erroneous list items will be presented on the Update Shared Entity List screen. This process works essentially the same as Create Pool File From Current List except that no Shared Pool file is written. The possible list item statuses are the same (see “Create pool file from current list” on page 106).

Verify shared entity pool

To verify a Shared Pool, the entities in the Shared Pool are compared against the original versions in the MANTIS File. It is important to note that a single list item can produce multiple entities in the generated Shared Pool. For example, a SCREEN can have language and device-specific versions, a PROMPTER can have multiple language versions, and a DATA set will usually consist of more than one record. When multiple versions are present, all of them are verified against the MANTIS File.

When you select the Verify Shared Entity Pool option from the Shared Entity Facility menu, a submenu appears as shown below.



From this submenu you can choose to verify either the active Shared Pool or a specified Pool File. You can also specify whether or not the Pool should be crosschecked against the matching Shared Entity List in the MANTIS File. The fields on the submenu are described on the following pages.

Pool File Name

Description *Optional*. Specifies the external file name for the Shared Pool file you want to verify.

Cross Check Entity List

Description *Optional*. Indicates whether or not you want to crosscheck the Pool against the matching Shared Entity List.

Options Y/N

Consideration The MANTIS File will be searched for an entity list matching the name of the list stored in the specified Shared Pool. If a matching list is not found, a warning message is displayed. If a match is found, each entity in the Shared Pool is fetched, its generated Libname is compared with the next list item, and if they do not match, a status of MISMATCH is returned with the generated list item. (See the following page for a list of possible statuses.) If the Shared Pool entity and the corresponding list item match, the Shared Pool entity is verified against the MANTIS File. Ignored list items are skipped during the crosschecking process.

If any errors occur in the verification process, the Update Shared Entity List screen is displayed in Error List mode so that you can view and correct the errors.

The following error statuses may be returned:

- ERROR—Indicates that a serious error occurred during processing. Could indicate a corrupt Shared Pool or MANTIS File.
- MISMATCH—Indicates that the Shared Pool entities do not match the Shared Entity list items being cross-checked. Returned only during crosscheck function.
- NOTFOUND—Indicates that the Pool entity was not found in the MANTIS File.
- OUTDATED—Indicates that the Pool entity is different from the MANTIS File version. For DATA sets and multiversion SCREENs and PROMPTERs, OUTDATED is returned if any of the Shared Pool entities fail to compare equally with the MANTIS File version, and when the MANTIS File contains more versions/records than are present in the Shared Pool being verified.

To help isolate differences between multi-record DATA sets, and multiversion SCREENs and PROMPTERs, a log file (share.log) is written to the current directory. The log file lists every MANTIS File key found in the Shared Pool and gives the reason, if any, for the error status returned with each list item.

Verify the active pool

Use this option to verify the active Shared Pool. That is, verify the Shared Entity Pool in a shared memory segment currently mapped to the MANTIS process.

Verify a pool file

Use this option to select verification of an external Pool File. The file specification must be entered in the Pool File Name field.

Mark permanent shared pool for deletion

You can use this option to mark the permanent Shared Pool for deletion provided that MANTIS is mapped to a permanent Shared Entity Pool. You cannot delete a shared memory segment while any system users are mapped to it. Any delete request made while users are mapped to the Shared Pool remains pending until all users of the MANTIS Class sign off.

Fetch next list

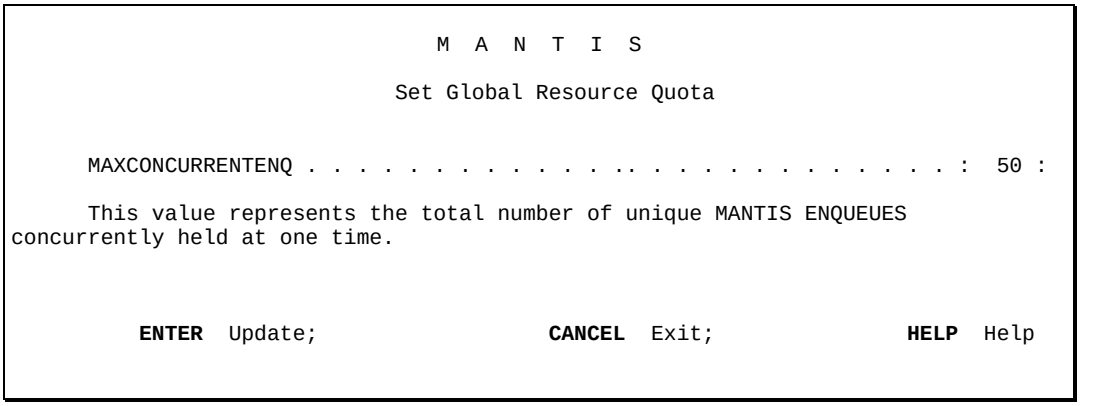
Replaces the current working entity list with the next available entity list. When the current list name is the last name in the collating sequence, the first list name stored in the MANTIS File is retrieved. When there are many lists to choose from, it is probably quicker to select the desired list using the Select Shared Entity List option.

Set global resource quota (UNIX only)

In UNIX environments, MANTIS must maintain a Global Resource Table to map global resource names to the numeric resource identifiers used by UNIX. The Global Resource Quota is the maximum number of entries that the Global Resource Table can accommodate. Each MANTIS Class has its own Global Resource Table.

The Global Resource Quota is a MANTIS internal limit only and does not have any impact on the underlying operating system shared resource limits.

When you select the Set Global Resource Quota option from the Shared Entity Facility menu, the following screen appears.



♦ The Global Resource Table Size is calculated by the Number of User Seat Licenses and Developer Seat Licenses in the MANTIS Security Patch, along with the MAXCONCURRENTENQ value, which defaults to 50 respectfully.

MAXCONCURRENTENQ. This value represents the maximum number of concurrent ENQUEUE statements upon a single resource name of all MANTIS users running against a particular MANTIS_CLASS. For example, if in the MANTIS Security Patch the number of User Seats was set at 90 and Developer Seats was set at 10 giving a total of 100 MANTIS Seats and each user runs the same program which contains an ENQUEUE “PAYROLL” KEY statement, then theoretically the MAXCONCURRENTENQ might be set as high as 100. However, a more practical value might be 20, meaning at MAX not more than 20 MANTIS uses would be waiting for that ENQUEUE at one time. The default is 50. The minimum is 10 and maximum is 5000.

These values are then used to calculate the size of the RESOURCE table in shared memory. For these values to take effect, ALL users for this MANTIS CLASS must terminate their MANTIS processes. Once all MANTIS processes for this CLASS have been terminated, the users can restart the MANTIS process to take effect.

If a MANTIS process must be terminated by the UNIX kill command, the preferred signal to send would be 15, for example:

```
kill -15 ####
```

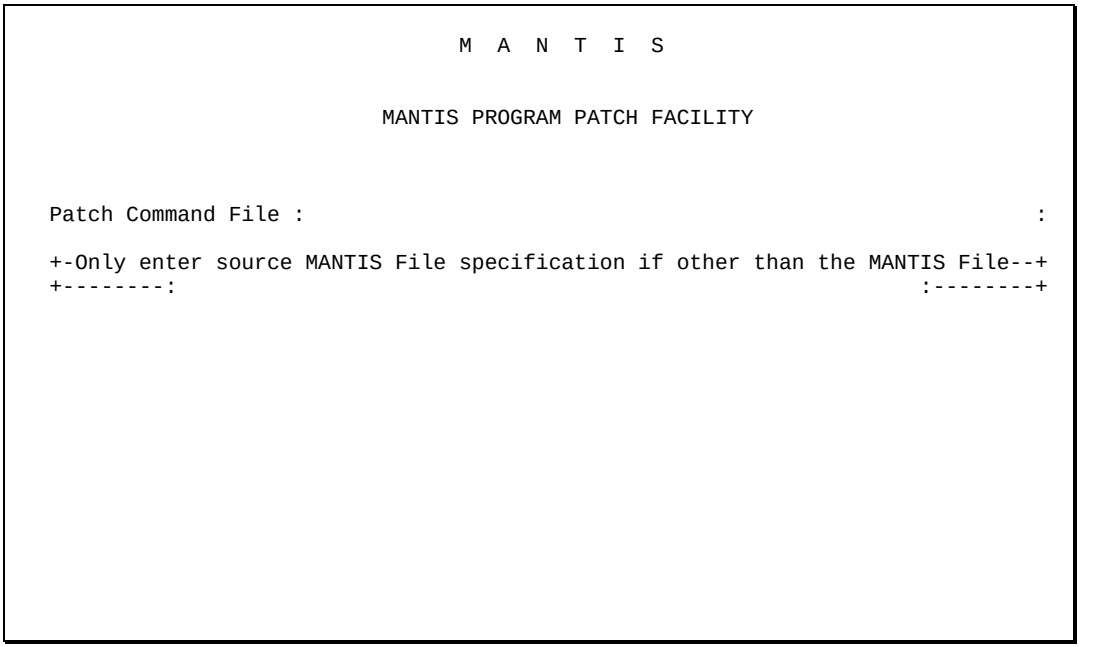
This would allow MANTIS to clean up allocated resources (shared memory and semaphores) that the MANTIS process created. If for some reason the MANTIS process does not terminate, kill -9 will suffice. In this case, MANTIS will not have the opportunity to clean up resources created by that process. To clean up those resources use the UNIX ipcs and ipcrm commands. An easier approach would be for the UNIX user that was terminated to rerun MANTIS. This would allow the new MANTIS process to reclaim any lost or delinquent resources and remove them upon MANTIS termination of that process.

The default settings for MAXCONCURRENTENQ is more than adequate for most installations.

Patch MANTIS entities

The MANTIS Maintenance Facility allows you to patch designs in the MANTIS file, in particular, CONTROL facility programs, screens, and so on. To apply bound patches to programs whose source code has been deleted, supply the file specification of the MANTIS file containing the source code for the program.

To access the MANTIS Maintenance Facility from the Facility Selection Menu, type an 18 in the selection field and press ENTER or press PF18. The MANTIS Program Patch Facility screen appears as shown below.



The fields on the screen are described on the following pages.

PATCH COMMAND FILE

Description *Required*. Specifies the external file containing one or more patch commands.

Format An external file specification or logical name

Consideration The file specification entered is retained and is displayed as the default the next time you run this facility.

SOURCE MANTIS FILE

Description *Optional*. Specifies the external file name of the MANTIS source file. You must specify the MANTIS source file if you are patching CONTROL programs. CONTROL programs are released bound with no source to save space and improve their performance.

Format An external file specification or logical name

Consideration If the correct file is not specified, the programs you patch are completely destroyed if they do not contain source code.

The patch command format is described below. All patch command lines can have trailing comments or be comment lines. A comment begins with an exclamation mark (!) and continues to the end of the line. Note that this prohibits using exclamation marks in your patch text except as MANTIS maintenance comments.

design-type*=[*libname*:]*design-name

text

UPDATE

design-type

Description *Required*. Specifies the type of MANTIS design to be patched.

Options

ACCESS	External file design
INTERFACE	Interface design
PROGRAM	Program design
SCREEN	Screen design
SET	Internal file design

Consideration The patch text format depends on the type of design specified.

libname

Description *Optional*. Specifies the MANTIS user library containing the design to be patched.

Default CONTROL

Format A MANTIS user name as shown in the directory of users, or as specified in patch files supplied by Cincom

design-name

Description *Required*. Specifies the MANTIS design to be patched by the following text. The patch text is terminated by the UPDATE command.

Format MANTIS design name

text

Description *Required*. Specifies the patch text. Patch text is either a MANTIS program line or a batch MANTIS input stream. Patch text must be terminated with the UPDATE command.

Format Batch MANTIS input streams are required to patch non-program designs. The MANTIS Maintenance Facility executes the appropriate design facility program using this batch stream as input.

Considerations

- The MANTIS Maintenance Facility loads the design name and returns to the facility program's main menu. The batch input stream takes over from that point, replaces the design and exits the facility.
- For program patches, the text consists of one or more MANTIS program lines. The lines are applied as if they were entered in program design update mode. Every line of text must begin with a program line number.

UPDATE

Description *Required*. Ends a patch text stream and causes the altered design to be replaced in the MANTIS library.

Format UPDATE [/BIND] [/NOSOURCE]

Considerations

- Even though you must specify Batch MANTIS input to replace non-program entities, the UPDATE command is still required. Otherwise, you only replace a temporary copy (MASTER:$$TMP$$) of the design.
- The BIND and NOSOURCE options can only be specified when the previous design type was PROGRAM.
- Specify BIND to bind the patched program before the program is replaced.
- Specify NOSOURCE to bind the patched program and delete the source code before the program is replaced.

Examples

- This example patches hypothetical CONTROL program XYZ. Line 100 is altered and line 101 is inserted. The program will be replaced bound and without source code.

```
PROGRAM=CONTROL:XYZ            ! FIX THE XYZ FACILITY
100 IF ERRORS="FOUND" OR ERRORS="NEXT": |ADD "NEXT" CHECK
101 STATUS=OK: |SET STATUS TO PREVENT FACILITY FAULTING
UPDATE/NOSOURCE
```

- This example patches the default MASTER:SIGN_ON screen to make the MANTIS heading display in reverse video. Note that the comments on the batch input stream are not valid Batch MANTIS comments, but they are stripped out by the MANTIS facility on input.

```
SCREEN=MASTER:SIGN_ON    ! FIX THE SIGN ON SCREEN
{2}                      ! UPDATE FIELD SPECS
{2}                      ! SELECT BY CURSOR POSITION
{}                       ! SELECT MANTIS HEADING
;;Y{}                    ! MAKE HEADING REVERSE VIDEO
{-}                      ! BACK TO UPDATE FIELD SPECS
{-}                      ! BACK TO MAIN MENU
{7}                      ! LIBRARY FUNCTIONS
{2}                      ! REPLACE
{-}                      ! OUT OF SCREEN DESIGN
UPDATE
```

Operate the MANTIS help utility (UNIX only)

The MANTIS Help Utility (MHLP) is an interactive online help retrieval program for the MANTIS for UNIX environment. It is used by the MANTIS HELP command and MANTIS PROMPT statement.

Input is obtained first from command line arguments (optional) and then is entered at the keyboard in response to prompts for help subjects.

Help subjects consist of one or more keys into the help library file. The default help library is obtained from the logical name MANTIS_HELP, but can be specified on the command line using the [-F HELPFILE] option. A help subject is a key into the help library, consisting of one or more nonblank key parts separated by white space. Each key part requests help at another level in the hierarchy.

The MANTIS Help Utility tracks the current level in the hierarchy and prompts for more help at that level. To go deeper one level, enter one help key in response to the subject prompt. To go two levels deeper, enter two key parts, and so on. To return to a higher level in the hierarchy, press the RETURN key. To redisplay help at the current level, enter a question mark (?).

Key parts can be obtained from the list of additional help subjects that is displayed at each level. You can abbreviate the help subject key parts—the first help record found to match the abbreviations will be displayed.

The MANTIS Help Utility uses your default pager program, defined by the logical name PAGER, to display each help subject. If PAGER is not defined, the default UNIX pager, PG, is used. If the MORE command is found in the system, it is used in preference to PG.

The current level in the help subject hierarchy is shown by displaying the help keys to the current level on separate lines at the beginning of each display. Each level is indented by two spaces.

The MANTIS Help Utility displays the prompt “Subject: “ when requiring a level-1 help subject, “key1 Subject: “ when requesting a level-2 help subject for the current level, key1, and so on. Following each display for a help subject, a list of additional subjects available is displayed; then the subject prompt is displayed and you can enter any of the subjects in the list. If you know the keys to a deeper level in the hierarchy, you can enter them all at the subject prompt.

The syntax of the MHLP command is shown and described below.

mhlp [-F *helplib*] [*subject* ...]

helplib

Description *Optional*. Specifies the name of the help library MISAM file. This name is the full path to the generic part of the file name. For example, $HOME/myhelp is required to identify the help library stored in $HOME/myhelp.* (* = ki, mp, nx, st).

Default MANTIS_HELP

Format External MISAM file specification, excluding the file type suffix (.ki etc.). You can specify a logical name identifying the actual file specification.

subject

Description *Optional*. Specify the help subject to be displayed initially.

Default "Subject:" prompt is displayed.

Format One or more keys into the help library hierarchy, separated by white space. Each key part can be an abbreviation of the full subject key for the corresponding level.

Examples

- This example gets the prompt "Subject: ." Subjects entered will be searched for in the help library identified by MANTIS_HELP.

```
mhlp
```

- This example displays help on attributes field-level IBM-compatible. You will then be prompted with "ATTRIBUTES FIELD-LEVEL SUBJECT: ." Enter ? to obtain the list of available subjects at this level (for field-level).

```
mhlp ATTRIBUTES FIELD IBM
```

- This example gets help on the subject "TIPS" from the help library myhelp in the home directory. myhelp is the generic MISAM filename. Do not specify a MISAM file type suffix (.ki, etc.).

```
mhlp -F $HOME/myhelp TIPS
```

Create MISAM help files (UNIX only)

The MANTIS Help Table Generator Utility (MHTG) creates a MISAM help library for use by the MANTIS Help Utility (MHLP). MHLP and MHTG are exclusive to the MANTIS for UNIX environment.

MHTG reads one or more help source files and adds the help information to a specified help library MISAM file. Help source files have a very simple format. Each line in the file is interpreted as either help information pertaining to the current subject at the current level, or it is a key-level specification.

Key-level specification lines are recognized because they:

- Start in column 1 (at left margin)
- Start with a decimal number in the range 1–*levels*. *Levels* can be specified on the command line, but the default is 3.

The first key level line must specify level 1. A key level must not be more than +1 from the previous key level in the file. It can be in the range 1–(*current-level* + 1).

A given key level (N) becomes an additional help subject for the last key level in the source file at level N-1.

MHTG can either add help subjects to an existing help library or create a new help library. MANTIS help is stored in MISAM files. A MISAM file is composed of several component files, each identified by a file type suffix (.ki, .mp, .nx, .st). When you specify a MISAM file, you must not include the file type suffix.

The help library created by MHTG can be specified as a command line parameter to the MANTIS help (MHLP) utility, and can be specified in the MANTIS prompt statement, or in the MANTIS user profile as the user's default help library.

The syntax of MHTG command is shown and described below.

mhtg [-L *levels*] [[-C]*helplib*] [*helpfile*...]

levels

Description *Optional*. Specifies the maximum number of levels in the hierarchy of help subjects.

Default 3

Format Number in the range 1–8

Consideration If your input help source files specify deeper levels than the maximum allowed, they would be ignored. MHTG only recognizes help level numbers in the allowed range.

helplib

Description *Optional*. Specifies the name of the output help library MISAM file. This name is the full path to the generic part of the file name. For example, $HOME/myhelp is required to identify the help library stored in $HOME/myhelp.* (*=ki, mp, nx, st).

Format External MISAM file specification, excluding the file type suffix (.ki etc.). You can specify a logical name identifying the actual file specification.

Considerations

- You must use the -C option to create a new help library. If prompted for the help library file, you will also be asked whether you want to create a new file.
- If you specify new file creation, any existing help library file of the same name will be erased when opened.

helpfile

Description *Optional*. Specifies the name of one or more source help files to add to the help library.

Format External text file specification. You cannot enter a logical name.

Examples

- This example prompts for the name of the help library, whether you want to create a new help library and for the names of help source files to add to the help library.

```
mhtg
```

- This example creates a new help library in myhelp.* from the help source file myhelp.hlp.

```
mhtg -C myhelp myhelp.hlp
```

- This example adds help to the MANTIS help library. The additional help subjects are specified in help source files accounts.hlp and customers.hlp.

```
mhtg MANTIS_HELP accounts.hlp customers.hlp
```

Maintain MISAM files (UNIX only)

The MISAM File Maintenance Utility (MFM) repairs/rebuilds a MISAM file when the file is corrupt. A MISAM file consists of the following four separate files; store file (st.), index file (.nx), mapper file (.mp), and key information file (.ki). Any of these four files could be corrupted.

The MISAM File Maintenance utility performs the following tasks:

- Clears the MISAM file lock list (unlocks the specified file if it is locked). A (.def) file that describes the MISAM file attributes is then created. The information contained in this file is used in the subsequent repair/rebuild operation.
- Checks, repairs, and compresses the store file.
- Reconstructs the mapper file delete thread list.
- Rebuilds the index file and checks consistency of the record counts.

The syntax of the MFM command is shown below.

mfm *misam_file*

misam_file

Description *Required*. Specifies the name of the MISAM file to be rebuilt. You can specify the full path to the generic part of the file name.

Format External MISAM file specification, excluding the file type suffix (.ki etc.)

Example $HOME/man_TEST would be required to identify the MISAM file stored in $HOME/man_TEST.* (* = ki, mp, nx, st).

4

Batch operation

MANTIS is designed to run interactively from a terminal, responding to keyboard input by displaying output on the screen. In some applications, however, other modes of input and output are desirable. To demonstrate your MANTIS application, for example, you can record some typical input commands and data in a file, and have MANTIS 'play back' its responses on the screen. Alternatively, you can perform repetitive application processing by submitting MANTIS in a background job. In this case, input and output must each be assigned to a file instead of to the terminal. The facilities that MANTIS provides to support alternative input/output modes are referred to as Batch MANTIS, even though they can be invoked without submitting a batch job.

Running batch MANTIS

The input data that you store in a Batch MANTIS input file does not correspond exactly to the data that you enter from the keyboard. For example, some of the keys transmit control codes or escape sequences that would be very tedious to enter using an external editor. To avoid this, Batch MANTIS provides MANTIS batch commands that invoke the same processing as corresponding key sequences entered from the keyboard.

For example, in a Batch MANTIS input file, the MANTIS logical key {DELEOF} specifies the DELETE TO END-OF-FIELD function that corresponds to the physical keys GOLD/PF4 on the keyboard. The batch command {DELEOF} is enclosed by delimiters (default {}), which distinguish it from input data. Any characters in the input file which are not enclosed by delimiters are treated as data-entry characters, except for the field-tab character (default ;), which is short for the MANTIS logical key {TABFLD}—TAB TO NEXT FIELD function. Since, by default, field autoskip is not operative in Batch MANTIS, you must specify a tab function between fields. (To enable field autoskip, set the BATAUTOSKIP MANTIS option). If it is necessary to specify a delimiter or field-tab character as a data-entry character, it must be enclosed by delimiters, for example, {{}, {;}.

OpenVMS

MANTIS performs input and output using the VMS logical names MANTIS_INPUT and MANTIS_OUTPUT. MANTIS_INPUT and MANTIS_OUTPUT are assigned by default to SYS$INPUT and SYS$OUTPUT, which in turn are assigned by default to your terminal.

You can make MANTIS read input from a file by using a DCL command to assign the file to MANTIS_INPUT, for example:

```
DEFINE MANTIS_INPUT REPORTS.BAT
```

You can make MANTIS write output to a file by using a DCL command to assign the file to MANTIS_OUTPUT, for example:

```
DEFINE MANTIS_OUTPUT REPORTS.LIS
```

You cannot assign a file to MANTIS_OUTPUT, however, unless you have also assigned a file to MANTIS_INPUT.

UNIX

MANTIS uses standard input, standard output and standard error files. When you redirect standard input to a disk file on the MANTIS command line, the input file you specify must be a Batch MANTIS input file.

The following tables lists the batch commands that correspond to MANTIS terminal functions. The next table lists the batch commands that correspond to MANTIS program functions. Both tables show the short forms of the commands that you can use for more concise expression.

In the following table, the key names KP0–KP9, MINUS, COMMA, and PERIOD refer to keys on the auxiliary keypad.

Command	Physical key sequence	Terminal function
{RIGHT}	⇒	Move the cursor right one position.
{LEFT}	⇐	Move the cursor left one position.
{UP}	⇑	Move the cursor up one position.
{DOWN}	⇓	Move the cursor down one position.
{TABFLD} ;	TAB	Move the cursor to the start of the next unprotected field.
{TABBOF}	BACKSPACE	Move the cursor to the start of the current unprotected field (or to the start of the previous unprotected field if already at the start of the current field).
{TABEOF}	LINEFEED	Move the cursor past the last data character in the current unprotected field (or to the next unprotected field if already past the last data character).
{TABWRD}		Move the cursor to the next word.
{TABBOW}		Move the cursor to the beginning of the word.
{TABEOW}		Move cursor to the end of the word.
{TABCOL}		Move cursor to next column tab stop.
{CURWBOL}		Move cursor to beginning of the line.
{CURWEOL}		Move cursor to the end of the line in the window.
{CURWTOPL}		Move cursor to the top left of the window.
{CURWTOPR}		Move the cursor to the top right of the window.
{CURWBOTL}		Move the cursor to the bottom left of the window.
{CURWBOTR}		Move the cursor to the bottom right of the window.

Command	Physical key sequence	Terminal function
{CURMBOL}		Move the cursor to the beginning of the line in the active map.
{CURMEOL}		Move the cursor to the end of the line in the active map.
{CURMTOPL}		Move the cursor to the top left of the active map.
{CURMTOPR}		Move the cursor to the top right of the active map.
{CURMBOTL}		Move the cursor to the bottom left of the active map.
{CURMBOTR}		Move the cursor to the bottom right of the active map.
{DELPRV}	DELETE	Delete the data character to the left of the cursor.
{DELCHR}	PF4	Delete the data character under the cursor.
{DELEOF}	GOLD/PF4	Delete data characters from the cursor to the end of the field.
{DELBOF}	CTRL-U	Delete the characters in the field to the left of the cursor.
{DELBOW}		Delete the word before the cursor.
{DELEOW}		Delete to the end of the word.
{UNDELCHR}		Undelete the character just deleted.
{UNDELFLD}		Undelete the field just deleted.
{UNDELWRD}		Undelete the word just deleted.
{REFRESH}	CTRL-R	Refresh by redisplaying the current screen. When output goes to a file, the screen is redisplayed in the output file.
{INSERTON}	PF3	Select insert mode.
{INSERTOFF}	GOLD/PF3	Select overtype mode.
{INSERT}	CTRL-A	Alternate between insert mode and overtype mode. This is a temporary change. Insert mode is returned to the permanent setting after the next program function. {INSERTON} and {INSERTOFF} provide permanent settings.
{FUNCTION}	GOLD/F	Select function keypad state.

Command	Physical key sequence	Terminal function
{NUMERIC}	GOLD/N	Select numeric keypad state.
{INPUTMAP}	GOLD/I	In full-screen mode, add or remove the input map in the bottom two lines of the screen. In scroll mode, add or remove the reply map in the last seven characters of the bottom line of the screen.
{WINDOWMAP}	GOLD/W	Add or remove the window position map in the last twelve characters of the second last line of the screen.
{CURSORMAP}	GOLD/C	Add or remove the cursor position map in the last twelve characters of the second last line of the screen.
{GOLD}	PF1	Commence GOLD key sequence (use only for key definition).
{GOLD2}	PF2	Commence two-key sequence (use only for key definition).
{BLUE}		Commence BLUE key sequence (use only for key definition).
{WINUP}	KP8	Move the window up by the row increment value.
{WINDOWN}	KP2	Move the window down by the row increment value.
{WINLEFT}	KP4	Move the window left by the column increment value.
{WINRIGHT}	KP6	Move the window right by the column increment value.
{WINTOPL}	KP7	Move the window to the top left of the logical display.
{WINTOPR}	KP9	Move the window to the top right of the logical display.
{WINBOTL}	KP1	Move the window to the bottom left of the logical display.
{WINBOTR}	KP3	Move the window to the bottom right of the logical display.

Command	Physical key sequence	Terminal function
{SCROLLALL}	KP5	Display the entire scroll output map by scrolling from top to bottom.
{SELECT}	KP0	Copy the line under the cursor from the scroll output map to the scroll input map.
{SELUP}	MINUS	Copy the previous input line from the scroll output map to the scroll input map (or select box drawing mode in Screen Design).
{SELDOWN}	COMMA	Copy the next input line from the scroll output map to the scroll input map (or select box erasing mode in Screen Design).
{SELKANJI}	PERIOD	Select DBCS input from terminal (use only for key definition).
{COMMAND}	CTRL-K	Enter MANTIS batch command from the terminal (use only for key definition).

Command	Physical key sequence	Program function name
{ENTER} { }	RETURN	“ENTER”
{CANCEL} {-}	GOLD/-	“CANCEL”
{PA1}	GOLD/,	“PA1”
{PF1} {1}	GOLD/1	“PF1” (similarly for “PF2” to “PF9”)
{PF10} {10}	PF2/1/0	“PF10” (similarly for “PF11” to “PF99”)
{EDIT}	GOLD/E	“EDIT”
{HELP}	GOLD/H	“HELP”
{KILL}	GOLD/K	“KILL”
{QUIT}	GOLD/Q	“QUIT”

A simple example of a Batch MANTIS input file is shown below:

```
OPERATOR  Enter data in user-name field.
{TABFLD}  Tab to next field.
JOSHUA        Enter data in password field.
{ENTER}       Submit sign-on screen.
{PF1}     Select option 1 on Facility Selection Menu.
REPORTS       Enter data in program name field.
{ENTER}       Submit Program Selection screen.
```

Here is the same batch input using the short form of the commands:

```
OPERATOR;JOSHUA{}{1}REPORTS{}
```

General considerations

- If you want to enter a comment in a batch input file, you need to precede it by an exclamation mark (!) or vertical bar (|). The comment extends to the end of the line. A comment must either follow a command before the closing delimiter or be introduced by its own opening delimiter, as shown in the following example:

```
OPERATOR;JOSHUA{}{1 ! Select RUN A PROGRAM BY NAME}
REPORTS{}{! Enter program name and run the program}
```

- Batch commands can be entered on the same line or on separate lines. Starting a new line has no effect, except in MANTIS programming mode. In programming mode, an implicit ENTER is performed at the end of each line. This allows you to enter a MANTIS program in a Batch MANTIS input file just as you would in Program Design, for example:

```
OPERATOR;JOSHUA{}{3}{1}
10 ACCESS REPORT("SALES_REPORT","CREATION")
20 VIEW SALE("SALE_DETAILS")
30 UNTIL SALE="NOTFOUND" OR SALE="ERROR"
40 GET SALE NEXT
50 IF SALE="FOUND"
60 INSERT REPORT
70 END
80 END
RUN
```

- If you use a batch command which is not listed in the three tables in this section, MANTIS treats it like a batch command for a program function, saving the text in the built-in variable KEY, and so on. Any parameters are ignored. You can use this feature to invent new program function names such as “VERIFY,” invoked by the batch command {VERIFY}.

- When MANTIS is running interactively, a screen is output to the terminal and all data characters entered from the keyboard are immediately echoed by displaying them on the screen at the cursor position. In Batch MANTIS, where input and output are not interactive, MANTIS does not output the screen or echo data characters as they are read from the input file. If you want screen data to be written to the output file, you must use the batch command {ECHO ON}. MANTIS will then write the contents of the screen window to the output file when processing the batch command (for example, {ENTER}), which terminates data entry to each screen. When output is sent to a file, MANTIS sets the size of the screen window to 132 columns.

OpenVMS

The lines per page are determined by the VMS Run time library routine LIB$LP_LINES ( ).

- Batch MANTIS also contains some special batch commands to facilitate batch input, in addition to the batch commands that correspond to keyboard functions. Some of these commands, such as {CURSOR = *field-name*}, have one or more parameters, which follow an optional equal sign (=). These commands are listed in the following table.

- If an actual parameter contains special characters such as delimiters ({}), space, tab, exclamation mark (!), vertical bar (|), single quote (‘), or double quote (“), the parameter must be enclosed by single or double quotes. Any quotes within the parameter must be doubled up if they match the enclosing quotes. Lowercase characters in a parameter are converted to uppercase, unless the parameter is enclosed by quotes.

The following tables lists the special batch commands.

Command	Function
{CONTROL [=] open {close}}	Specifies the delimiters that open and close a batch command (default {}). The close delimiter need not be specified if it is the same as the open delimiter. (Delimiters cannot be ‘ “ ! | * @ = - $)
{CURSOR [=] *field-name*}	Moves the cursor to the start of *field-name*.
{ECHO [=] ON}	Causes MANTIS to display the final results of SHOW and CONVERSE processing.
{ECHO [=] OFF}	Causes MANTIS not to display any SHOW or CONVERSE output (default).
{ENDDATA}	Specifies the end of a data stream.
{ENDFILE}	Specifies the end of a batch input file.
{FAULTEXIT [=] ON}	Causes MANTIS to exit if a fault occurs (default).
{FAULTEXIT [=] OFF}	Causes MANTIS to skip to the end of the data stream if a fault occurs.
{INPUT [=] *data*}	Enters *data* into the unsolicited input field.
{KEY {CONTROL} *key* [=] *function*}	Defines the function of *key* or CONTROL-*key* using batch input file format.
{KEY GOLD *key* [=] *function*}	Defines the function of key sequence GOLD/*key* using batch input file format.
{KEY BLUE *key* [=] *function*}	Defines the function of key sequence BLUE/*key* using batch input file format.
{KEY DATA *key* [=] *character*}	Defines *key* as a data-entry character.
{MESSAGE [=] *message*}	In full-screen mode, outputs the message in a visible MESSAGE field or, if no such field exists, in the Message Field of the converse input map. In scroll mode, outputs the message in the scroll output map.
{PRINTER [=] *attributes*}	Sets printer attributes as in the MANTIS statement ATTRIBUTE(PRINTER) = *attributes*.
{REPLY [=] *data*}	Enters *data* into the Reply Field.
{TABINC [=] *increment*}	Sets the increment between column tab stops (initially 8).

Command	Function
{TABKEY [=] *field-tab*}	Specifies the *field-tab* character that is short for {TABFLD}. (The field-tab character cannot be ‘ “ ! | * @ = - $.)
{TERMINAL [=] *attributes*}	Sets terminal attributes as in the MANTIS statement ATTRIBUTE(TERMINAL) = *attributes*.
{WAIT [=] *seconds*}	Causes MANTIS to wait for a number of seconds after processing each subsequent CONVERSE statement.
{STOP}	Stops Batch MANTIS and exits.
{$command}	Executes an external system command (in a subprocess).
{* *n*}	Repeats *n* times the rest of the line in the batch input file.
{@ *file-specification*}	Obtains Batch MANTIS commands from the specified file, then continues with the current input file.
{kana data}	Enters Kana data (MANTIS Kanji Support option).

A fault condition can arise if an input file contains batch commands with incorrect format, if MANTIS rejects input data, or if MANTIS processing encounters an error. Error messages are written to the standard error file. A fault causes Batch MANTIS to exit, unless the fault exit mode has been turned off by the batch command {FAULTEXIT OFF}.

OpenVMS

If the logical name MANTIS_ERRLOG is defined, it will be used instead of the standard error log, SYS$ERROR.

The following initialization file causes all keyboard character input to be forced to uppercase:

```
{KEY DATA "a" = A}
{KEY DATA "b" = B}
     .
     .
     .
{KEY DATA "z" = Z}
```

Using a MANTIS initialization file

You can run MANTIS both interactively and in batch with an initialization file. This file is pointed to by the logical name MANTIS_INIT. When you start MANTIS, it first looks to see if this logical name exists. If it does, then the commands in this file are executed before anything else is done. This allows you to customize MANTIS either for specific classes or for all users on the system.

The ability to submit MANTIS batch commands at the start of an interactive MANTIS session is especially useful for redefining the keyboard using the {KEY...} command, which is described more fully in the next section. The initialization file uses Batch MANTIS commands and data entry characters. MANTIS_INIT can also be used, for example, to expedite sign-on by entering a user name and password on the MANTIS sign-on screen.

OpenVMS

If MANTIS is terminated during initialization, and you receive a message similar to:

```
%NONAME-F-NOMSG,Message Number 0FFF834C
```

Followed by a trace back, there are two problems.

First, the logical name for MANTIS_ERRLOG (which tells MANTIS where to print error messages) is not pointing to the terminal. Second, and as a result, the error message (which signals the real problem in the system) is not reaching the terminal. To correct this, point MANTIS_ERRLOG to the terminal with the next command (DEFINE MANTIS_ERRLOG SYS$ERROR) and retry MANTIS. The “real” error message should be displayed.

Redefining the keyboard

MANTIS assigns certain functions to keys and key sequences on the keyboard so that you can operate MANTIS efficiently from the keyboard (for information on how the keyboard is defined, refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310). It is possible, however, that you may want a different assignment of keys for your installation, or that your application requires a customized keyboard. You can change the standard keyboard definition by redefining specific keys or key sequences. This section discusses which parts of the keyboard you can redefine and how to do so.

You can redefine the following parts of the keyboard:

- Data keypad (the "typing" keys: a–z, A–Z, +, -, =, etc.)
- Numeric keypad (the number keys organized similarly to a calculator)
- Programmable function keys

To redefine the keyboard, you need to edit MANTIS batch commands into a file that is assigned to the logical name MANTIS_INIT before MANTIS is executed. Use the MANTIS batch command {KEY…} to define each key or key sequence. For the syntax of this command and instructions on batch execution, see "Running batch MANTIS" on page 124.

It is recommended that you establish installation wide standards to control the contents of the file assigned to MANTIS_INIT in order to prevent proliferation of inconsistent keying habits among your users.

The 'key' parameter specifies the key to be defined. For the keys on the main keypad that have displayable characters (A–Z, 0–9, !, @, #, $, etc.), 'key' is the key itself. When an uppercase letter A–Z is specified, the definition also applies to the lowercase letter a–z.

There are special names for the keys which are not displayable: BACKSPACE, TAB, LINEFEED, RETURN, DELETE, UP, DOWN, LEFT, RIGHT, PF1, PF2, PF3, PF4, F1 through F20, HELP, DO, FIND, INSERT, REMOVE, SELECT, PREV, and NEXT.

UNIX

The following keys are also supported: HOME, END, DELETELINE, and INSERTLINE.

All of the keys on the numeric keypad have special names: KP0 through KP9, ENTER, MINUS, COMMA, and PERIOD. When one of these keys is defined, the definition applies only to function keypad mode, unless the DATA option is used (see below), when the definition applies only to numeric keypad mode.

Use the CONTROL option to specify a control character, for example, CONTROL A. Use the GOLD option to specify a key sequence commencing with the GOLD key, for example, GOLD PF4. The BLUE option is similar to the GOLD option, except that there is no standard definition for the BLUE key.

The 'function' parameter specifies the function of the key, using MANTIS batch input file format. This format allows you to specify any combination of batch commands and data entry characters for the key function, for example:

```
{KEY PF2 = "{HELP}" ! Define PF2 as program function "HELP"}
{KEY GOLD UP = "{WINUP}" ! Define GOLD/UP as terminal function WINUP}
{KEY PERIOD = "{ECHO=ON}{DELBOW}{TABFLD}{UNDELWRD}" ! simulate word
  wrap}
{KEY PF3 = "{BLUE}" ! Define PF3 as the BLUE key}
{KEY LINEFEED = "" ! Define LINEFEED as null, (no function)}
{KEY BLUE O = "OPERATOR;JOSHUA{}{1}REPORTS{}" ! BLUE/O signs on, etc.}
```

The DATA parameter in the batch MANTIS KEY command is used to redefine the values of data keys on the keypad. Recall that data keys are the "QWERTY typing" keys: a–z, A–Z, +, -, =, and so on. A data key should only be assigned a printable character value or MANTIS will ignore it.

When the numeric keypad is operative (due to {NUMERIC} or GOLD/N), the keypad keys (KP0 through KP9, PERIOD, ENTER, COMMA, and MINUS) are considered to be data keys and become candidates for definition with the DATA parameter. However, they are unlike ordinary data keys in that they can be assigned special control character codes.

Keep in mind that the PERIOD, ENTER, COMMA, and MINUS keys are those on the numeric keypad.

The format for redefining is as follows:

{KEY DATA *key* [=] *value*}

The full capability of this format is best illustrated with examples of correct and incorrect usage. Additional information is provided in the explanations that follow each example.

Correct use	Explanation
{KEY DATA “a” = A}	Uppercase conversion
{KEY DATA “a” A}	Uppercase conversion
{KEY DATA “a” = “A”}	Uppercase conversion
{KEY DATA “a” = %x41}	Uppercase conversion
{KEY DATA ENTER = %x0D}	ENTER = RETURN (NUMERIC keypad, Hex)
{KEY DATA ENTER = %o15}	ENTER = RETURN (NUMERIC keypad, Octal)
{KEY DATA ENTER = %D13}	ENTER = RETURN (NUMERIC keypad, Decimal)
{KEY DATA { = [}	Turn braces into brackets
{KEY DATA } =] }	Turn braces into brackets
{KEY DATA MINUS %o32}	MINUS = CANCEL (NUMERIC keypad)

Incorrect use	Explanation
{KEY DATA \ = %o32}	Ordinary data keys must be assigned printable data values.
{KEY DATA PF4 = A}	PF4 is not a data key.
{KEY DATA a = %65}	Missing radix indicator (O,D,X).

The use of “0” (zero), “O” (uppercase letter), and “o” (lowercase letter) may not be immediately apparent. Uppercase and lowercase letters “O”/”o” can be used interchangeably. The zero is used in only one example—{KEY DATA ENTER = %x0D}.

5

Performance improvements

Improving system performance involves analyzing several areas, such as CPU and memory usage and response time. Although it is difficult to make general recommendations for improving system performance that will apply to each site, this chapter offers some suggestions for your consideration.

There are a number of ways to improve performance:

- Improve application designs
- Improve programming techniques
- Reduce MANTIS File I/O
- Utilize storage
- Reduce CPU usage
- Decrease response time
- Increase working set size
- Install MANTIS as a known image (OpenVMS only)
- Optimize disk access
- Tune your system

The following sections provide detailed suggestions for improving system performance.

Improving application design

Well-designed applications can greatly increase the performance rate of your systems. At this level you have several areas to consider. During the design phase, analyze the interaction among MANTIS entities (screens, files, views, etc.) within your program. Weigh the relative cost of performance goals and application modularity and/or maintainability.

For specific MANTIS entities, consider the following:

- **Programs.** Begin with standard design techniques to determine the programs and subroutines you will use. When you must choose between CHAIN and external DO to invoke a program, weigh the cost of saving the caller's (and that caller's caller, and so on) context (using DO) in memory usage against the cost of rebuilding context after the return (using CHAIN). For more information on the DO and CHAIN statements, refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310.

  Do obvious program structuring (for example, remove declarations, comments, and unnecessary statements from loops).

  Consider using the RELEASE statement in programs that process several RDM views in phases or in infrequently used external programs. RELEASE can be used with external files (ACCESS statement).

  For production systems, consider using a MANTIS file that contains your application programs in BOUND NOSOURCE format. Bound programs execute faster than unbound programs and the NOSOURCE format reduces program size on the MANTIS file (thus reducing I/O during program loading).

- **Screens.** Use features such as advanced editing, dynamic repeats, and windowing to reduce or eliminate program logic.

- **Files**. Restrict use to small, infrequently accessed control files or tables of program constants to reduce contention for the MANTIS File.

OpenVMS

Be aware that the DCL CONVERT command can be used to clean up and compress the MANTIS File, quite often considerably reducing its size as well as providing improved performance for MANTIS File I/O. You can obtain an FDL description of the MANTIS File with the DCL ANALYSE/RMS/FDL command. You can alter the FDL description to optimize the file characteristics to suit your environment. You can use the altered FDL description with the DCL CONVERT command.

- **External file views**. Consider tailoring your views to specific programs to reduce or eliminate extraneous fields (those not used by the program, but still handled by MANTIS and the system).

Improving programs

At the programming level, program logic is the main area where you can make improvements that will affect performance. You can improve most programs by using better algorithms and data structures or by eliminating redundant logic using standard optimization techniques. Remember that extreme measures at this level can impact program clarity and/or cause maintenance problems and should be carefully considered. Database and programming standards can often help or hurt the selection of efficient program logic.

In general, try to use the MANTIS language effectively. For example, the CLEAR, POINT, MODIFIED, PAD/UNPAD statements and left-hand substringing of text variables can be used to replace code that performs these functions less directly. For example, use of the CLEAR statement will result in programs that are more efficient than those in which the equivalent functions are performed using multiple MANTIS programming statements.

Place comments at the beginning of a program or between subroutines where they will minimally affect the program's CPU usage. Note that comments are stripped out of the bound version of a program. In addition:

- Place optional variable declarations at the point where they are used.
- Remember that logic statements treat zero as FALSE and nonzero as TRUE. Numeric variables can then be used as conditions on logic statements. Expressions containing comparison operators and logical connectives yield TRUE or FALSE values and can be assigned to numeric variables.
- If possible, avoid prefixing. This reduces the size of the MANTIS symbol table as well as variable storage and eliminates unnecessary LET statements.
- If your application is driven by a small menu program, consider including the menu procedure as an internal procedure in each program. When the program needs to transfer control back to the menu, the menu program can be done internally (DO) instead of chained to (CHAIN).

Reducing MANTIS file I/O

You can reduce MANTIS File I/O by looking at the following areas:

- Program Loading—Reading a MANTIS program from the MANTIS File into memory.
- Complex Variable Declarations—Defined by ACCESS, FILE, SCREEN, INTERFACE, and ULTRA statements. Complex definitions are stored as records in the MANTIS File by the associated design facility program. When the complex declaration is executed, the definition is read from the MANTIS File into the data area.
- User FILE Accesses—Implemented as a key range in the MANTIS File. Associated File I/O is directly proportional to the number of GET, INSERT, UPDATE, and DELETE statements executed for those files.
- Shared Entity Pool—Preloading MANTIS entities (programs, screens etc.) into a shared memory segment. Consider using a Shared Entity Pool for your production system to potentially eliminate disk access to the MANTIS File. See "Manage shared entities" on page 89 for more information.

Utilizing storage

Storage Utilization is affected by:

- MANTIS Context—amount of storage used by MANTIS task; largely depends on the total program code/data requirements for all programs from top level to current DOLEVEL.
- Number of Storage Requests—(allocation and deallocation) resulting primarily from variable declarations, CHAIN/STOP execution, and PROGRAM statements.

Reducing CPU usage

You can reduce CPU usage by analyzing the following areas:

- Program Logic—Depending upon the program requirements and the algorithms used by the programmer.
- External Software—Including associated costs for any other software that is part of your system.
- Language Usage—Consisting of associated overhead for language processing. You can reduce CPU usage by becoming aware of how certain MANTIS statements are executed. Qualitatively speaking, those statements requiring the most performance factors are:
  - CONVERSE, SHOW, OBTAIN, and WAIT—require CPU usage and imply a COMMIT of updates.
  - STOP, CHAIN, and PROGRAM/External DO—require MANTIS File I/O to load programs, usually followed by MANTIS File I/O for complex statements.
  - COMMIT—requiring CPU usage due to system overhead.
  - ACCESS, FILE, SCREEN, INTERFACE, and ULTRA—require MANTIS File I/O to read definition (design), memory and CPU usage to define complex variable and associated fields.
  - RELEASE—affects performance when used with external DO.

Decreasing response time

To decrease the amount of time it takes for an application to respond to requests, you can focus on reducing the application's CPU usage (see "Reducing CPU usage" on page 144) and try and reduce the amount of file I/O (see "Reducing MANTIS file I/O" on page 143).

Increasing working set size

Since MANTIS is a large image, the default working set size determines the amount of MANTIS code and data you can get into memory. The more of MANTIS that is loaded into memory, the less your operating system has to access it on disk. One major drawback to increasing your working set size is that it increases your physical memory requirement.

Installing MANTIS in OpenVMS

Consider installing MANTIS as an installed known image. MANTIS image activation will be faster if it is installed. Further system performance gains can be made by installing MANTIS as a SHARED image so that only one copy of the shareable code sections are loaded into physical memory. Each user has his or her own data, but shares the executable code.

Again, a drawback to MANTIS as an installed known image is that it uses up memory and global pages. You should examine your installation to see if this is a viable solution.

Optimizing disk access

To speed up disk access, you can ensure that all files are contiguous on the disk. To defragment that disk temporarily, you should back up your disk to another disk, then restore it. You may also want to consider the purchase of a disk optimizer.

Tuning your system

Make it a point to tune your system regularly. When you move from development to production, many usage parameters can change. Take advantage of system performance monitoring tools to pinpoint the areas in your system that need tuning. Use the STATS statement to return process statistics.

6

AD/Advantage overview

AD/Advantage is a standard interface that integrates and provides easy access to the components of AD/Advantage and MANTIS.

AD/Advantage functions

AD/Advantage combines a series of functions designed to standardize and increase the speed of developing AD/Advantage, MANTIS and 3GL applications. These functions include:

- **Standard application interface**. This applies to AD/Advantage system applications as well as your own applications and includes *menus* and *transactions.*

  - **Menus**. Have the same general appearance throughout the system. Also, you can specify whether menus display in a pull-down or list format systemwide. See "Menus" on page 154 for more information on AD/Advantage menus.

  - **Transaction**. Indicates the AD/Advantage standard processing technique. For every program that you write, you define a transaction for that program in AD/Advantage. All transactions have common elements. See "Transactions" on page 156 for more information on transactions.

- **Transaction logging**. AD/Advantage provides a mechanism that enables you to log some or all transactions in the system. The following basic reports are supplied with the system and can easily be extended to accomplish your needs:

  - Report of audit trail information.

  - Graph of the most used transactions on a certain day or over a range of days.

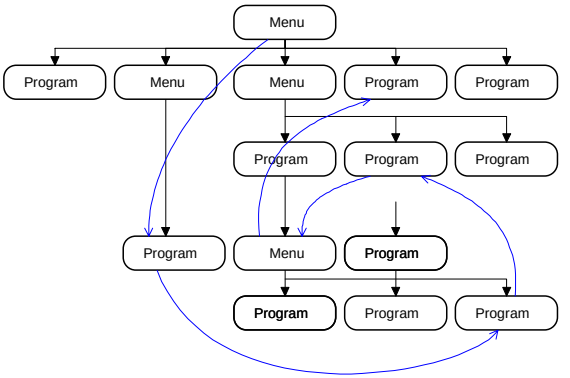
  - Graph of hourly transaction usage.

  You can also create your own transactions to provide additional logging capabilities. See "Defining transaction logging" on page 212 and "Monitoring transaction usage" on page 249 for more information on transaction logging.

- **Transaction and field-level help**. You can create help for the transaction itself and for each field defined in your transaction.

- **Dynamic menu subsystem**. We call the menu subsystem dynamic for the following reasons:

  - It allows you to "fast-path" to menu options that may be at the lower levels of a menu hierarchy. That is, you can immediately access an option without having to go down through the hierarchy of options to get to it. For example:



    We call this *expert mode.*

  - It keeps track of the menus and transactions that you've accessed. This allows you to back-track through the menus you've been using.

    We call this your *transaction path.*

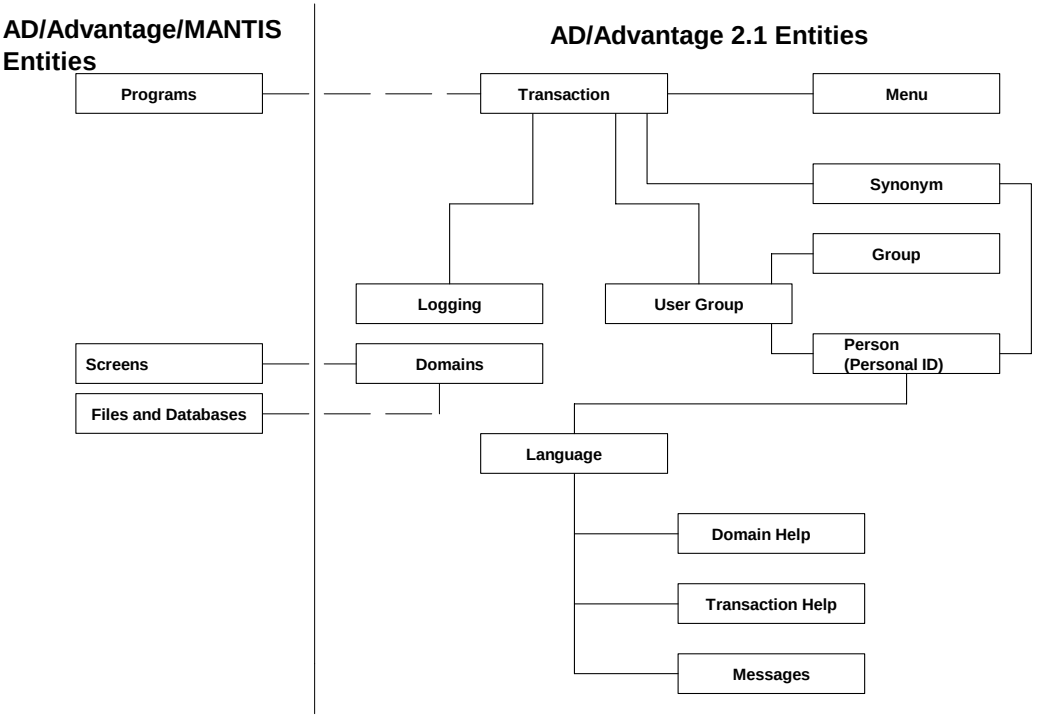
- **Application generators** for single, list and mixed applications. The generators use templates. Templates contain standard programming code so that you don't have to spend time creating common program elements over and over again. You can customize the templates to meet your needs. See "Templates and generators" on page 158" for more information on AD/Advantage templates and generators.

- **Dynamic field validation**, using either validation rules you define in AD/Advantage, or those already defined in your database.

- **Security system**. Provides three levels of security: system, group, and user. See "Security" on page 159" for more information on security.

- **End-user sign-on**. Called a *personal iD*, it is assigned to a MANTIS user. For information on creating personal IDs, see "Setting up personal IDs #ID" on page 189
- **Support for multilanguage applications**, which conform to NLS (National Language Support) standards. The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

The following figure shows how AD/Advantage integrates these functions:



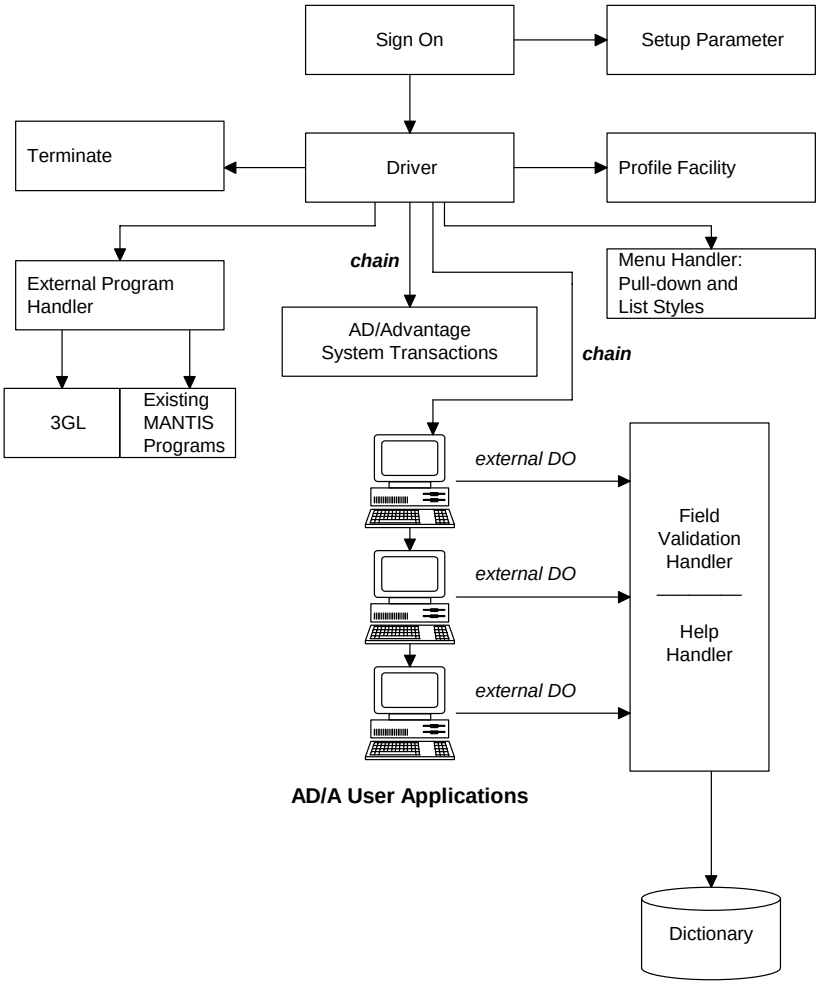
Supported databases

The following table shows the databases AD/Advantage supports:

Operating system	Database
MVS	DB2
	DL/I
	SUPRA PDM
	SUPRA RDM
	SUPRA SQL
	VSAM
VSE	DL/I
	SQL/DS (planned)
	SUPRA PDM
	SUPRA RDM
	SUPRA SQL
	VSAM
OS/2	DBM or DB2/2
	SUPRA SQL
	VSAM emulation
DOS	SUPRA SQL (client only)
	VSAM emulation

System architecture

The following figure shows the AD/Advantage architecture:

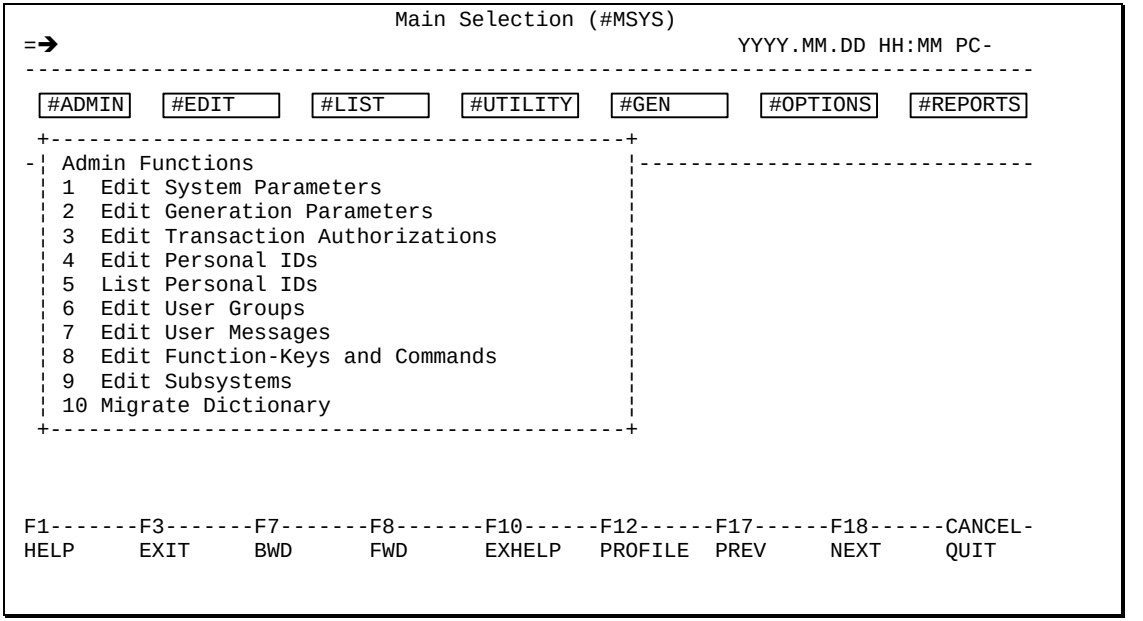


AD/Advantage is controlled by the *driver*. The driver performs the following functions:

- Navigates between programs.
- Calls external programs.
- Calls the menu handler.
- Calls the personal profile facility.
- Maintains the transaction path.
- Maintains the transaction's audit trail.
- Validates keys and commands.
- Controls transaction security.

Menus

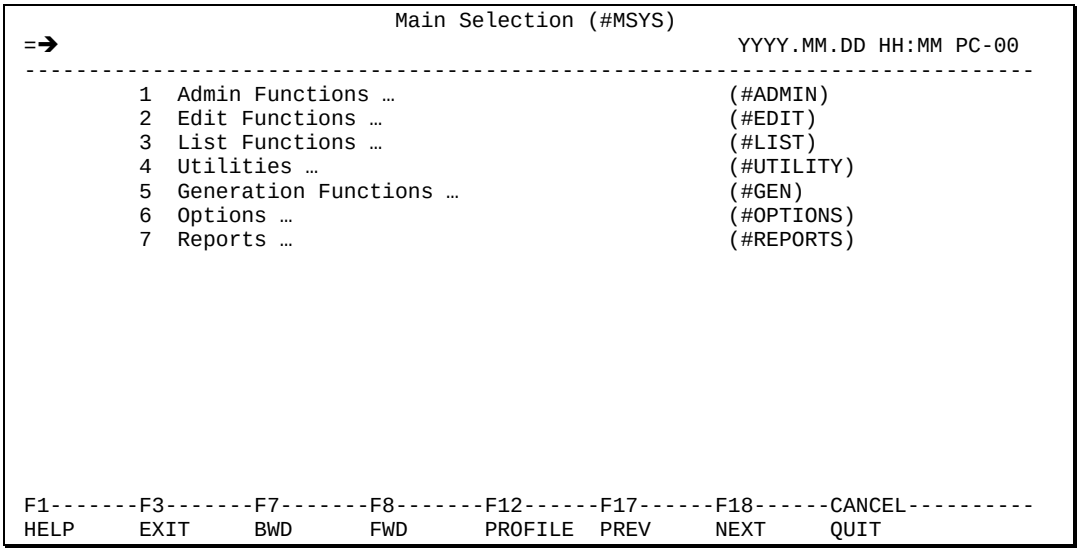
You can specify whether you want the AD/Advantage menus to display in pull-down or list format. The following figure shows the Main Selection menu in pull-down format:



Notice that the submenus, #ADMIN, #EDIT, #LIST, and so on, are in the *action bar*. You can access the submenus three different ways:

- Press Tab to position the cursor on the submenu of your choice, and then press Enter to display the pull-down menu.
- Type the submenu's transaction *i*D at the command line and press Enter to display the pull-down menu.
- Use the Forward key to move forward through the submenus, or the Backward key to move backward through the submenus.

The following figure shows the Main Selection menu in list format:

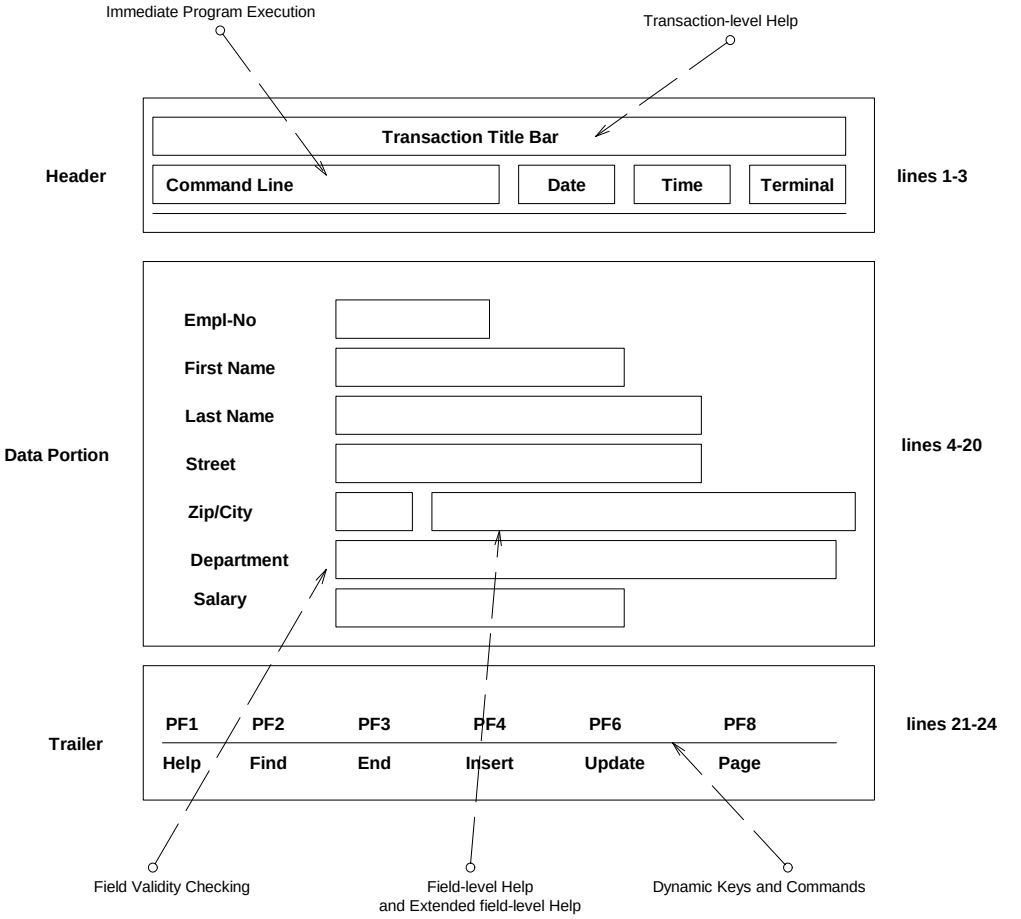


Notice that the submenus, Admin Functions, Edit Functions, List Functions, and so on, are in list format. For example, if you want to get to the Admin functions, select number 1. AD/Advantage re-draws your screen, displaying the Admin Functions menu. You then select the number of your next choice, and so on. No pull-down menus display.

See the Pulldown Menus field in "Setting system parameters #PARM" on page 167" for information on setting menu style.

Transactions

AD/Advantage uses transactions as the standard means of running your programs. You create your program using AD/Advantage, MANTIS, or a 3GL language such as COBOL or C, then you define an AD/Advantage transaction for the program. All transactions have a standard user interface, as shown in the following figure:



The standard user interface contains three parts:

- **Header**. The header area contains three lines. The title of the transaction and the transaction *i*D display on the first line. The second line contains the command line and the Date, Time, and Terminal fields. The third line is a separator line.
- **Data Portion**. The data portion is reserved for data specific to your application.
- **Trailer**. The trailer is reserved for displaying user messages and keys and their descriptions.

For user applications you can customize the header and trailer according to company standards. The screens are stored in the Master user as ADV_HEADER and ADV_TRAILER.

After you define the transaction for your program, AD/Advantage automatically takes you through the steps to generate the program. After generation is complete, you are then ready to make the following refinements to your transaction:

- Add transaction- and field-level help.
- Add field validation.
- Add your transaction to a menu.

When you define a transaction, you give it a *transaction iD*. The transaction *i*D allows you to run the program at the AD/Advantage command line, as opposed to selecting the program from a menu.

The transaction IDs for *system transactions* (those transactions installed with AD/Advantage) begin with a special character. The hash character (#) is the default; this can be customized at installation only. All *nonsystem transactions* (that is, user-defined transactions) can begin with any character other than the special character assigned to system transactions.

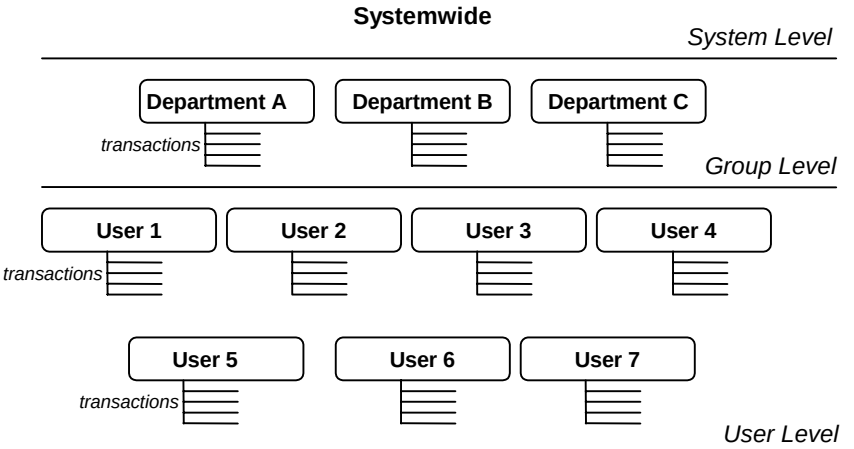
Templates and generators

AD/Advantage provides *templates*. Templates contain standard programming code required for single, list, and mixed processing. Templates reduce the amount of effort you spend duplicating common code. AD/Advantage generators use templates to generate your programs. See "Using templates" on page 261 for more instructions on how to use the templates.

AD/Advantage provides *generators* for single, list, and mixed processing.

Security

AD/Advantage provides transaction and command security, or *authorization*. For both types of security, the system applies three levels of authorization: system-, group-, and user-level.



System-level authorization

System-level authorization allows all AD/Advantage users to access nonsystem transactions if they know the transaction *i*D or have it in a menu. However, end users cannot access system transactions unless the system administrator authorizes them at the group level or user level.

This is how AD/Advantage is installed. The system is automatically installed with two personal IDs (ADMIN and DEVELOP) and two groups (ADMIN and DEVELOP).

Group-level and user-level authorization

Group- and user-level authorization allow an individual AD/Advantage user (called a *personal iD*) to access a transaction if the system administrator creates a transaction authorization record for:

- One of the groups with which the personal *i*D is associated (group-level authorization).
- The personal *i*D (user-level authorization).

If transaction authorization is enabled (using the Transaction Authorization field in #PARM), group- and user-level authorization applies. Also, predefined authorization records for the ADMIN and DEVELOP groups take effect. These records give ADMIN authorization to *all* system transactions; DEVELOP has authorization to most, but not all, system transactions.

For information on enabling transaction authorization, see the Transaction Authorization field in "Setting system parameters #PARM" on page 167. For information on how to define a transaction authorization record using #AUTH, see "Defining transaction authorization #AUTH" on page 203. For information on how to view transaction authorization records using #AUTHL, see "Authorizations #AUTHL" on page 221.

Creating transaction authorization records

For each transaction, you must create a separate authorization record for each group or personal *i*D. For example, you have a human resource office with a group code of HMR, an individual in the administration office with a personal *i*D of DOE, and a legal office with a group code of LGL, all of whom you want to authorize for your employee maintenance transaction called EMPL. In this case, you must create three authorization records that grant the following types of authorizations:

1. HMR group authorization to use EMPL.
2. LGL group authorization to use EMPL.
3. Personal *i*D DOE authorization to use EMPL.

Creating command authorization records

Each transaction has a set of commands that you can use. On a transaction authorization record, you can restrict some of those commands for certain groups or users. For example, using the preceding scenario, you may want to allow the HMR group to insert, update, and delete employee records. However, you only want the individual DOE to insert employee records. To do this, you:

1. Create one EMPL authorization record for the HMR group, and specify the Insert, Update, and Delete commands.
2. Create another EMPL authorization record for the DOE personal *i*D and specify the Insert command only.

For complete information on defining transaction authorization records, see “Defining transaction authorization #AUTH” on page 203.

7

Setting up AD/Advantage

Signing on to AD/Advantage

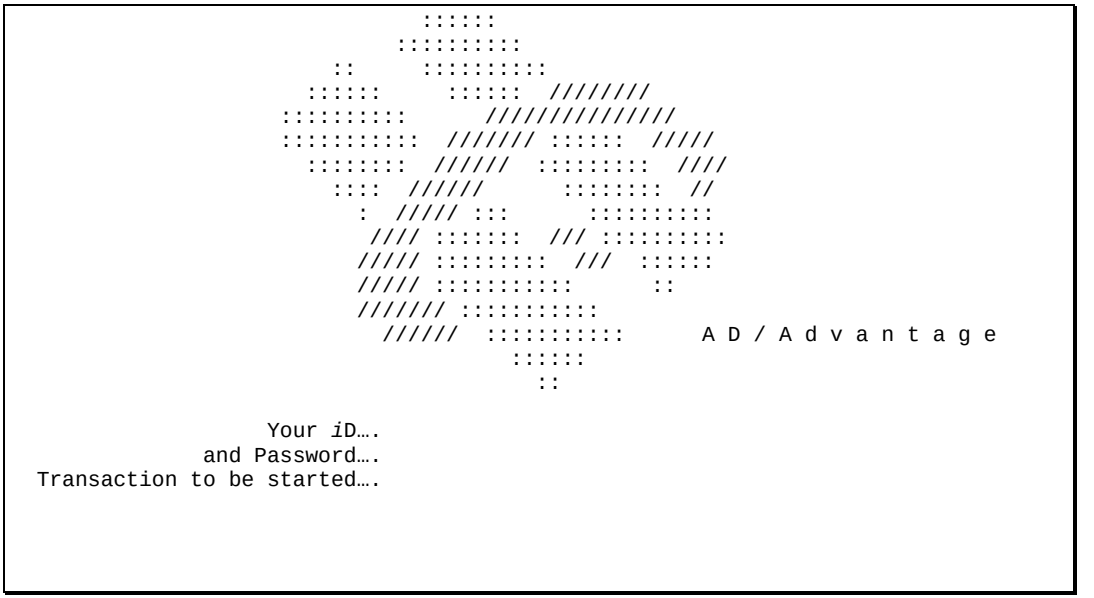
In addition to signing on from your operating system, AD/Advantage allows you the flexibility to sign on again from *within* the system. “Signing on from your operating system” on page 163 shows you how to sign on from your operating system; “Signing on from within AD/Advantage #SIGNON” on page 166 shows you how to sign on from within AD/Advantage.

Signing on from your operating system

To sign on to AD/Advantage from your operating system type MANT at the directory prompt.

You can customize the sign on procedure from the operating system.

When you start AD/Advantage from your operating system, the AD/Advantage sign-on screen displays:



Your personal *i*D is defined to a MANTIS user. To sign on, type your personal *i*D and password (password in all uppercase letters) in the appropriate fields. If you want to go directly to a particular transaction, type the transaction *i*D in the Transaction to be started field. Press Enter.

You must type your password in uppercase letters or the system will not accept it.

As mentioned, your personal *i*D is defined to a MANTIS user. You cannot sign on to AD/Advantage with a MANTIS user and password. The only exception to this is the MANTIS MASTER user.

The Main Selection menu displays:

```
                              Main Selection (#MSYS)
=➔                                                    YYYY.MM.DD HH:MM PC-
--------------------------------------------------------------------------------
 #ADMIN    #EDIT    #LIST    #UTILITY    #GEN    #OPTIONS    #REPORTS

--------------------------------------------------------------------------------









F1-------F3-------F7-------F8-------F12------F17------F18------CANCEL----------
HELP     EXIT     BWD      FWD      PROFILE  PREV     NEXT     QUIT
```

The figure above illustrates the *default* Main Selection menu. How your Main Selection menu looks depends on how you have configured AD/Advantage.

If the Main Selection menu does not display when you sign on, then one of the following occurred:

- From the sign-on screen, you bypassed the Main Selection menu by typing a transaction ID in the Transaction to be started field.
- You set your personal ID to start at a specific transaction ID.
- The MANTIS user you wanted to sign on to, has a start facility program different to VPF:ADV_START_FACILITY.

Signing on from within AD/Advantage #SIGNON

In addition to the initial sign on from your operating system, AD/Advantage allows you the flexibility to sign on again—either as yourself, or as another individual user—from *within* the system. Signing on from within the system is an especially useful feature because some system transactions do not activate updated information until you sign on to the system again. This feature allows you to continue using AD/Advantage without having to first exit the system to sign on again.

To sign on again from within the system, access the #SIGNON transaction. The #SIGNON transaction allows you to enter one of the following *call formats* at the command line:

#SIGNON

This displays the AD/Advantage sign-on screen.

#SIGNON.*personal id.password*

This bypasses the sign-on screen and goes immediately to the individual user's start transaction.

#SIGNON.*personal id.password.trans-id*

This bypasses the sign-on screen and start transaction and goes directly to the transaction you specify.

#SIGNON.*personal id.password.trans- id.parm1.parm2*

This bypasses the sign-on screen and start transaction, goes directly to the transaction you specify and passes the parameters to the transaction.

You define which character the system recognizes as the delimiter between transactions and their parameters. A period (.) is the default.

Setting global parameters

AD/Advantage contains three transactions that allow you to set global parameters for the system. The following sections describe how to configure systemwide parameters, set application generation defaults, and define keys and commands.

Setting system parameters #PARM

To define or edit system parameters, use the #PARM transaction shown below. This transaction allows you to set systemwide parameters for all individual users.

When you update #PARM, sign back on to AD/Advantage to initiate the changes.

```
                          Edit System Parameters (#PARM)
===>                                                    YYYY.MM.DD HH:MM PC-00
------------------------------------------------------------------------------
Attribute-Definition.  BRI,CUR________  Pulldown Menus.............  _
External-Do Prefix...  .                System Language............  ENU
Transaction Journal..  _                Personal User Menus........  _
Confirm Termination..  Y                Program-Terminator.........  KILL____
Enable Synonyms......  _                Generation Facility (Y/N)..  Y
Reusable Comp.Mgmt...  _                Transaction Authorization..  _
Date Format..........  YYYY.MM.DD       No of rows in Header-Screen  3
Select by cursor.....                        One Pass Validation.....  _
Upper Alpha Char.....  __________       Lower Alpha Characters.....  __________

SQL Options
   DBA User..........  ________________   DBA Password........  ________________
   Application User..  ________________   Appl User Password..  ________________
   Database-Name.....  ___________________________________
   Database Type.....  ______


F1-------F3-------F5-------F10------F12------CANCEL----------------------------
HELP     EXIT     UPD      EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Attribute-Definition

Description *Optional*. Specifies the attributes of a field when an error occurs.

Default BRIGHT, CURSOR

Options Refer to *AD/Advantage MANTIS Language OpenVMS/UNIX*, P39-1310, for valid options for the ATTRIBUTE statement.

Pulldown Menus

Description *Optional*. Specifies whether the systemwide menu format is pull-down menus.

Default Y

Options

(blank)	Displays list menus.
Y	Displays pull-down menus.

Considerations If you specify Y in the Personal User Menus field, the option you specify in the Pulldown Menus field affects how the personal user menus display:

- If you specify Y for both the Pulldown Menus and Personal User Menus fields, the user can view the last 14 transactions he/she accessed. The personal user menu displays in #UMENU and on all other menus.
- If you specify N for the Pulldown Menus field and Y for the Personal User Menus field, the user can view the last 16 transactions he/she accessed. The personal user menu displays in #UMENU only.

For more information about list and pull-down menus, see “Menus” on page 154”.

External-Do Prefix

Description *Optional*. Specifies the external DO prefix character. The external DO prefix allows you to access a transaction without losing the contents of or unsaved changes to the transaction you were previously accessing. This character is also a delimiter for parameters.

Format Any delimiter

Default . (period)

Consideration For information on using the external DO prefix, refer to *AD/Advantage MANTIS Language*, P39-1310.

System Language

Description *Required*. Specifies the default language for the system.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format 3 alphanumeric characters

Transaction Journal

Description *Optional*. Specifies whether transaction journaling is enabled for all transactions.

Default (blank)

Options

(blank)	Does not enable transaction journaling for all transactions.
Y	Enables transaction journaling for all transactions.

Considerations

- This option must be set to Y to enable #ACCL1, #ACCL2, and #ACCL3. See "Listing the AD/Advantage audit trail #ACCL1" on page 250,"Listing the most commonly used AD/Advantage transactions #ACCL2" on page 252 and "Displaying hourly transaction usage #ACCL3" on page 254for more information on these transactions.
- If you do not want to enable transaction journaling for every transaction, you can leave this field blank and specify journaling for individual transactions using #TRN. For more information about #TRN, refer to *AD/Advantage Programming,* P39-7001.

Confirm Termination

Description *Optional*. Specifies whether the system prompts you with a confirmation message before AD/Advantage terminates.

Default (blank)

Options

(blank)	Does not display a confirmation message.
Y	Displays a confirmation message.

Personal User Menus

Description *Optional*. Specifies whether to display a personal user menu showing the last several transactions the individual user accessed.

Default (blank)

Options

(blank)	Does not display personal user menus.
Y	Displays personal user menus.

Considerations

- If you specify Y, the value you enter in the Pulldown Menus field affects how personal user menus display:
- If you specify Y in the Pulldown Menus field, the individual user can view the last 14 transactions he/she accessed. The personal user menu displays in #UMENU and on all other menus.
- If you specify blank in the Pulldown Menus field, the individual user can view the last 16 transactions he/she accessed. The personal user menu displays in #UMENU only.

Enable Synonyms

Description *Optional*. Specifies whether individual users can define synonyms for transaction IDs.

Default (blank)

Options

(blank)	Individual users cannot use synonyms for transaction IDs.
Y	Individual users can use synonyms for transaction IDs.

Consideration This field only specifies whether individual users are authorized to use synonyms. Use the #SYNONYM transaction to define synonyms for personal IDs. For more information about #SYNONYM, refer to *AD/Advantage Programming*, P39-7001.

Program-Terminator

Description *Required*. Specifies the command that will terminate a program from the command line.

Format 1–8 alphanumeric characters

Default KILL

Reusable Comp. Mgmt

Description *Optional*. Specifies whether Reusable Component Management is enabled.

Options

(blank)	Does not enable Reusable Component Management.
Y	Enables Reusable Component Management.

Consideration If you install the Component Engineering Facility (CEF) with AD/Advantage, this field defaults to Y. If CEF is not installed, you can set this field to blank.

Generation Facility (Y/N) (reserved for future use)

Description *Optional*. Specifies whether the AD/Advantage generators can be used to generate applications.

Default Y

Options

(blank)	Does not enable the Generation Facility.
Y	Enables the Generation Facility.

Transaction Authorization

Description *Optional*. Specifies whether the system administrator must authorize personal IDs and groups for access to system and nonsystem transactions.

Default (blank)

Options

(blank)	All personal IDs can access nonsystem transactions; you must authorize them to access system transactions. Personal IDs in the groups ADMIN and DEVELOP can access both system and nonsystem transactions. (System transactions begin with a hash character [#] unless you changed this default at installation).
Y	All personal IDs, including those in the groups ADMIN and DEVELOP, can access only those transactions that the system administrator has authorized them to access.

Consideration AD/Advantage comes supplied with transaction authorization records already defined for groups ADMIN and DEVELOP. To activate these authorization records, set this field to Y.

To define authorization for individual transactions to personal IDs or user groups, use the #AUTH transaction. #AUTHL lists all transactions and which personal IDs and user groups are authorized to access them. For more information, see "Defining transaction authorization #AUTH" on page 203 and "Authorizations #AUTHL" on page 221.

Date Format

Description *Required*. Specifies the date format displayed in the screen header of all transactions.

Default YYYY.MM.DD

Options

DD	Day of the month (01–31)
MM	Month (01–12)
YY	2-digit year (00–99)
YYYY	4-digit year (0000–9999)

Consideration You can enter the options for the data format in any order. (e.g., DD.MM.YY or MM.DD.YYYY). Although periods are the default separators, you can use any delimiter.

No of rows in Header-Screen

Description *Required*. Specifies the number of rows in the header portion of user transactions.

Default 3

Format Numeric character between 1–99

Select by cursor

Description *Optional*. Specifies if selection from a pop-up list of values is to be done by placing the cursor under the value.

Default (blank)

Options

(blank)	Selection is to be done by entering 'S' next to the value
Y	Selection from a pop-up list of values is to be done by placing the cursor under the value

Consideration If users run MANTIS applications from AD/Advantage and can sign-off without going back to AD/Advantage, then you must update the MASTER:TERMINATE to call the AD/Advantage sign-off program in a similar manner to the MASTER:ADV_SYS_TERMINATE program.

One Pass Validation

Description *Optional*. Specifies whether AD/Advantage validates screen fields one field at a time, or all at once in one pass.

Default (blank)

Options

(blank)	Validates fields one at a time.
Y	Validates all fields in one pass.

Consideration One pass validation applies to individual user applications only, not system transactions.

Upper Alpha Char

Description *Optional*. Specifies language-specific characters for uppercase alphabetic validation of input fields.

Format 1–10 alphanumeric characters

Lower Alpha Characters

Description *Optional*. Specifies language-specific characters for lowercase alphabetic validation of input fields.

Format 1–10 alphanumeric characters

SQL options

DBA User

Description *Optional*. Specifies the user name of the SQL database administrator.

Format 1–16 alphanumeric characters

Consideration The DBA user must be defined in the SQL database.

DBA Password

Description *Optional*. Specifies the password of the SQL database administrator.

Format 1–16 alphanumeric characters

Consideration The DBA password must be defined in the SQL database.

Application User

Description *Required* if you are using an SQL database. Specifies the SQL user that AD/Advantage applications sign on to.

Format 1–16 alphanumeric characters

Consideration The SQL user must be defined in the SQL database with appropriate access to the SQL tables required by the application.

Appl User Password

Description *Required* if you are using an SQL database. Specifies the password of the SQL user.

Format 1–16 alphanumeric characters

Consideration The application user password must be defined in the SQL database.

Database-Name

Description *Required* if you are using an SQL database. Specifies the name of the database the application uses. For example, DB/2 is supplied with a database called SAMPLE.

Format 1–30 alphanumeric characters

Database Type

Description *Required* if you are using an SQL database. Specifies the type of database product the application uses.

Format 1–6 alphanumeric characters

Options

SUPRA	SUPRA's SQL
DB2	IBM's DB2
SQL/DS	IBM's SQL/DS
DBM	DB2/2

The database type options are specific to the platform on which you are running AD/Advantage.

Setting application generation defaults #DEF

To define or edit default parameters for generating applications, use the #DEF transaction shown below:

```
                      Edit Generation Parameters (#DEF)
===>                                                YYYY.MM.DD HH:MM PC-00000
------------------------------------------------------------------------------
   Rows in USRN........     1                       Format.....  BIG

   Rows in USRT........     1 Columns....     1     Format.....  TEXT

   Rows in USRK........     1 Columns....     1     Format.....  TEXT_
--------------------------- Generation Defaults ------------------------------
Screen:                     Color          Intensity
                         Unprot Protect   Unprot Protect   Underline   Reverse
                         --------------   --------------   ---------   -------
   Group Header........         ___              BRI                     _
   Field Header........         ___              NOR                     _
   Text Variables......  ___    ___       NOR    NOR       _           _
   Numeric Variables...  ___    ___       NOR    NOR       _           _
Program:
   Keep Keywords.......  _
   Validate all Fields.  Y
   Optimize Processing.  _
F1-------F3-------F5-------F10------CANCEL-------------------------------------
HELP     EXIT     UPD      EXHELP   QUIT
```

Enter data in the appropriate fields:

Rows in USRN

Description *Required*. Specifies the number of rows in the numeric parameter USRN.

Default 1

Format Number between 1 and 255

Format (for USRN)

Description *Display*. Specifies the data type of the numeric parameter USRN.

Rows in USRT

Description *Required*. Specifies the number of rows in the alphanumeric parameter USRT.

Default 1

Format Number between 1 and 255

Columns (in USRT)

Description *Required*. Specifies the number of columns in the alphanumeric parameter USRT.

Default 1

Format Number between 1 and 255

Format (of USRT)

Description *Display*. Specifies the data type of the alphabetic parameter USRT.

Rows in USRK

Description *Required*. Specifies the number of rows in the parameter USRK.

Default 1

Format Number between 1 and 255

Columns (in USRK)

Description *Required*. Specifies the number of columns in the parameter USRK.

Default 1

Format Number between 1 and 255

Format (of USRK)

Description *Required*. The data type of the parameter USRK.

Default TEXT

Options TEXT

KANJI

Screen characteristics options

The Screen options specify color, intensity, underline, and reverse characteristics for all screen elements. Screen elements include group header, field header, text variables, and numeric variables.

The following table lists valid options for screen characteristics:

Color	Intensity	Underline	Reverse
BLUE	BRIGHT	blank (no underline)	blank (no reverse)
RED	NORMAL	Y underline	Y reverse
GREEN			
TURQUOISE			
NEUTRAL			
YELLOW			
PINK			
blank (Specifies the default color supported by your terminal)			

Group Header

Description Specifies screen characteristics for the group header on all screens.

Color defaults Unprotect not available

Protect (blank)

Intensity defaults

Unprotect not available

Protect BRIGHT

Underline default

not available

Reverse default (blank)

Options See “Screen characteristics options” on page 181.

Field Header

Description Specifies screen characteristics for the field header on all screens.

Color defaults Unprotect not available

Protect (blank)

Intensity defaults

Unprotect not available

Protect NORMAL

Underline default

not available

Reverse default (blank)

Options See “Screen characteristics options” on page 181.

Text Variables

Description Specifies screen characteristics for text variables on all screens.

Color defaults Unprotect (blank)

Protect (blank)

Intensity defaults

Unprotect NORMAL

Protect NORMAL

Underline default

(blank)

Reverse default (blank)

Options See “Screen characteristics options” on page 181.

Numeric Variables

Description Specifies screen characteristics for numeric variables on all screens.

Color defaults Unprotect (blank)

Protect (blank)

Intensity defaults Unprotect NORMAL

Protect NORMAL

Underline default (blank)

Reverse default (blank)

Options See “Screen characteristics options” on page 181.

Programs

Keep Keywords

Description *Required*. Specifies whether to keep the keywords in a template of a generated program as comment lines.

Default (blank)

Options

(blank)	Does not keep keywords as comment lines.
Y	Keeps keywords as comment lines.

Validate all Fields

Description *Optional*. Specifies whether the generator creates a call to the Validation Handler for all fields or only for those fields that have a domain defined.

Default Y

Options

(blank)	Validation Handler validates only those fields that have a domain defined (must define the domain before program generation).
Y	Validation Handler validates every field on every screen (can define the domain after program generation).

For information about domains and how to define them, refer to *AD/Advantage Programming* , P39-7001.

Optimize Processing (reserved for future use)

Description *Required*. Specifies whether AD/Advantage optimizes validation processing.

Default (blank)

Options

(blank)	Validates fields based on the domains defined in the #DDEF transaction.
Y	Optimizes validation processing by removing a call to the Validation Handler or a call to a validation program. Instead, the generator inserts the code to do the validation directly in the generated program.

Consideration The domains must be set up *before the program is generated* for AD/Advantage to optimize validation processing.

Setting keys and commands #PFK

To define or edit keys and their associated commands, use the #PFK transaction shown below. Keys and commands are assigned systemwide for each language. You can also assign a synonym for each command. Press the Forward key to scroll through the key and command records for each language code.

Throughout this manual, we refer to keys rather than function keys.

```
                    Edit Function-Keys and Commands (#PFK)
===>                                                    YYYY.MM.DD HH:MM PC-0000
--------------------------------------------------------------------------------
Language.............  ENU
F-Key Command  Synonym     F-Key Command  Synonym     F-Key Command  Synonym
PF1   HELP____ HELP____    PF2   EXECUTE_ EDIT____    PF3   EXIT____ EXIT____
PF4   INSERT__ INS_____    PF5   UPDATE__ UPD_____    PF6   DELETE__ DEL_____
PF7   BACKWARD BWD_____    PF8   FORWARD_ FWD_____    PF9   PRINT___ PRINT___
PF10  EXHLP___ EXHELP__    PF11  CLEAR___ CLEAR___    PF12  PROFILE_ PROFILE_
PF13  GENERATE GEN_____    PF14  FIRST___ FIRST___    PF15  LAST____ LAST____
PF16  ________ ________    PF17  PREVIOUS PREV____    PF18  NEXT____ NEXT____
PF19  LEFT____ LEFT____    PF20  RIGHT___ RIGHT___    PF21  TOP_____ TOP_____
PF22  BOTTOM__ BOT_____    PF23  ________ ________    PF24  ________ ________
PA1.................... ________ ________          L i n e   C o m m a n d s
PA2.................... CANCEL__ QUIT____          Insert...  I   Select...  S
CLEAR.................. ________ ________          Update...  U   Print....  P
ENTER.................. ________ ________          Delete...  D
HELP  EXIT     CANCEL BACKWARD FORWARD  INSERT   UPDATE  DELETE SEARCH TOP
PRINT PROFILE  NEXT   PREVIOUS GENERATE EXECUTE  CLEAR   FIRST  LAST   BOTTOM
EXHLP LEFT     RIGHT  PGUP     PGDN     UCMD1    UCMD2   UCMD3  UCMD4  UCMD5
F1-------F3-------F4-------F5-------F6-------F8-------F9-------F10------F11----
HELP      EXIT     INS      UPD      DEL      FWD      PRINT    EXHELP   CLEAR
```

Enter data in the appropriate fields:

Language

Description *Required*. Specifies the language for which keys and commands are assigned.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format 3 alphanumeric characters

F-Key

Description *Display*. Specifies the key to which the associated command and synonym are assigned.

Command

Description *Optional*. Specifies the command assigned to the key.

Format 1–8 alphanumeric characters

Options Valid command options appear in a three-line list above the key line.

Considerations

You can define up to five individual user commands (UCMD1–UCMD5) for a program. To define individual user commands, you must do three things:

- Assign each individual user command to a key.
- Access #TRN and display the transaction record for the program. Then, specify Y in the appropriate individual user command field(s) (Cmd1–Cmd5) to add the individual user command(s) to the transaction definition.
- Access your program (or template) and add logic to specify what the program will do when each individual user command is issued.

Synonym

Description *Required* if you enter a value in the Command field. Specifies a synonym for the command.

Format 1–8 alphanumeric characters

Consideration Possible synonyms might include an abbreviation for the command or the name of the command in another language. If you specify a synonym for a particular command, the synonym, *not the command name*, displays with the key at the bottom of the screen. If you do not specify a synonym for a command, the system repeats the command name as the synonym.

Make sure that you do not use a synonym name that is already defined in the system as a transaction ID or as a transaction synonym.

Line commands

Insert

Description *Optional*. Specifies the character for the insert line command.

Format 1 alphanumeric character

Select

Description *Optional*. Specifies the character for the select line command.

Format 1 alphanumeric character

Update

Description *Optional*. Specifies the character for the update line command.

Format 1 alphanumeric character

Print

Description *Optional*. Specifies the character for the print line command.

Format 1 alphanumeric character

Delete

Description *Optional*. Specifies the character for the delete line command.

Format 1 alphanumeric character

Setting up AD/Advantage users

The following sections contain detailed information about adding AD/Advantage individual users and groups, creating subsystems, and assigning messages to transactions.

Setting up personal IDs #ID

To define or edit Personal IDs, use the #ID transaction shown below. This transaction defines the personal ID and password with which an individual user signs on to the system. In addition, the personal ID provides user-level security for transaction authorization.

```
                          Edit Personal IDs (#ID)
===>                                                YYYY.MM.DD HH:MM PC-00000
--------------------------------------------------------------------------------
Personal-ID.............  _________________

Password................  _________________
Mantis User.............  _________________
First Name..............  ____________________
Last Name...............  ____________________________________
Associated Groups
________ ________ ________ ________ ________ ________ ________ ________
________ ________
Language................  ___
Start Trans-ID..........  ________
Temporary Start-ID......  ________
Printer-ID..............  _________________
Modify Help Information.  _                Single User Signon.  _
SQL Options
Application User........  _________________ Appl User Password.  _________________
Database Name...........  _________________
F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F14----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    FIRST
```

There is a difference between AD/Advantage personal IDs and MANTIS users. A MANTIS user must already exist for an AD/Advantage individual user to log on to AD/Advantage and it must have a facility program of VPF:ADV_START_FACILITY. In contrast, a MANTIS user is only able to access MANTIS and cannot log on to AD/Advantage. However, the MANTIS MASTER User can log on to MANTIS through the AD/Advantage sign-on screen, but is not able to access AD/Advantage functions.

In addition, #ID enables you to create as well as modify personal ID definitions. To change a personal ID's settings, you can use the #IDL transaction to select the personal ID or access a personal ID by typing #ID.*personal ID* at the command line and pressing Enter. If you modify any of the fields in #ID and update the personal ID definition, you must sign off and sign on again before the changes take effect.

Some of the values entered in the #ID transaction can also be updated in the personal profile. You can change elements of your personal profile, but your system administrator is authorized to completely change your personal profile if necessary. For more information about personal profiles, refer to the *AD/Advantage Programming*, P39-7001.

Enter data in the appropriate fields:

Personal-ID

Description *Required*. Specifies an individual user's personal identification code.

Format 1–16 alphanumeric characters

Consideration AD/Advantage is installed with two personal IDs, ADMIN and DEVELOP.

Password

Description *Optional*. Specifies the individual's password to access the system.

Format 1–16 alphanumeric characters

Mantis User

Description *Required*. Specifies a user name for accessing MANTIS.

Considerations

- AD/Advantage is installed with the following MANTIS users: MASTER (MASTER user) and EXAMPLES (some examples in programming). You can create additional MANTIS users.

Warning: The MANTIS MASTER user is the only user that can modify the templates and generators installed with AD/Advantage. The AD/Advantage system administrator should be the only MANTIS user authorized to change existing templates and generators or create new ones. Therefore, it is strongly recommended that personal IDs created for developers and end users not be associated with the MASTER user; this ensures that only the system administrator is the only user associated with the MASTER user.

- AD/Advantage individual users must have the VPF:ADV_START_FACILITY program rather than normal MASTER:START_FACILITY. Once a MANTIS user is designated for use with AD/Advantage, it is no longer possible to sign on to the MANTIS User directly. All access to the MANTIS user must be via the personal ID. It is quite legitimate to setup a personal ID with the same name and password as the MANTIS User.

First Name

Description *Required*. Specifies an individual user's first name.

Format 1–20 alphanumeric characters

Last Name

Description *Required*. Specifies an individual user's last name.

Format 1–30 alphanumeric characters

Associated Groups

Description *Optional*. Specifies the group(s) with which an individual user is associated.

Considerations

- AD/Advantage is installed with the following groups: ADMIN (System Administration group) DEVELOP (Application Development group). You can create additional groups using the #GROUP transaction (see "Setting up user groups #GROUP" on page 196 for more information).
- Associating individual users with groups is important since group authorization to transactions enables individual users in those groups to be automatically authorized to the same transactions. This means that you will save a great deal of time by not having to specify individual transactions to individual users.

Language

Description *Required*. Specifies the language in which the system should display.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

The language you specify for an individual personal #ID overrides the systemwide language you specified in #PARM. This allows you to set different languages for individual personal IDs to access the same session of MANTIS.

Format 3 alphanumeric characters

Start Trans-ID

Description *Required*. Specifies which transaction initiates after signing on to the system.

All system transactions begin with a hash character (#) by default; your system administrator may have changed this character.

Consideration System administrators normally enter the system at the #MSYS transaction (the main selection menu for administrators), and developers normally enter the system at the #SYS transaction (the main selection menu for developers).

Temporary Start-ID

Description *Display*. Specifies the name of a transaction ID temporarily stored by AD/Advantage when you access MANTIS. AD/Advantage uses the temporary start ID internally to store the last transaction you accessed before calling a transaction that takes you into MANTIS. When you reenter AD/Advantage, you return to the transaction from where you left AD/Advantage.

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Modify Help Information

Description *Optional*. Specifies whether an individual user can or cannot modify help screen information without using #DHLP or #HLP.

Default (blank)

Options

(blank)	Individual personal IDs cannot modify help screen information.
Y	Individual personal IDs can modify help screen information directly in a transaction.

Single User Signon

Description *Optional*. Specify that only one person can use this personal ID. This allows only one terminal to use this personal ID at one time. Multiple logon attempts cause an ASO message.

Default (blank)

Options

(blank)	Multiple logons are allowed for this personal ID.
Y	Only one person and terminal can use this personal ID at one time.

SQL options

Application User

Description *Optional*. Specifies the SQL user that AD/Advantage applications sign on to.

Format 1–16 alphanumeric characters

Consideration This overrides the SQL Application User specified by the administrator in the #PARM transaction.

Appl User Password

Description *Optional*. Specifies the password of the SQL user.

Format 1–16 alphanumeric characters

Consideration This overrides the SQL APPL User Password specified by the administrator in the #PARM transaction.

Database Name

Description *Optional*. Specifies the name of the database the application uses. For example, DB2/2 is supplied with a database called SAMPLE.

Format 1–30 alphanumeric characters

Consideration This overrides the Database Name specified by the administrator in the #PARM transaction.

If you insert or update a personal ID, your changes will take effect the next time you sign on to AD/Advantage.

Setting up user groups #GROUP

AD/Advantage allows you to define groups with which you can associate personal IDs. For example, an employee in the finance group might have his/her personal ID associated with the Finance group you create in #GROUP. User groups provide transaction authorization at the group level.

To assign user groups, use the #GROUP transaction shown below. This transaction enables you to create and modify groups. To change a user group's settings, you can use the #GROUPL transaction to select the group or access a group by typing #GROUP.*group ID* at the command line and pressing Enter. In addition, you can use the #GROUPP transaction to print a group.

```
                          Edit User Groups (#GROUP)
===>                                                  YYYY.MM.DD HH:MM PC-00000
--------------------------------------------------------------------------------
Group-ID.......  ________

Group Name.....  ____________________________________________




F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F14----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    FIRST
```

Enter data in the appropriate fields:

Group-ID

Description *Required*. Specifies the group's identification code.

Format 1–8 alphabetic characters

Consideration AD/Advantage is installed with two user groups, ADMIN and DEVELOP.

Group Name

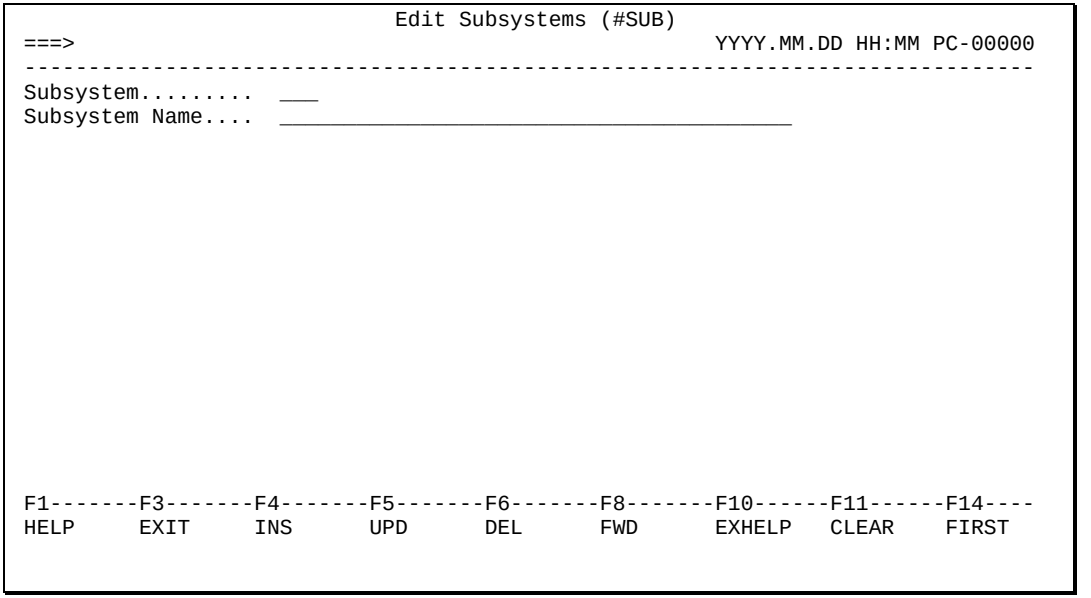
Description *Required*. Specifies a name for the group.

Format 1–40 alphanumeric characters

Setting up subsystems #SUB

To define subsystems, use the #SUB transaction shown below. This transaction enables you to more easily migrate transactions between applications. An example of a subsystem could be the finance subsystem . If you wanted to migrate all entities associated with this subsystem from one operating system to another (e.g., from the PC to mainframe), you would first use the #SUB transaction to create a finance subsystem. This enables you to track which AD/Advantage entities belong to a subsystem to ease maintenance and migration of your applications from test to production.

To change a subsystem definition, you can use the #SUBL transaction to select the subsystem or access a subsystem by typing #SUB.*subsystem ID* at the command line and pressing Enter.



Enter data in the appropriate fields:

Subsystem

Description *Required*. Specifies the subsystem identification code.

Format 3 alphanumeric characters

Consideration AD/Advantage is installed with two subsystems, ADV (which is reserved for AD/Advantage system functions) and DEV (which is the developer subsystem).

Subsystem Name

Description *Optional*. Specifies the subsystem name.

Setting up user messages #MSG

To define the user messages, use the #MSG transaction shown below. This transaction enables you to create and modify messages and define the severity of each message. To change a message, you can use the #MSGL transaction to select the message or access a message by typing #MSG.*message ID* at the command line and pressing Enter. In addition, you can use the #MSGP transaction to print a message.

```
                          Edit User Messages (#MSG)
===>                                                YYYY.MM.DD HH:MM PC-00000
--------------------------------------------------------------------------------
Language..............  ___

Subsystem.............  ___

Message-No............  ___

Text.  ____________________________________________________________________________

Level Indicator........  _









F1-------F3-------F4-------F5-------F6-------F8-------F9-------F10------F11----
HELP     EXIT     INS      UPD      DEL      FWD      PRINT    EXHELP   CLEAR
```

Enter data in the appropriate fields:

Language

Description *Required*. Specifies the language for the message.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

The systemwide language setting specified in the #PARM transaction does not affect the language you specify for an individual message in the #MSG transaction.

Format 3 alphanumeric characters

Subsystem

Description *Required*. Specifies the subsystem identification code.

Format 3 alphanumeric characters

Message-No

Description *Required*. Specifies the message identification code.

Format 1–3 alphanumeric characters

Text

Description *Optional*. Specifies the text of the message.

Level Indicator

Description *Required*. Specifies the severity of the message.

Format 1 alphabetic character

Options

A	Action required
C	Confirmation
E	Error
F	Fatal
I	Information
W	Warning

Defining transaction authorization #AUTH

To assign authorization to transactions, use the #AUTH transaction. This transaction enables you to create authorization records for transactions at either the group or individual user level. To change an authorization record, you can use the #AUTHL transaction to select the transaction or access a transaction authorization record by typing #AUTH.*transaction ID* at the command line and pressing Enter.

The Transaction Authorization field setting in #PARM (see "Setting up personal IDs #ID" on page 189 affects how you use the #AUTH transaction:

- If transaction authorization is enabled, you must define authorization records in #AUTH to allow individual users and groups access to any transaction. You can set transaction authorization globally and authorize different personal IDs to use different transactions.
- If transaction authorization is not enabled, the ADMIN and DEVELOP groups can access all system and nonsystem transactions by default. Other individual users and groups can access nonsystem transactions only. You must define authorization records in #AUTH to allow other individual users and groups access to system transactions.

The default command settings for a transaction display in #AUTH based on those defined in #TRN. In #AUTH you can change any of the commands set to Y to blank. Changing the setting from Y to blank revokes the command for the particular user group or personal ID

Finally, AD/Advantage automatically creates a blank authorization record (without a group or personal ID specified) for all new transactions.

The following transactions are considered to be system administration functions. We strongly recommend that you authorize these transactions for the ADMIN group only.

#AUTH	#GROUP	#PARM
#DEF	#*i*D	#PFK
#GEN	#MSG	#SUB
#GENIND	#MIGDIC	

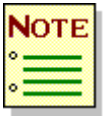
To assign authorization to transactions, use the #AUTH transaction, shown below:

```
                    Edit Transaction Authorizations (#AUTH)
===>                                                    YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------
Trans-ID.........  ________

Group-ID.........  ________

Personal-ID......  ________________


Command Settings which override Transaction Defaults:

General Confirm.  _   Print..  _   Generate.  _   Execute.  _

 Single Insert..  _   Update.  _   Delete...  _

   List Insert..  _   Update.  _   Delete...  _   Select..  _ _________

   User Cmd1....  _   Cmd2...  _   Cmd3.....  _   Cmd4....  _   Cmd5.....  _

F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F12----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    PROFILE
```

Enter data in the appropriate fields:

Trans-ID

Description *Required*. Specifies the transaction for which you are assigning authorization.



All system transactions begin with a hash character (#) by default; your system administrator may have changed this character.

Format 1–8 alphanumeric characters

Group-ID

Description *Optional*. Specifies the group to have authorization to a transaction. If you want to set group authorization to a transaction, you cannot set individual user authorization (in the Personal-ID field) to the transaction in the same authorization record.

Format 1–8 alphanumeric characters

Personal-ID

Description *Optional*. Specifies the personal ID to which you are authorizing the transaction. If you want to set individual user authorization to a transaction, you cannot set group authorization (in the Group-ID field) to the transaction in the same authorization record.

Format 1–16 alphanumeric characters

There are four different commands for which you can assign transaction authorization: General, Single, List, and User.

You can press Enter at this time to display the transaction defaults for the commands.

General commands

Confirm

Description *Optional*. Specifies whether the transaction supports the confirm command for deletions.

Default (blank) or Y as specified in the transaction definition

Options

(blank) The transaction does not support confirming deletions.

Y The transaction supports confirming deletions.

Print

Description *Optional*. Specifies whether the transaction supports the print command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank) The transaction does not support printing.

Y The transaction supports printing.

Generate

Description *Optional*. Specifies whether the transaction supports the generate command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support generation.
Y	The transaction supports generation.

Execute

Description *Optional*. Specifies whether the transaction supports the execute command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support execution.
Y	The transaction supports execution.

Single commands

Insert

Description *Optional*. Specifies whether the transaction supports the insert record command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support inserting records.
Y	The transaction supports inserting records.

Update

Description *Optional*. Specifies whether the transaction supports the update record command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support updating records.
Y	The transaction supports updating records.

Delete

Description *Optional*. Specifies whether the transaction supports the delete record command and its assigned key.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support deleting records.
Y	The transaction supports deleting records.

List commands

Insert

Description *Optional*. Specifies whether the transaction supports the insert line command.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support inserting lines.
Y	The transaction supports inserting lines.

Update

Description *Optional*. Specifies whether the transaction supports the update line command.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support updating lines.
Y	The transaction supports updating lines.

Delete

Description *Optional*. Specifies whether the transaction supports the delete line command.

Default (blank) or Y as specified in the transaction definition

Options

(blank)	The transaction does not support deleting lines.
Y	The transaction supports deleting lines.

Select

Description *Optional*. Specifies whether the transaction supports the select line command.

The entry you specify for the Select field in #AUTH overrides the entry in the Select field in #TRN.

Default (blank)

Options

(blank)	The transaction does not support selecting lines.
Y	The transaction supports selecting lines.

Select Trans-ID (field untitled on screen)

Description *Required* if you set the Select field to Y. In a list transaction, specifies which transaction runs when the user enters the Select command in the Select field.

Format 1–8 alphanumeric characters

User commands

Cmd1 through Cmd5

Description *Optional*. Specifies whether the transaction supports user-defined commands created in the #PFK transaction.

Default (blank) or Y as specified in the transaction definition.

Options

(blank)	The transaction does not support user-defined commands.
Y	The transaction supports user-defined commands.

Defining transaction logging

AD/Advantage supplies reports for transaction logging, but you can also create your own. The following AD/Advantage reports show transaction usage:

- **#ACCL1**. AD/Advantage audit trail (see "Listing the AD/Advantage audit trail #ACCL1" on page 250.
- **#ACCL2**. The most commonly used transactions (see "Listing the most commonly used AD/Advantage transactions #ACCL2" on page 252.
- **#ACCL3**. Lists hourly transaction usage (see "Displaying hourly transaction usage #ACCL3" on page 254.

You can enable transaction logging (AD/Advantage monitors your transaction usage) through the Transaction Journal field in #PARM (see "Setting system parameters #PARM" on page 167 for more information). If you set this field to Y, you enable transaction logging for AD/Advantage. If you leave this field blank in #PARM, you disable transaction logging for AD/Advantage. However, you can enable transaction logging for individual transactions using #TRN (refer to *AD/Advantage Programming*, P39-7001, for more information). If you set the Trans Journal field in #TRN to Y, you enable transaction logging for a transaction. If you leave this field blank in #TRN, you disable transaction logging for a transaction.

To create your own reports use the external file ADV_ACCOUNTING in the MANTIS MASTER user. For example, you can create a program to report just the transactions logged by an individual personal ID. For more information on editing MANTIS files, mainframe users refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300, manual.

Optimizing system performance

You can use the Shared Pool Facility to optimize system performance. The Shared Pool Facility allows you to place frequently used programs in a shared pool, which resides in memory. This facility reduces cluster I/O, storage, utilization, and the amount of data rolled in and out on every terminal I/O.

We recommend that you place the following AD/Advantage programs in the Shared Pool:

- ADV_SYS_ID
- ADV_START_FACILITY
- ADV_SYS_DRIVER
- ADV_MNU (if you are using Traditional List Style Menus)
- ADV_MNU_CUA (if you are using CUA style Menus)
- ADV_SYS_TEST
- ADV_SYS_HLP
- ADV_SYS_MESSAGE
- ADV_GNT_ADD_LINE

User transactions with a large number of fields can have performance problems because of the overhead in validating each field. You can reduce this overhead in the following ways:

- Remove calls to SYS_TEXT for fields that do not have domains defined from the generated program.
- If domains are defined before running the generator, then removing the Y for Validate all fields in the system defaults transaction (#DEF), only validation calls for those domains that exist will be generated.
- If the optimize processing option in the #DEF is set to Y, Ad/Advantage generates certain validation into the program (calls to user validation routines and calls to validate against a file or table) directly in the program instead of call SYS_TEXT.
- On UNIX (and VMS) platforms, the Ad/Advantage file VPF:ADV_DOMAIN can be put into the shared entity pool. Reducing physical I/O to this file has a marked performance improvement.

Native language support (NLS)

AD/Advantage II supports the generation of multilanguage applications. Enabling NLS in AD/Advantage requires the following steps:

1. Update the Generator transaction definitions, #GENSQL and #GENIND. Append ,NLS to the userdata field. For example, it will then read:

   ```
   <<TMP>>,NLS
   ```

   This tells the generator to generate NLS transactions.

2. Update the templates (programs in the MASTER user prefixed ADV_TMP), changing <<SCREEN>> to <<NLSSCREEN>> and move the SCREEN statement to after the line that reads SYSLANGID=SYST (4, 25, 27).

3. Define the user transaction specifying descriptions for each language to be supported. For example, enter ENU and DEU descriptions to generate a transaction to support English and German.

The generator will generate a separate screen (with a 3-character language prefix) for each language. For example, the German screen will be DEU*xxxxxxx*. Also, the generator will read the field help titles for each field and use these as screen titles if they exist. Therefore, it is a good idea to setup the field help for each field and language before running the generator.

Support for full display screens (24 lines)

AD/Advantage will generate Full Display Screens. However, system messages will no longer display on the bottom line of the screen. It is the responsibility of the user programs to put the messages onto the screens.

To set up AD/Advantage to generate Full Display Screens:

1. Append ,FDSP to the userdata field of the #GENSQL and #GENIND transactions. For example, the userdata will become <<TMP>>,FDSP. This tells the AD/Advantage generator to generate full display screens.

2. Run the program VPF:ADV_INS_FULL_DISPLAY. This will modify some of the system pop-up screens so that they are also full display.

3. Modify your header and trailer screens so that they are full display and modify the templates so that the messages are displayed (usually in a message field in the trailer screen).

8

Maintaining AD/Advantage

To maintain your AD/Advantage system, you will need to know how to do the following:

System administration function	See section
Edit System Transactions	“Editing system transactions” on page 218.
List System Transactions	“Listing system transactions” on page 220.
Print System Transactions	“Printing system transactions” on page 235.
Monitor Transaction Usage	“Monitoring transaction usage” on page 249.
Migrate the AD/Advantage Dictionary between Systems	“Migrating the AD/Advantage dictionaries between systems #MIGDIC” on page 256.
Changing the Special Character for System Transactions	“Changing the special character for system transactions #UPDCHAR” on page 260.

Editing system transactions

You can edit the following system transactions at any time:

- Application Generation Parameters
- Keys and Commands
- Personal IDs
- Subsystems
- System Configuration Parameters
- Transaction Authorizations
- User Groups
- User Messages

"Setting up AD/Advantage" starting on page 163 shows the screen layout and field descriptions for these transactions. The same information provided in Chapter 2 also applies when you are editing system transactions. Therefore, use the following matrix to determine which section to turn to for more information:

To edit	Enter the following at the command line	and see section
Application Generation Parameters	#DEF	"Setting application generation defaults #DEF" on page 178.
Keys and Commands	#PFK	"Setting keys and commands #PFK" on page 186.
Personal IDs	#ID	"Setting up personal IDs #ID" on page 189.
Subsystems	#SUB	"Setting up subsystems #SUB" on page 198.
System Configuration Parameters	#PARM	"Setting system parameters #PARM" on page 167.
Transaction Authorizations	#AUTH	"Defining transaction authorization #AUTH" on page 203.
User Groups	#GROUP	"Setting up user groups #GROUP" on page 196.
User Messages	#MSG	"Setting up user messages #MSG" on page 200.

Listing system transactions

You can display a directory style listing for Authorization records, Personal IDs, Subsystems, Groups and User Messages. From these listings, you can perform various functions, such as editing or deleting an item.

For example, you may want to edit a particular menu definition, but you forget the menu's transaction ID. To access all menus defined in AD/Advantage, you type the transaction #MENUL (which stands for *list menus*). The menu listing shows each menu ID and all transactions on that menu. Type an S in the Selection field next to the menu you want to edit. AD/Advantage displays the menu definition and you can edit it as you require.

When you enter a transaction listing, only user-defined transactions (nonsystem transactions) display. To list system transactions as well, press the First key. When you press the First key, AD/Advantage lists all system transactions first (system transactions begin with a hash sign by default), and then user-defined transactions.

In maintaining AD/Advantage, you may want to display or view a directory-style listing of the system transactions in the following table. However, AD/Advantage has many more transactions that provide a directory-style listing. Refer to *AD/Advantage Programming*, P39-7001, for more information.

System transaction	See section
Authorizations #AUTHL	"Authorizations #AUTHL" on page 221.
Personal IDs #IDL	"Personal IDs #IDL" on page 224.
Subsystems #SUBL	"Subsystems #SUBL" on page 226.
System and User Parameters #DEBUG	"System and user parameters #DEBUG" on page 228.
User Groups #GROUPL	"User groups #GROUPL" on page 229.
User Messages #MSGL	"User messages #MSGL" on page 231.

Authorizations #AUTHL

To list authorization records, use the following #AUTHL transaction:

Some transactions may show no group or personal IDs authorized for them. This means that everyone on the system can access those transactions. Also, an authorization record (without a group or personal ID authorized) is automatically created by the system for new transactions.

```
                    List Transaction Authorizations (#AUTHL)
===>                                                        YYYY.MM.DD HH:MM PC-
--------------------------------------------------------------------------------
 S    Trans-ID   Group-ID Personal-ID
 _    #ACCL1     ADMIN
 _    #ACCL1     DEVELOP
 _    #ACCL2     ADMIN
 _    #ACCL2     DEVELOP
 _    #ACCL3     ADMIN
 _    #ACCL3     DEVELOP
 _    #ADMIN     ADMIN
 _    #AUTH      ADMIN
 _    #AUTHL     ADMIN
 _    #AUTHL     DEVELOP
 _    #CINT      ADMIN
 _    #CINT      DEVELOP
 _    #CPY-IN    ADMIN
 _    #DATAL     ADMIN
 _    #DATAL     DEVELOP
 _    #DDEF      ADMIN
F1-------F3-------F8-------F10------F12------F14------CANCEL-------------------
HELP     EXIT      FWD      EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on the authorization record.

Format 1 alphabetic character

Options

S	Displays the Edit Transaction Authorization (#AUTH) screen with the corresponding record. See "Defining transaction authorization #AUTH" on page 203 for information on editing the record.
D	Deletes the transaction authorization record.

If you plan to create a new authorization record for a transaction that has an authorization record without a group or personal ID specified, you should delete the existing authorization record before adding the new one.

Trans-ID

Description *Conditional*. Displays the authorization records in alphabetical order. The first field in the Trans-ID column is *Optional*. You can use it to list from a specific record forward. All remaining fields in the Trans-ID column are *Display only*.

Format 8 alphanumeric characters

Consideration To list from a specific authorization record forward, enter the record's transaction ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new record forward.

Group-ID

Description *Display*. Specifies the group IDs that are authorized to use the transactions.

Consideration Overtype the first group or personal ID in the list and press the Forward function key to list all authorizations for a particular group or personal ID.

Date/Time Changed

Description *Display*. Specifies the date and time of the last change to the authorization.

Personal_ID

Description *Display*. Specifies the Personal_ID of the user who made the last change to the authorization.

Terminal

Description *Display*. Specifies the Terminal of the user who made the last change to the authorization.

Personal-ID

Description *Display*. Specifies the personal IDs that are authorized to use the transactions.

Personal IDs #IDL

To list personal IDs, use the #IDL transaction shown below:

```
                          List Personal IDs (#IDL)
===>                                                    YYYY.MM.DD HH:MM PC-
------------------------------------------------------------------------------
S Personal-ID      Name                          Lng Start-ID Mantis-User
_ ADMIN            USER, ADMIN                   ENU #MSYS    EXAMPLES
_ DEVELOP          USER, DEVELOPER               ENU #SYS     EXAMPLES
_
_
_
_
_
_
_
_
_
_
_
_
_
_
F1-------F3-------F8-------F9-------F10------F12------F14------CANCEL----------
HELP     EXIT     FWD      PRINT    EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on the personal ID.

Format 1 alphabetic character

Options

S	Displays the Edit Personal IDs screen (#ID) with the corresponding personal ID. See “Setting up personal IDs #ID” on page 189 for information on editing personal IDs.
D	Deletes the personal ID.
R	Reset a single user sign-on record for a personal ID. Use this if a personal ID cannot sign-on and gets the message “User Already Signed On”. Resetting the ADMIN Personal-ID resets all personal IDs.

Personal-ID

Description *Conditional*. Lists the personal IDs in alphabetical order. The first field in the Personal-ID column is *Optional*. You can use it to list from a specific personal ID forward. All remaining fields in the Personal-ID column are *Display only*.

Format 1–16 alphanumeric characters

Consideration To list from a specific personal ID forward, type the personal ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new personal ID forward.

Name

Description *Display*. Specifies the user's first and last name.

Lng

Description *Display*. Specifies the system language for the user.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Start-ID

Description *Display*. Specifies the transaction that displays when the user first signs on to the system.

Mantis-User

Description *Display*. Specifies the MANTIS user to which the personal ID signs on.

Subsystems #SUBL

To list subsystems, use the #SUBL transaction shown below:

```
                          List Subsystems (#SUBL)
===>                                                  YYYY.MM.DD6 HH:MM PC-00
--------------------------------------------------------------------------------
S Subsystem   Subsystem Name
_ ADV         AD/Advantage System Functions
_ DEV         Developer Subsystem
_
_
_
_
_
_
_
_
_
_
_
_
_
F1-------F3-------F8-------F9-------F10------F12------F14------CANCEL----------
HELP     EXIT     FWD      PRINT    EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on the subsystem.

Format 1 alphabetic character

Options

S	Displays the Edit Subsystems screen (#SUB) with the corresponding subsystem. See "Setting up subsystems #SUB" on page 198 for information on editing subsystems.
D	Deletes the subsystems.

Subsystem

Description *Conditional*. Lists the subsystem IDs in alphabetical order. The first field in the Subsystem column is *Optional*. You can use it to list from a specific subsystem forward. All remaining fields in the Subsystem column are *Display only*.

Format 3 alphanumeric characters

Consideration To list from a specific subsystem forward, type the subsystem ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new subsystem forward.

Subsystem Name

Description *Display*. Specifies the name of the subsystem.

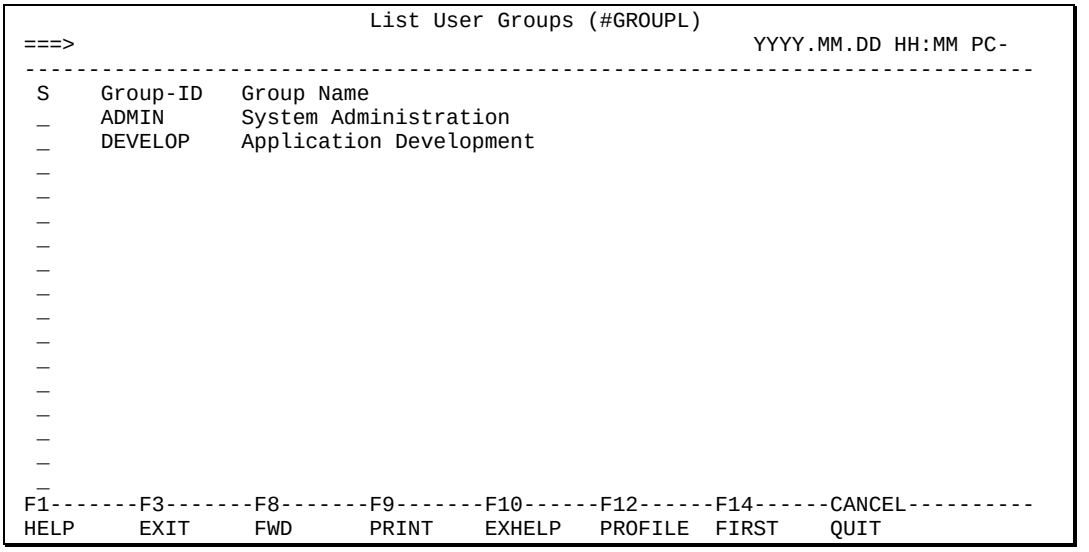
System and user parameters #DEBUG

To display the areas of the system parameter SYST and the user parameters USRT, USRN, and USRK, use the #DEBUG transaction shown below. When you enter #DEBUG at the command line, the SYST parameter area displays first. Press the Forward key to access each subsequent parameter area (USRT, USRN, and then USRK).

```
                        Debug Program Parameters (#DEBUG)
===>                                                      YYYY.MM.DD HH:MM PC-
--------------------------------------------------------------------------------
Variable......  SYST

        10        20        30        40        50        60        70        8
----.----:----.----:----.----:----.----:----.----:----.----:----.----:----.----
HELP    EXECUTE EXIT    INSERT  UPDATE  DELETE  BACKWARDFORWARD PRINT   EXHLP
PF1-----PF2-----PF3-----PF4-----PF5-----PF6-----PF7-----PF8-----PF9-----PF10---
HELP            EXIT                                    FWD             EXHELP
BRI,CUR             .24 ENUENUENUPC     F3=EXIT F7=BWD F8=FWD
ADMIN           ADMIN   A        PF3   PF8   PF7   PF1   CANCEL   #DEBUG  #MSYS
#DEBUG  #MSGL   #MSG    #GROUP  #GROUPL #GROUP  #GROUPL #SUBL   #SUB    #SUBL
HELP     EXIT     FWD      EXHELP   PROFILE  LEFT     RIGHT    QUIT
HELP    EDIT    EXIT    INS     UPD     DEL     BWD     FWD     PRINT   EXHELP
PRIN            KILL    PC-




F1-------F3-------F8-------F10------F12------F19------F20------CANCEL----------
HELP     EXIT     FWD      EXHELP   PROFILE  LEFT     RIGHT    QUIT
```

User groups #GROUPL

To list user groups, use the #GROUPL transaction shown below:



Enter data in the appropriate fields:

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on the group.

Format 1 alphabetic character

Options

S	Displays the Edit User Groups screen (#GROUP) with the corresponding user group. See "Setting up user groups #GROUP" on page 196 for information on editing user groups.
D	Deletes the user group.

Group-ID

Description *Conditional*. Lists the user group IDs in alphabetical order. The first field in the Group-ID column is *Optional*. You can use it to list from a specific user group forward. All remaining fields in the Group-ID column are *Display only*.

Format 1–8 alphabetic characters

Consideration To list from a specific user group forward, type the group ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new user group forward.

Group Name

Description *Display*. Specifies the name of the group.

User messages #MSGL

To list user messages, use the #MSGL transaction shown below:

```
                          List User Messages (#MSGL)
===>                                                    YYYY.MM.DD HH:MM PC-75
------------------------------------------------------------------------------
S Lng Sys No  I Message Text
_ ENU ADV ?*= I Invalid Operator, only = * ? /
_ ENU ADV ASS E Please assign the Keys of the Secondary File
_ ENU ADV BUF E Please insert the Header Record first
_ ENU ADV BYE I Do You really want to quit?
_ ENU ADV C01 E This Field is required
_ ENU ADV C02 E Key in complete length
_ ENU ADV C03 E Wrong value on position #, the format is:  #
_ ENU ADV C04 E Invalid, press # for more Information
_ ENU ADV C05 E Input must be between #
_ ENU ADV C06 E Value invalid, next record read
_ ENU ADV CFP E The Program was not found
_ ENU ADV CGE I Generation canceled
_ ENU ADV CHA E You cannot enter an Entity beginning with #
_ ENU ADV CIN E Invalid command
_ ENU ADV CL1 I Transactions available to you
_ ENU ADV CL2 I Your Personal Synonyms
F1-------F3-------F8-------F9-------F12------F14------CANCEL-------------------
HELP     EXIT     FWD      PRINT    PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on the user message.

Format 1 alphabetic character

Options

S	Displays the Edit User Messages (#MSG) screen with the corresponding message. See "Setting up user messages #MSG" on page 200 for information on editing the message.
D	Deletes the message.

Lng

Description *Conditional*. Lists the messages' language IDs in alphabetical order. The first field in the Lng column is *Optional*. You can use it to list from a specific language forward. All remaining fields in the Lng column are *Display only*.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format 3 alphanumeric characters

Consideration To list from a specific user message forward, type the message's language ID in the Lng field (or its first few characters), the subsystem ID in the Sys field, the number in the No field, and press the Forward key.

Sys

Description *Conditional*. Lists the messages' subsystem IDs in alphabetical order. The first field in the Sys column is *Optional*. You can use it to list from a specific subsystem forward. All remaining fields in the Sys column are *Display only*.

Format 3 alphanumeric characters

Consideration To list from a specific user message forward, type the message's language ID in the Lng field, the subsystem ID in the Sys field (or its first few characters), the number in the No field, and press the Forward key.

No

Description *Conditional*. Displays the messages' numbers in alphanumeric order. The first field in the No column is *Optional*. You can use it to list from a specific number forward. All remaining fields in the No column are *Display only*.

Format 3 alphanumeric characters

Consideration To list from a specific user message forward, type the message's language ID in the Lng field, the subsystem ID in the Sys field, the number (or its first few characters) in the No field, and press the Forward key.

I (Indication of Severity)

Description *Display*. Indicates the severity level of the user's input.

Options

I	Informational
W	Warning
A	Action required
C	Confirmation
E	Error
F	Fatal

Message Text

Description *Conditional*. Displays the text of the messages. The first field in the message column is *Optional*. You can use it to list all messages that contain certain words in their text (description). All remaining fields on the screen are *Display only*.

Format 1–70 alphanumeric characters, including delimiters

Consideration To list all messages, which contain certain word(s) in their text, do the following:

1. Position your cursor in the first Message Text field.
2. Delete the current message displaying.
3. Type the word(s) for which you are searching.
4. Press the Forward key.

You get a listing of all messages that contain the words you typed.

Example You want to get a listing of all the messages that contain the word Program in their text. Tab to the Message Text field, overtype the current message, type the word Program and press the Forward key. AD/Advantage displays all messages that have the word Program in their text.

Printing system transactions

In maintaining AD/Advantage, you may want to use the following print transactions:

System transaction	See section
Keys and Commands #PFKP	“Keys and commands #PFKP” on page 236.
Personal IDs #IDP	“Personal IDs #IDP” on page 238.
Transaction Definitions #TRNP	“Transaction definitions #TRNP” on page 240.
User Groups #GROUPP	“User groups #GROUPP” on page 242.
User Messages #MSGP	“User messages #MSGP” on page 244.

Keys and commands #PFKP

To print the defaults for keys and commands, use the #PFKP transaction shown below.

Throughout this manual, we refer to keys rather than function keys.

```
                    Print Function Keys and Commands (#PFKP)
===>                                                    YYYY.MM.DD HH:MM PC-
--------------------------------------------------------------------------------


Printer-ID.............  PRIN

                         Language
                         ----------------
From Key...............  ________________

To Key.................  ________________









F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. The Language ID of either:

- A single key/command record you want to print, or
- The *first* key/command record if you are printing a range of records. When printing a range of records, you must enter the language ID of the *last* record in the To Key field (see below).

Format 3 alphanumeric characters

To Key

Description *Required* if you want to print a range of key records. Specifies the language ID of the last record in the range.

Format 3 alphanumeric characters

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Personal IDs #IDP

To print personal ID records, use the #IDP transaction shown below:

```
                          Print Personal IDs (#IDP)
===>                                                  YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------


Printer-ID.............  PRIN                    0 Pages printed

                        Personal-ID
                        ----------------
From Key...............  _________________

To Key.................  _________________









F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. The personal ID of either:

- A single personal ID record you want to print, or
- The *first* personal ID record if you want to print a range of records. When printing a range of records, you must enter the personal ID of the *last* record in the To Key field (see below).

Format 1–16 alphanumeric characters

To Key

Description *Required* if you want to print a range of personal ID records. Specifies the personal ID of the last record in the range.

Format 1–16 alphanumeric characters

Transaction definitions #TRNP

To print transaction definition records, use the #TRNP transaction shown below:

```
                    Print Transaction Definitions (#TRNP)
===>                                                  YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------


Printer-ID.............  PRIN                     0 Pages printed

                        Trans-ID
                        ----------------
From Key...............  ________________

To Key.................  ________________


Mode...................  ______ (LIST or DETAIL)




F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. The transaction ID of one of the following:

- A single transaction definition you want to print.
- The *first* transaction definition if you want to print a range of definitions. When printing a range of definitions, you must enter the transaction ID of the *last* record in the To Key field (see below).

Format 1–8 alphanumeric characters

To Key

Description *Required* if you want to print a range of transaction definitions. Specifies the transaction ID of the last record in the range.

Format 1–8 alphanumeric characters

Mode

Description *Optional*. Specifies whether you want AD/Advantage to print one transaction definition per line or one transaction definition per page.

Options

Detail	Prints one transaction definition per page.
List	Prints one transaction definition per line.

User groups #GROUPP

To print user group records, use the #GROUPP transaction shown below:

```
                          Print User Groups (#GROUPP)
===>                                                    YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------


Printer-ID.............  PRIN                    0 Pages printed

                        Group-ID
                        ----------------
From Key...............  ________________

To Key.................  ________________









F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. The group ID of one of the following:

- A single group record you want to print.
- The *first* group record if you want to print a range of records. When printing a range of records, you must enter the group ID of the *last* record in the To Key field (see below).

Format 1–8 alphanumeric characters

To Key

Description *Required* if you want to print a range of group records. Specifies the group ID of the last record in the range.

Format 1–8 alphanumeric characters

User messages #MSGP

To print user messages, use the #MSGP transaction shown below:

```
                          Print User Messages (#MSGP)
===>                                                  YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------


Printer-ID.............  PRIN                          0 Pages printed

                         Language-ID      Subsystem        Message-No.
                         ---------------- ---------------- ----------------
From Key...............  ________________ ________________ ________________

To Key.................  ________________ ________________ ________________









F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. Specifies the Language ID, Subsystem, and Message No. of one of the following:

- A single message you want to print.
- The *first* message if you want to print a range of messages. When printing a range of messages, you must enter the Language ID, Subsystem, and Message No. of the *last* message in the To Key field (see below).

Format 3 alphanumeric characters for Language ID, Subsystem, and Message No.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

To Key

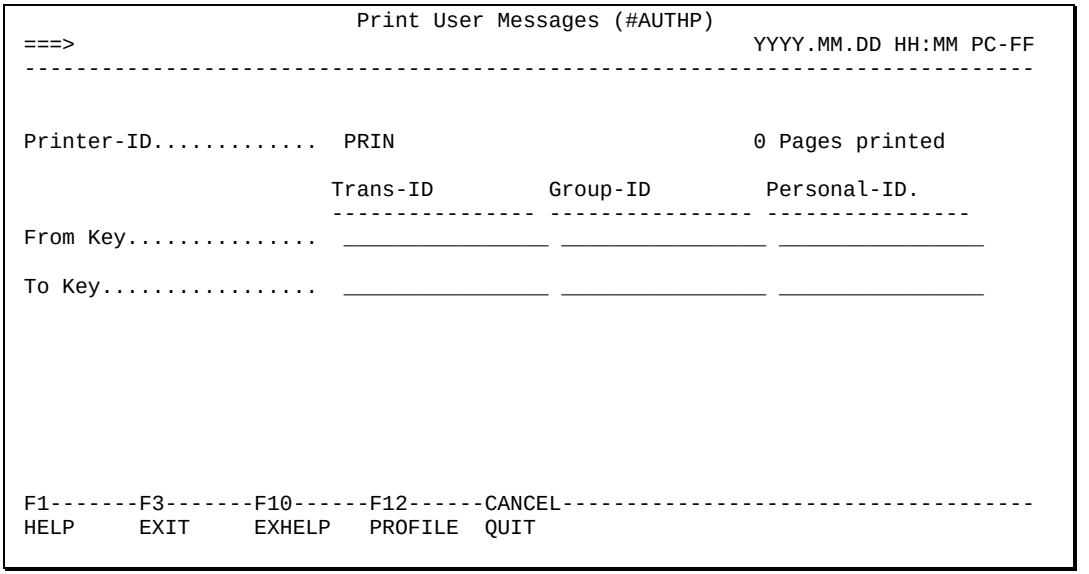
Description *Required* if you want to print a range of messages. Specifies the Language ID, Subsystem, and Message No. of the last messages in the range.

Format Three alphanumeric characters for Language ID, Subsystem, and Message No.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Authorizations #AUTHP

To print authorizations, use the #AUTHP transaction as shown in the following example:



Enter data in the appropriate fields:

Printer-ID

Description *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default The printer ID that your system administrator specified in your personal ID

Format 1–16 alphanumeric characters

Consideration Enter SCREEN in this field to print to the screen.

Pages Printed

Description *Display*. Specifies the number of pages the printer has printed.

From Key

Description *Required*. The Trans ID, Group ID, and Personal ID of one of the following:

- A single authorization you want to print.
- The *first* authorization if you want to print a range of messages. When printing a range of authorizations, you must enter the Trans ID, Group ID, and Personal ID of the *last* authorization in the To Key field (see below).

Format 3 alphanumeric characters for Trans ID, Group ID, and Personal ID.

To Key

Description *Required* if you want to print a range of authorizations. Specifies the Trans ID, Group ID, and Personal ID of the last messages in the range.

Format 3 alphanumeric characters for Trans ID, Group ID, and Personal ID.

Monitoring transaction usage

The following sections show how to monitor the transaction usage in AD/Advantage. #ACCL1 records the transactions you use in the system, #ACCL2 lists the most commonly used transactions, and #ACCL3 lists hourly transaction usage.

The Transaction Journal field setting in #PARM directly affects the #ACCL1, #ACCL2, and #ACCL3 transactions. If the Transaction Journal field is set to Y, transactions will be logged the next time you sign on to the system. If the Transaction Journal field is left blank, the #ACCL1, #ACCL2, and #ACCL3 transactions will not be active; that is, AD/Advantage will not log transactions.

In addition, the Trans Journal field setting in #TRN directly affects the #ACCL1, #ACCL2, and #ACCL3 transactions. If the Trans Journal field is set to Y for a given transaction, that transaction will be logged the next time you sign on to the system. If the Trans Journal field is left blank, AD/Advantage will not monitor that transaction.

Listing the AD/Advantage audit trail #ACCL1

To display a list of the transactions used in the system, use the #ACCL1 transaction shown below:

```
                      Audit Trail Information (#ACCL1)
===>                                                  YYYY.MM.DD HH:MM PC-00
-------------------------------------------------------------------------------
          Date     Time     Trans-ID Personal-ID      Terminal Function
          YY/MM/DD HH:MM:SS #ID      ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #MENU    ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #ACCL1   ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #TRN     ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #AUTH    ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #AUTHL   ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #IDL     ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #ID      ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #ACCL1   ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #PARM    ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #AUTH    ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #AUTHL   ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #SUB     ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #SUBL    ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #SUB     ADMIN            PC-00000 ..BEGIN
          YY/MM/DD HH:MM:SS #ACCL1   ADMIN            PC-00000 ..BEGIN
F1-------F3-------F8-------F10------F12------F14------CANCEL-------------------
HELP     EXIT     FWD      EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

Date

Description *Optional*. Specifies the date that the transaction was last used.

Format YY/MM/DD

Consideration You can overtype the first date in the list and press the Forward key to display the list from a specific date forward.

Time

Description *Optional*. Specifies the time that the transaction was last used.

Format HH:MM:SS

Consideration You can overtype the first time in the list and press the Forward key to display the list from a specific time forward.

Trans-ID

Description *Display*. Specifies the ID code of the transaction.

Personal-ID

Description *Display*. Specifies a user's personal identification code.

Terminal

Description *Display*. Specifies the address of the terminal on which the given transaction was run.

Function

Description *Display*. Specifies the command executed for a transaction.

Consideration ..BEGIN, which indicates that a transaction was started, is the only function AD/Advantage currently supports.

Listing the most commonly used AD/Advantage transactions #ACCL2

To display a list of the most commonly used transactions, use the #ACCL2 transaction shown below. If you do not specify a beginning and end date for this transaction, #ACCL2 displays only the current day's transactions.

```
                    Most Used AD/A Transactions (#ACCL2)
===>                                                  YYYY.MM.DD HH:MM PC-00
--------------------------------------------------------------------------------
Please specify (YY/MM/DD),    From Date.  YY/MM/DD To Date.  YY/MM/DD
--------------------------------------------------------------------------------
S Trans-ID Used
_ #ACCL1   4-------------------------------------------------------------------
_ #ACCL2   3-----------------------------------------------
_ #ID      2--------------------------------
_ #AUTH    2--------------------------------
_ #AUTHL   2--------------------------------
_ #SUB     2--------------------------------
_ #MENU    1----------------
_ #TRN     1----------------
_ #IDL     1----------------
_ #PARM    1----------------
_ #SUBL    1----------------
_ #ACCL3   1----------------


F1-------F3-------F7-------F8-------F9-------F10------F12------CANCEL----------
HELP     EXIT     BWD      FWD      PRINT    EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

From Date

Description *Optional*. Specifies a beginning date for the list of the most commonly used transaction(s).

Default Current date

Format YY/MM/DD

Consideration You can overtype the current date and press Enter to display the most commonly used transactions from a new start date.

To Date

Description *Optional*. Specifies an ending date for the list of the most commonly used transactions.

Default Current date

Format YY/MM/DD

Consideration You can overtype the current date and press Enter to display the most commonly used transactions from a new end date.

S (Selection)

Description *Optional*. Specifies the type of action you want to perform on a transaction.

Format 1 alphabetic character

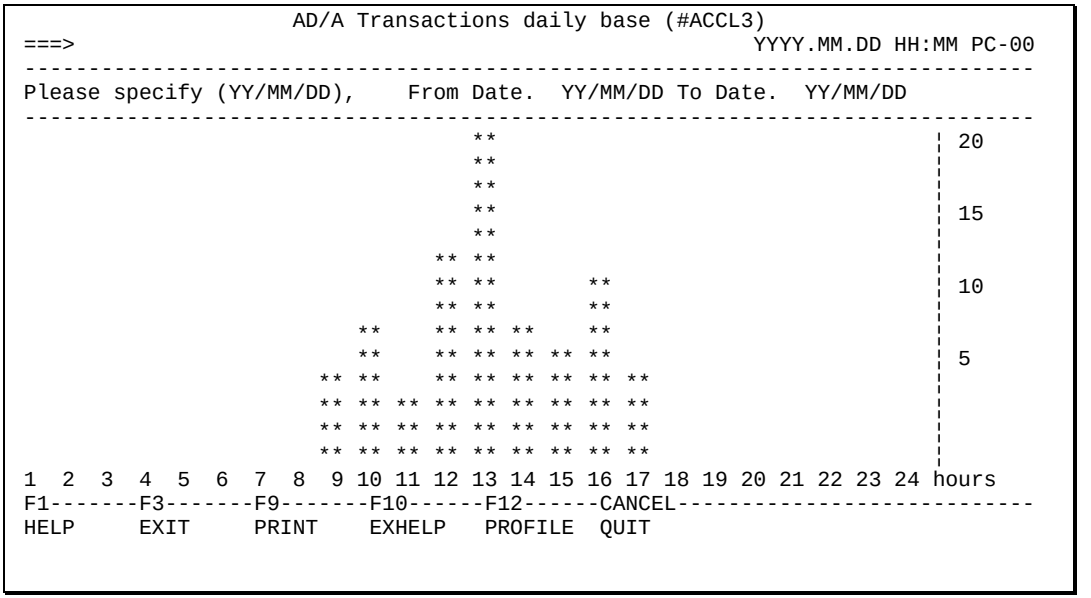
Option S Displays the Edit Transaction Definitions screen (#TRN) with the corresponding transaction. For information on editing transactions with #TRN, refer to *AD/Advantage Programming*, P39-7001.

Trans-ID

Description *Display*. Specifies the ID code of the transaction.

Displaying hourly transaction usage #ACCL3

To display a list of hourly transaction usage, use the #ACCL3 transaction shown below:



Enter data in the appropriate fields:

From Date

Description *Optional*. Specifies a beginning date for the list of hourly transaction usage.

Default Current date

Format YY/MM/DD

Consideration You can overtype the current date and press Enter to display the list of hourly transaction usage.

To Date

Description *Optional*. Specifies an ending date for the list of hourly transaction usage.

Default Current date

Format YY/MM/DD

Consideration You can overtype the current date and press Enter to display the list of hourly transaction usage with a different end date.

General consideration

- If you do not specify a beginning and end date for this transaction, #ACCL3 displays only the current day's transactions.

Migrating the AD/Advantage dictionaries between systems #MIGDIC

You can migrate the AD/Advantage dictionaries between systems (e.g., between the mainframe and PC, or from test to production) using the #MIGDIC transaction shown below. This transaction generates programs which can then be transferred to the target platform (using the MANTIS Transfer Facility or Universal Export Facility). Once the programs are on the target system, you can run them (in MANTIS) to populate the AD/Advantage dictionaries.

The #MIGDIC transaction only migrates AD/Advantage entities. It does not migrate MANTIS entities including programs, screens, and views developed in AD/Advantage. To migrate MANTIS programs, screens, and views, use the MANTIS Transfer facility or the Universal Export Facility.

For more information on the MANTIS Transfer Facility and the Universal Export Facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

You can group all of your entities by subsystem so that each AD/Advantage entity associated with a subsystem will be migrated. In addition, you can selectively migrate entities or designate only the changed entities to be migrated.

To generate the programs for migration, press the Generate key or type GEN at the command line and press Enter:

```
                          Migrate Dictionary (#MIGDIC)
===>                                                        YYYY.MM.DD HH:MM PC-00
--------------------------------------------------------------------------------
Migration by Subsystem:  ___
                         Programs to be created
   Transactions......  _  LOAD_TRAN_____________________________
   Help Text.........  _  LOAD_HELP_____________________________
   Messages..........  _  LOAD_MSG______________________________
   Domains...........  _  LOAD_DOMAIN___________________________
   Domain Help.......  _  LOAD_DOMAINHELP_____________________
   Menus.............  _  LOAD_MENU_____________________________
Subsystem as Selection is only used for above Entities
--------------------------------------------------------------------------------
   Subsystem.........  _  LOAD_SUBSYSTEM________________________
   Groups............  _  LOAD_GROUP____________________________
   Personal IDs......  _  LOAD_ID_______________________________




F1-------F2-------F3-------F10------F12------F13------CANCEL-------------------
HELP     EDIT     EXIT     EXHELP   PROFILE  GEN      QUIT
```

Enter data in the appropriate fields:

Migration by Subsystem

Description *Required*. Specifies the subsystem identification code.

Format Three alphanumeric characters

S (Selection) (field untitled on screen)

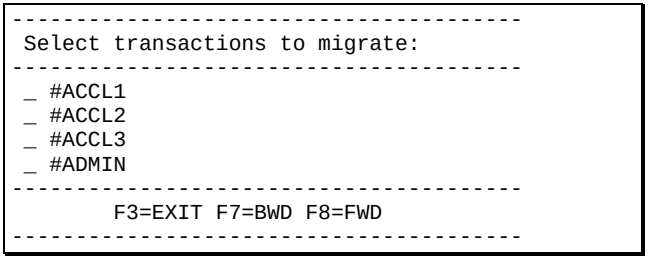
Description *Optional*. Specifies which entities you want to migrate. Enter a value in this column for each entity type you want to migrate: transactions, help text, messages, domains, domain help, and menus.

Default (blank)

Format 1 alphabetic character

Options

S — Select entities to be migrated. If you select this option, the system prompts you to designate the entities you want to migrate as shown below:



Y — Migrate all entities.

C — Migrate only changed entities.

(blank) — Do not migrate any entities.

Programs to be created

Description *Optional*. Specifies the name of the program(s) containing the entities to be migrated.

Format 1–32 alphabetic characters

Considerations

- The entities for the last three programs to be created, subsystem, groups, and personal IDs, cannot be migrated by subsystem since you do not assign these entities to a subsystem.
- When the program generated would exceed the size limits of mainframe MANTIS, additional programs will be generated with a suffix of 2, 3, 4, and so on.

Changing the special character for system transactions #UPDCHAR

As supplied, all AD/Advantage system transactions begin with the special character # (hash). You can change the system special character using the #UPDCHAR transaction, as shown below:

Before running this program, do the following:

1. Ensure that no one is logged onto the system, and
2. Make a backup copy of the Ad/Advantage cluster.

```
                  Update the Special System Character (#UPDCHAR)
===>                                                  1994.06.28 13:59 PC-
--------------------------------------------------------------------------------

   Run this Program only when nobody is logged on to the System


The Current Special Character is #

The New Special Character is.... _


This Program changes all System Entities in the Dictionary containing
this character.

Before this Program is run, a Backup Copy of the AD/Advantage Cluster is
recommended, in case an Entity could not be updated.

Press the Generate Key to start the Process.

F1-------F3-------F10------F12------F13------CANCEL-----------------------------
HELP     EXIT     EXHELP   PROFILE  GEN      QUIT
```

Enter data in the appropriate fields:

The Current Special Character is #

Description *Display*. Specifies the current special system character.

Default hash character (#)

The New Special Character is

Description *Display*. Specifies the current special system character.

9

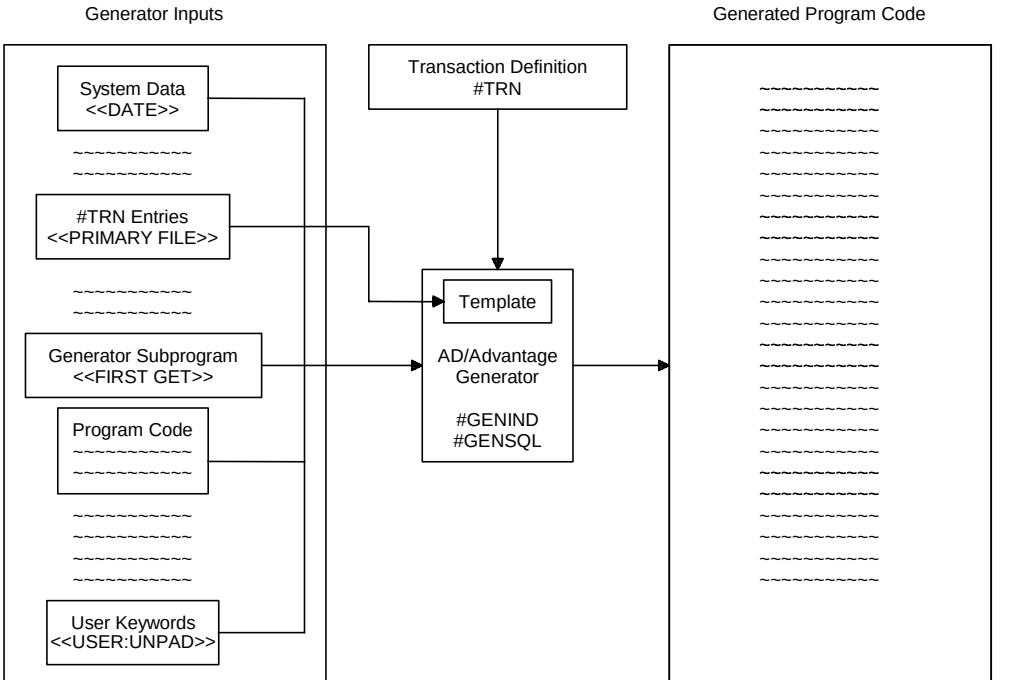
Using templates

Understanding the template principle

Warning: The templates installed with AD/Advantage are MANTIS programs capable of being modified by the MANTIS MASTER user. Only the AD/Advantage system administrator should be authorized to change a template or create a new one. By doing this, you will ensure that applications developed from the same template are consistent.

AD/Advantage uses templates as a standard means of generating programs. Since programs typically have different standards and different processing requirements, it is difficult for a generator to gauge a given program's requirements. This method requires a generator to have built-in logic. Templates, on the other hand, force the logic to reside within the program itself. The template contains standardized portions of a program so that the generator can correctly read this information and generate the program appropriately.

The following figure illustrates that a template acts as a filter for the #TRN entries within AD/Advantage. These entries are translated into keywords for the generator. Keywords serve as the building blocks for the program code, a means for the generator to fill in program-specific data within the standard program code. The #TRN entries (especially the type of transaction and the database used) are input to the keywords in the template. In the generation process, the generator reads the keywords and puts blocks of code behind them to populate the template. Once the template is populated, it is finally processed into the completed program.



There are two generators within AD/Advantage. The first generator is designed to process nonSQL database transactions. This generator is called by the #GENIND transaction. The other generator, called by the #GENSQL transaction, is used to process SQL database transactions. When you first save a transaction, AD/Advantage automatically determines which generator to use based on the File Type field entry within #TRN.

File types of INT, EXT, DL/I, PDM, RDM, and INF use the #GENIND generator. File types of SQL use the #GENSQL generator. These transactions will be automatically activated when you generate the transaction within the transaction definition itself. Otherwise, you can generate the transaction by choosing the one of the generators and entering a transaction ID to generate. For more information about #GENIND and GENSQL, refer to *AD/Advantage Programming*, P39-7001.

Your entries within the Records on Screen, the Secondary File, and File Type fields in #TRN determine which template AD/Advantage uses to build a program. In addition, the Primary File and Secondary File fields determine whether the transaction uses single, list, or mixed record processing.

The application development life cycle consists of the following processes:

- Once you have saved the transaction definition, the entries in #TRN determine which template AD/Advantage uses to develop the application.
- At generation, the system processes the template line-by-line, including user and system keywords.
- After the template has been processed completely, the system builds the outputted program.
- After the program has been generated, it then becomes the program called by the transaction defined in #TRN.

What is a template?

A template is a MANTIS program. You can add, modify, and delete templates in the same way that you would any other MANTIS program. All templates are stored in the MANTIS MASTER user and use the ADV_TMP_ prefix.

Understanding the association between templates and the generator

The entries within #TRN define which template the generator should use to build a given program. Specifically, the File Type and Records on Screen fields determine which template the generator will use to build the program.

For example, if a developer defines a transaction in #TRN with a PDM file type, a primary file, and the records on screens as "1," the template used to generate the program will be ADV_TMP_SINGLE_PDM. Note that the templates in AD/Advantage all begin with ADV_TMP_ as the prefix.

Example. If a developer defines a transaction with more than one record on screen for an SQL database, the template format would be ADV_TMP_LIST_*database name*. The specific database name would be determined from the Database Type field in #PARM. In addition, if the secondary file field is filled in for a PDM file, the template ADV_TMP_MIXED_PDM will be used. Currently, mixed transactions are only supported for PDM, DLI, and Indexed records (VSAM, LEASY, and RMS).

A template to support MIXED SQL applications is not available at this time.

Activating the generator

The AD/Advantage generator is activated based on keywords, which take their cue from the specific entries a developer supplies in a transaction definition. The keywords display in the format << keyword >> within a template. The keywords provide recognizable points for the generator behind which the generator can populate MANTIS code. After the template's keywords have been filled in with code (that is, it has been populated), the generator then processes the template to form the program defined in the transaction.

Using supplied templates

At installation, AD/Advantage loads pre-defined templates into the MANTIS cluster. For a list of the supplied templates for each of the file types AD/Advantage supports, see the “Supplied templates” on page 271.

Before you initiate any changes to the supplied templates, we recommend that you make a backup copy. You can perform a backup of the templates using the MANTIS Transfer Facility. For more information on this facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

Since a template is a MANTIS program, you can access a template and change it using the Program Design Facility within MANTIS MASTER User. For more information on this facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

Creating new templates

To create a new template, perform the following steps:

1. Create the new template in MANTIS (that is, create a MANTIS program in the MASTER User). For more information on the Program Design Facility within MANTIS, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300. For example, the new template could be called NEWTEMP.

2. Create a new transaction definition (in #TRN). For this example, we will create a transaction definition called NEWGEN. In the User Data field, enter the name of the MANTIS program you created in the first step. This indicates to AD/Advantage that you do not want to use the default #GENIND or #GENSQL generators. Rather, when a developer wants to use the NEWTEMP template, the developer can enter NEWTEMP in the User Data field of their transaction definitions.

```
                    Edit Transaction Definitions (#TRN)
===>                                                    YYYY.MM.DD HH:MM PC-00
--------------------------------------------------------------------------------
Trans-ID........  NEWGEN__ Desc New AD/A GENERATOR_____________________________ ENU
Subsystem.......  ADV   Program MASTER:NEWGEN_____________________   Type...  4
User Data.......  NEWTEMP_____________________
SQL-Options.....  _
Trans Journal...  _  System-Language..  _ Disabled..  _    Disable Tran-Path..  _
---------------------------------- Commands ----------------------------------
      General Get-Back..  _ Get-Forw..  _ Confirm...  _ Print.....  _ Search... _
              First.....  _ Last......  _ Left......  _ Right.....  _ Clear Scr _
       Single Insert....  _ Update....  _ Delete....  _ Generate..  _ Execute.. _
         List Insert....  _ Update....  _ Delete....  _ Select....  _ -> ________
        Mixed Previous..  _ Next......  _ Top.......  _ Bottom....  _
         User Cmd1......  _ Cmd2......  _ Cmd3......  _ Cmd4......  _ Cmd5..... _
---------------------------- Generation-Options ----------------------------
Screen..........  ________________________________
File Type.......  ___
Primary File....  ________________________________ Records on Screen..   0
Secondary File..  ________________________________ Records on Screen..   0
F1-------F2-------F3-------F4-------F5-------F6-------F8-------F10------F11----
HELP      EDIT      EXIT      INS       UPD       DEL       FWD       EXHELP    CLEAR
```

For more information on creating transactions using #TRN, refer to *AD/Advantage Programming*, P39-7001.

3. You can now use the new template for generating applications.

Using keywords to customize templates

The keywords within a template form the building blocks for the program generation process.

There are generally four forms of keywords: system, transaction, subprogram, and user keywords. An example of a system keyword is the <<DATE>> keyword which takes the date from the system. A transaction keyword would be the file type entry from the transaction definition which is the <PRIMARYFILE>> keyword. The <<FIRST GET>> keyword is an example of a generator subprogram which takes entries from the SYST parameter and places them into key fields in the primary file. Finally, a user-defined keyword is one which passes control from the generator to a MANTIS routine.

See “Supplied components” on page 271 for a list of supplied keywords.

User-defined keywords

User-defined keywords enable you to pass control of the generation process to a user-defined routine. You specify user-defined keywords by prefixing the keyword with USER: that is, <<USER:keyword>>. The program ADV_USR_GENERATION in the MANTIS MASTER user is an example program you can use to place keywords in a program. An example of a PAD/UNPAD routine for screen fields is supplied with this program. For more information on the PAD/UNPAD routine, see the following section.

Example of a PAD/UNPAD routine for screen fields

The ADV_USR_GENERATION program in the MANTIS MASTER user contains instructions on how to insert a PAD/UNPAD routine into a template. You can also add this routine to other templates.

If you want to add a PAD/UNPAD routine to the ADV_TMP_SINGLE template, you must first fetch this program in MANTIS. After you have fetched it, you can list it from line 1100, as shown below:

```
                        PROGRAM ==> ADV_TMP_SINGLE

1110 EXIT
1120 |-----------------------------------------------------------------
1130 ENTRY POST_DELETE
1140 EXIT
1150 |-----------------------------------------------------------------
1160 ENTRY PRE_CONVERSE
1170 EXIT
1180 |-----------------------------------------------------------------
1190 ENTRY POST_CONVERSE
1200 EXIT
1210 |----------------------------------FIELD-LEVEL HELP-----------
1220 ENTRY CMD_HELP
1230 .SYSF=""
1240 .WHEN CURSOR(SYSTITLE,COMMAND_LINE)
1250 ..SYSF="COMMAND_LINE"
1260 ..DO SYS_HELP(SYST,MAP,SYSF,COMMAND_LINE,COMMAND)
1270 .WHEN CURSOR(SYSTITLE,SYSDATE)
1280 ..SYSF="SYSDATE"
1290 ..DO SYS_HELP(SYST,MAP,SYSF,SYSDATE,COMMAND)
```

The PAD/UNPAD routine is designed to pad/unpad all screen fields with the underline character. The PAD portion of the routine must take place before the screen is conversed, while the UNPAD portion of the routine takes place after the screen has been conversed. The following example illustrates that you must insert the <<USER:PAD>> keyword after the PRE_CONVERSE, and you must insert the <<USER:UNPAD>> keyword after the POST_CONVERSE.

```
                          PROGRAM ==> ADV_TMP_SINGLE

1110 EXIT
1120 |-----------------------------------------------------------------
1130 ENTRY POST_DELETE
1140 EXIT
1150 |-----------------------------------------------------------------
1160 ENTRY PRE_CONVERSE
1165 .|<<USER:PAD>>
1170 EXIT
1180 |-----------------------------------------------------------------
1190 ENTRY POST_CONVERSE
1195 .|<<USER:UNPAD>>
1200 EXIT
1210 |----------------------------------FIELD-LEVEL HELP-----------
1220 ENTRY CMD_HELP
1230 .SYSF=""
1240 .WHEN CURSOR(SYSTITLE,COMMAND_LINE)
1250 ..SYSF="COMMAND_LINE"
1260 ..DO SYS_HELP(SYST,MAP,SYSF,COMMAND_LINE,COMMAND)
1270 .WHEN CURSOR(SYSTITLE,SYSDATE)
1280 ..SYSF="SYSDATE"
1290 ..DO SYS_HELP(SYST,MAP,SYSF,SYSDATE,COMMAND)
```

After adding these two lines and saving the ADV_TMP_SINGLE template, transactions generated using this template will contain underlined fields in their screens.

Recovering an original template

You can recover an original template if you make a backup copy using the MANTIS Transfer Facility. For more information on this facility, refer to *AD/Advantage MANTIS Facilities OpenVMS/UNIX*, P39-1300.

A

Supplied components

Supplied templates

The following table lists the supplied templates for each of the file types AD/Advantage supports:

File type	Program name	Description
DB2	ADV_TMP_SINGLE_DB2	Single, DB2
	ADV_TMP_LIST_DB2	List, DB2
**	ADV_TMP_MIXED_DB2	Mixed, DB2
DL/I	ADV_TMP_SINGLE_DLI	Single, DL/I
	ADV_TMP_LIST_DLI	List, DL/I
**	ADV_TMP_MIXED_DLI	Mixed, DLI
Indexed file (VSAM, RMS, C-ISAM, MISAM, internal files)	ADV_TMP_SINGLE	Single
	ADV_TMP_LIST	List
	ADV_TMP_MIXED	Mixed
Interface	ADV_TMP_SINGLE_INF	Single, interface
	ADV_TMP_LIST_INF	List, interface

File type	Program name	Description
RDB	ADV_TMP_SINGLE_RDB	Single, RDB
	ADV_TMP_LIST_RDB	List, RDB
ORACLE	ADV_TMP_SINGLE_ORACLE	Single, Oracle
	ADV_TMP_LIST_ORACLE	List, Oracle
**	ADV_TMP_MIXED_ORACLE	Mixed, Oracle
OS/2 DBM	ADV_TMP_SINGLE_DBM	Single, DBM
DB2/2	ADV_TMP_LIST_DBM	List, DBM
SUPRA PDM	ADV_TMP_SINGLE_PDM	Single, PDM
	ADV_TMP_LIST_PDM	List, PDM
	ADV_TMP_MIXED_PDM	Mixed, PDM
SUPRA RDM	ADV_TMP_SINGLE_RDM	Single, RDM
	ADV_TMP_LIST_RDM	List, RDM
SUPRA SQL	ADV_TMP_ACCESS_SUPRA	Access only, SUPRA SQL
	ADV_TMP_SINGLE_SUPRA	Single, SUPRA
	ADV_TMP_LIST_SUPRA	List, SUPRA
	ADV_TMP_MIXED_SUPRA	Mixed
**	ADV_TMP_MIXED_SUPRA	Mixed, SUPRA
SUPRA SQL extensions	ADV_TMP_SINGLE_SUPRA_EXT	Single, SUPRA extension
	ADV_TMP_LIST_SUPRA_EXT	List, SUPRA extension
	ADV_TMP_MIXED_SUPRA_EXT	Mixed, SUPRA extension
**	ADV_TMP_MIXED_SUPRA_EXT	Mixed, SUPRA extensions
Transaction management	ADV_TMP_TRN_MGMT	

** Indicates a new template

Supplied keywords

The following is a list of keywords that come supplied with AD/Advantage. You can create your own keywords using the <<USER:keyword>> keyword. See “User-defined keywords” on page 267 for more information.

Keyword	Description
<<AUTHOR>>	The Personal ID of the user who initiated the generation process.
<<CHECK FACILITY>>	Is replaced by Calls to the Validation Handler. One External Do for each screen field is generated.
<<CLEAR LINE>>	Clears one line in a List processing screen.
<<COMPARE KEY>>	Is used in Mixed processing applications to determine if the keys of primary and secondary files match.
<<DATE>>	The current date in the format YY/MM/DD.
<<DESCRIPTION>>	The description as defined in #TRN.
<<DLI *>>	DLI processing keywords.
<<FIRST GET>>	Moves values from SYST which had been handed over to the application into the corresponding key fields of the primary file.
<<HELP FACILITY>>	Is replaced by Calls to the Help Handler. One External Do for each screen field is generated.
<<INF *>>	Interface processing keywords.
<<KEYS IN COMMAND_LINE>>	Is used in a List processing application after a user has selected a record for processing. The keys of this record are set up in the command-line prefixed by the receiving transaction as defined in #TRN.
<<MODIFIED GET>>	Builds an IF MODIFIED Statement for each key field in the screen to determine if a keyed or sequential GET (Internal or External File Views) is to be used and additionally creates the GET statements.

Keyword	Description
<<MODIFIED KEY?>>	Builds an IF MODIFIED Statement for each key field in the screen to determine if a keyed or sequential SELECT is to be used.
<<MOVES IN>>	Create the Moves from a screen into file variables in a list or mixed processing application.
<<MOVES OUT>>	Create the Moves from a file view into screen variables in a list or mixed processing application.
<<PDM *>>	PDM processing keywords.
<<POSITION REC2>>	Creates a GET statement to position the secondary file according to the keys of the primary file. Only used in mixed type applications.
<<PRIMARYFILE>>	The name of the primary file view or table as defined in transaction definition (#TRN).
<<PRIMARY KEY>>	The keys of the primary file separated by comma.
<<PRIMARYPSW>>	The name of the primary file view password as defined in transaction definition (#TRN).
<<PROTECT SCREEN>>	Protects all screen fields except of the key fields. The generated routine is called only if the transaction is in READONLY mode.
<<SCREEN>>)	The name of the screen as defined in transaction definition (#TRN).
<<SECONDARYFILE>>	The name of the secondary file view as defined in transaction definition (#TRN).
<<SECONDARY KEY>>	The keys of the secondary file separated by comma.
<<SECONDARYPSW>>	The name of the secondary file view password as defined in transaction definition (#TRN).
<<SQL DELETE>>	Creates a SQL DELETE statement according to the fields selected upon generation time.
<<SQL FETCH LAST>>	Creates a SQL FETCH LAST statement according to the fields selected upon generation time.
<<SQL FETCH NEXT>>	Creates a SQL FETCH NEXT statement according to the fields selected upon generation time.

Keyword	Description
<<SQL FETCH POS>>	Creates a SQL FETCH POS statement according to the fields selected upon generation time.
<<SQL FIRST GET>>	Creates a SQL SELECT statement without where clause according to the fields selected upon generation time.
<<SQL INSERT>>	Creates a SQL INSERT statement according to the fields selected upon generation time.
<<SQL INTEGRITY>>	For SQL Integrity processing.
<<SQL SELECT BACKWARD>>	Creates a SQL SELECT PREVIOUS statement according to the fields selected upon generation time.
<<SQL SELECT DIRECT>>	Creates a SQL SELECT DIRECT statement according to the fields selected upon generation time.
<<SQL SELECT FIRST>>	Creates a SQL SELECT FIRST statement according to the fields selected upon generation time.
<<SQL SELECT FORWARD>>	Creates a SQL SELECT NEXT statement according to the fields selected upon generation time.
<<SQL SELECT LAST>>	Creates a SQL SELECT LAST statement according to the fields selected upon generation time.
<<SQL SELECT NEXT>>	Creates a SQL SELECT NEXT statement according to the fields selected upon generation time.
<<SQL SELECT PREVIOUS>>	Creates a SQL Delete statement according to the fields selected upon generation time.
<<SQL SELECT SEARCH>>	Creates a SQL SELECT with WHERE clause of the current key according to the fields selected upon generation time.
<<SQL SELECT>>	Creates a SQL SELECT statement according to the fields selected upon generation time.
<<SQL UPDATE>>	Creates a SQL UPDATE statement according to the fields selected upon generation time.

Keyword	Description
<<SQL WORKING STORAGE>>	Creates all host variables according to the fields selected upon generation time.
<<SQL-PSW>>	The password of the connected SQL User
<<SQL-TABLE>>	The name of the table to generate SQL statements for.
<<SQL-TYPE>>	The database type: SUPRA, DBM, DB2, and so on.
<<SQL-USER>>	The name of the connected SQL User.
<<TIME>>	The current time.
<<TRANSID>>	The Transaction Identifier to generate the program for.
<<USER>>	The MANTIS user where the generation was initiated.
<<USER:keyword>>	Program MASTER:ADV_USR_GENERATION is called. The user can generate its own code. Examples are <<USER:PAD>> <<USER:UNPAD>>
<<USER:PAD>>	Example: All screen fields are padded with Underline char.
<<USER:UNPAD>>	Example: All screen fields are unpadded with Underline char.
<<VALIDATE KEY>>	Is used in mixed processing applications to determine if the keys of the primary and secondary file match.

Supplied transactions

The following table lists all AD/Advantage transactions alphabetically. For each transaction, the table provides:

- Transaction ID.
- Name of the program that the transaction defines.
- Transaction description.
- Optional parameters that you can pass to the transaction.
- The section where you can find complete information about the transaction.

Trans-ID	Program name	Description	Optional parameters	See section
#ACCL1	VPF:ADV_LST_ACC1	Audit Trail Information		"Listing the AD/Advantage audit trail #ACCL1" on page 250
#ACCL2	VPF:ADV_LST_ACC2	Most Used AD/A Transactions		"Listing the most commonly used AD/Advantage transactions #ACCL2" on page 252
#ACCL3	VPF:ADV_LST_ACC3	AD/A Transactions daily base		"Displaying hourly transaction usage #ACCL3" on page 254
#ADMIN	Administration Functions			
#AUTH	VPF:ADV_EDT_AUTH	Edit Transaction Authorizations	*trans-id*	"Defining transaction authorization #AUTH" on page 203

Trans-ID	Program name	Description	Optional parameters	See section
#AUTHL	VPF:ADV_LST_AUTH	List Transaction Authorizations	*trans-id*	"Authorizations #AUTHL" on page 221
#AUTHP	VPF:ADV_PRN_AUTH	Print Authorizations	*	
#CEF	VPF:ADOP_PRGM_MENU	Component Engineering Facility		*
#CINT	CASE:CASE_UPLOAD_MENU	Case Integration		*
#DATAL	VPF:ADV_LST_DATA	List Data Views in the Scratchpad	*entity-name*	*
#DDEF	VPF:ADV_EDT_DOMDEF	Edit Domain Definitions	*domain-id*	*
#DDEFL	VPF:ADV_LST_DOMDEF	List Domain Definitions	*domain-id*	*
#DEBUG	VPF:ADV_EDT_DEBUG	Debug Program Parameters		"System and user parameters #DEBUG" on page 228
#DEF	VPF:ADV_EDT_DEFAULTS	Edit Generation Defaults		"Setting application generation defaults #DEF" on page 178
#DHLP	VPF:ADV_EDT_DOMHLP	Edit Domain Help Information	*domain-id*, *language-id*	*
#DHLPL	VPF:ADV_LST_DOMHLP	List Domain Help Information	*domain-id*, *language-id*	*
#DIR	CONTROL:DIRECTORY	List/Print Mantis Directory		*
#DLI	CONTROL:DLI_PROFILE	Edit DLI Views		*
#DPRO	CONTROL:DISPLAY	Display a Prompter		*
#EDIT	Edit Functions			
#EINT	CASE:EXC_MENU	Excelerator Integration		*
#ET	CASE:CASE_SELECT	Entity Transformers		*

Trans-ID	Program name	Description	Optional parameters	See section
#ETI	CASE:CASE_INITIALIZE	Initialize Scratchpad		*
#EXT	CONTROL:ACCESS	Edit External Files		*
#EXTL	VPF:ADV_LST_EXT	List External Files	*file-name*	*
#GEN	VPF:ADV_MNU	Generation Functions		
#GENDEF	VPF:ADV_GNT_SCREEN_DEFAULTS	Generate Default Values for Screens	*screen-name*	*
#GENIND	VPF:ADV_GNT_INDEX	Generate a Program for Index files	*trans-id*	*
#GENSQL	VPF:ADV_GNT_SQL	Generate a SQL Program	*trans-id*	*
#GROUP	VPF:ADV_EDT_GROUP	Edit User Groups	*group-id*	“Setting up user groups #GROUP” on page 196
#GROUPL	VPF:ADV_LST_GROUP	List User Groups	*group-id*	“User groups #GROUPL” on page 229
#GROUPP	VPF:ADV_PRN_GROUP	Print User Groups		“User groups #GROUPP” on page 242
#HLP	VPF:ADV_EDT_HELP	Edit Transaction Help	*language-id*, *trans-id*	*
#HLPL	VPF:ADV_LST_HELP	List Transaction Help	*language-id*, *trans-id*	*
#HLPP	VPF:ADV_PRN_HELP	Print Transaction Help		*
#HOME	VPF:ADV_SYS_HOME	Call Users Start Transaction		*
#ID	VPF:ADV_EDT_USER	Edit Personal IDs	*personal-id*	“Setting up personal IDs #ID” on page 189

Trans-ID	Program name	Description	Optional parameters	See section
#IDL	VPF:ADV_LST_USER	List Personal IDs	*user-id*	"Personal IDs #IDL" on page 224
#IDP	VPF:ADV_PRN_USER	Print Personal IDs		"Personal IDs #IDP" on page 238
#IINT	CASE:IEW_MENU	IEW/ADW Integration		*
#INF	CONTROL:INTERFACE	Edit Interfaces		*
#INFL	VPF:ADV_LST_IF	List Interfaces	*interface-name*	*
#INT	CONTROL:SETS	Edit Internal Files		*
#INTL	VPF:ADV_LST_INT	List Internal Files	*file-name*	*
#LANG	CONTROL:SHOW_ LANGUAGE_CODES	Display Language Codes		
#LIST	VPF:ADV_MNU	List Functions		
#MENU	VPF:ADV_EDT_MENU	Edit Menu Definitions	*menu-id*	*
#MENUL	VPF:ADV_LST_MENU	List Menu Definitions	*menu-id*	*
#MENUP	VPF:ADV_PRN_MENU	Print Menu Definitions		*
#MIG	CONTROL:MIGRATE	Migrate		*
#MIGDIC	VPF:ADV_MIG_DICT	Migrate Dictionary		"Migrating the AD/Advantage dictionaries between systems #MIGDIC" on page 256
#MSG	VPF:ADV_EDT_MESS	Edit User Messages	*language-id*, *subsystem-id*, *message-no*	"Setting up user messages #MSG" on page 200

Trans-ID	Program name	Description	Optional parameters	See section
#MSGL	VPF:ADV_LST_MESS	List User Messages	*language-id*, *subsystem-id*, *message-no*	“User groups #GROUPL” on page 229
#MSGP	VPF:ADV_PRN_MESS	Print User Messages		“User messages #MSGP” on page 244
#MSTART	MASTER:START_FACILITY	Mantis Start Facility		*
#MSYS	VPF:ADV_MNU	Main Selection for Administrator		
#OPTIONS	VPF:ADV_MNU	Options		
#PARM	VPF:ADV_EDT_PARM	Edit System Parameters		“Setting system parameters #PARM” on page 167
#PFK	VPF:ADV_EDT_PFK	Edit Function-Keys and Commands	*language-id*	“Setting keys and commands #PFK” on page 186
#PFKP	VPF:ADV_PRN_PFK	Print Keys and Commands		“Keys and commands #PFKP” on page 236
#PRG	CONTROL:PROGRAM_ DESIGN	Edit Programs		*
#PRGL	VPF:ADV_LST_PRG	List Programs	*program-name*	*
#PRINT	VPF:ADV_MNU	Print Functions		
#PRN	CONTROL:MPFMMENU	Print Facility		*
#PRO	CONTROL:PROMPTER	Edit Prompters		*
#PTYPE	VPF:ADV_EDT_PTYPE	Edit Prototype Definitions	*trans-id*	*
#QCOLUMN	VPF:ADV_TLS_COLUMN	Column List	*column-name*	*
#QDB	VPF:ADV_TLS:STGROUP	SQL Database List	*database-name*	*
#QDOM	VPF:ADV_TLS_DOMAIN	Domain Report	*domain-name*	*
#QDOML	VPF:ADV_TLS_DOMLIST	Domain List	*domain-name*	*

Trans-ID	Program name	Description	Optional parameters	See section
#QDOMREF	VPF:ADV_TLS_DOMREF	Domain References	*domain-name*	*
#QFK	VPF:ADV_TLS_LINKS	Secondary Links	*table-name*, (creator)	*
#QFKL	VPF:ADV_TLS_LINKLIST	Foreign Key List	*table-name*, (creator)	*
#QFKP	VPF:ADV_TLS_LINKP	Primary Links	*table-name*, (creator)	*
#QINDEX	VPF:ADV_TLS_INDEX	Index Display	*table-name*, creator	*
#QINDEXL	VPF:ADV_TLS_INDEXLIST	Index List	*table-name*	*
#QISTAT	VPF:ADV_TLS_ISTAT	Index Statistics	*index-name*, (*table-name*)	*
#QPLAN	VPF:ADV_TLS_PLAN	DB2 Plans	*table-name*, (creator)	*
#QPLAND	VPF:ADV_TLS_PLANDEP	Plan Dependencies	*plan-name*, (creator)	*
#QRW	MASTER:RUN_SPECTRA	Query Report Writer		*
#QSTATS	VPF:ADV_TLS_STATS	Table Statistics	*table-name*, (creator)	*
#QSTGRP	VPF:ADV_TLS_STGROUP	SQL Storage Group List	*storage-group*	*
#QSYN	VPF:ADV_TLS_SYNONYM	Synonym List	*synonym-name*	*
#QTABLE	VPF:ADV_TLS_TABLE	Table and View List	*table-name*	*
#QUSER	VPF:ADV_TLS_USER	User Display	*user-name*	*
#QUSERL	VPF:ADV_TLS_USERLIST	User List	*user-name*	*
#QVER	VPF:ADV_TLS_VERSION	Display Supra Version		*
#QVIEW	VPF:ADV_TLS_VIEW	View Definition	*view-name*, (creator)	*
#QVOL	VPF:ADV_TLS_VOLUME	SQL Volume List	*volume-ID*	*
#REL	CASE:CASE_SHOW_VERSIONS	Show Release Details		*

Trans-ID	Program name	Description	Optional parameters	See section
#REPORTS	VPF:ADV_MNU	Reports		
#RUN	CONTROL:RUN_A_PROGRAM	Run a Program		*
#SCR	CONTROL:SCREEN_DESIGN	Edit Screens		*
#SCRL	VPF:ADV_LST_SCR	List Screens	*screen-name*	*
#SIGNON	VPF:ADV_SYS_SWITCH	Sign On to AD/Advantage	*user-id*, *password*, *transid.key1.keyn*	*
#SUB	VPF:ADV_EDT_SUBSYST	Edit Subsystems	*subsystem-id*	“Setting up subsystems #SUB” on page 198
#SUBL	VPF:ADV_LST_SUBSYST	List Subsystems	*subsystem-id*	“Subsystems #SUBL” on page 226
#SYNONYM	VPF:ADV_EDT_SYNONYM	Edit Synonyms	*synonym-id*	*
#SYS	VPF:ADV_MNU	Main Selection for Developer		*
#TEXTL	VPF:ADV_LST_TEXT	List Text in the Scratchpad	*entity-name*	*
#TOT	CONTROL:ULTRA_VIEW	Edit Total Views		*
#TRN	VPF:ADV_EDT_TRAN	Edit Transaction Definitions	*trans-id*	*
#TRNL	VPF:ADV_LST_TRAN	List Transaction Definitions	*trans-id*	*
#TRNP	VPF:ADV_PRN_TRAN	Print Transaction Definitions		“Transaction definitions #TRNP” on page 240
#UEF	CONTROL:EXP_MAIN_SCB	Universal Export Facility		*

Trans-Id	Program name	Description	Optional parameters	See section
#UGROUP	VPF:ADV_LST_UGROUP	List Personal-IDs contained in a Group		*
#UMENU	VPF:ADV_MNU	User menu		*
#UPDCHAR	VPF:ADV_SYS_CHANGE_CHAR	Change system character		"Changing the special character for system transactions #UPDCHAR" on page 260
#UTILITY	VPF:ADV_MNU	Utilities		
#XFR	CONTROL:TRANSFER	Transfer Facility		*
#XREF	CSI_XREF:MENU	Cross Reference Facility		*

* Refer to *AD/Advantage Programming*, P39-7001, for information.

Entities residing in the MASTER user

Entity	Program name	Description
Programs	ADV_ANALYZE_LOG	Print AD/Advantage accounting log
	ADV_USR_GENERATION	User keywords for the generator
	ADV_USR_LANGUAGE	Dynamically set user's language
	ADV_USR_VALIDATION	Example for a user validation routine which is specified with the #DDEF transaction
	ADV_TMP_*	All generator templates
	ADV_SIGN_ON	Sign-on program
	ADV_SQL_CONNECT	Example SQL connect program
	ADV_SYS_EXTERNAL	External program handler which chains to existing MANTIS applications or performs 3GL programs
	ADV_SYS_REFINT	Referential integrity programs
	ADV_SYS_TERMINATE	Routine called when AD/Advantage is terminated
Screens	ADV_SIGN_ON	AD/Advantage sign-on screen
	ADV_HEADER	Standard user header screen
	ADV_TRAILER	Standard user trailer screen
External File Views	ADV_ACCOUNTING	Accounting file for AD/Advantage transactions

B

Using the MANTIS terminfo construction utility to define terminfo settings (UNIX only)

MANTIS comes supplied with a database of terminfo settings called mantis.ti. mantis.ti defines many of the MANTIS logical keys and their corresponding physical key sequences to terminfo capnames. Using the MANTIS Terminfo Construction utility, you can modify mantis.ti definitions for a given terminal. For example, the terminfo capname 'kcud1' maps to the MANTIS logical key {DOWN}. Currently, the MANTIS logical key {DOWN} is defined to the ⇓ physical key in mantis.ti. However, your terminal does not have that key, so you want to define DOWN to be the 2 key on the numeric keypad at the right of your keyboard. Use the MANTIS Terminfo Construction utility to do this.

Starting the MANTIS terminfo construction utility

Use the mti command to start the MANTIS Terminfo Construction utility:

mti [-t *terminal-type] [filename]*

-t *terminal type*

Description *Optional*. Specifies the type of terminal settings you want to modify.

Default The value specified by the TERM environment variable

filename

Description *Optional*. Specifies the full path name of the ASCII file containing the terminfo settings.

Default $DATA/mantis.ti

After you enter the mti command, the following screen displays:

```
                MANTIS Definitions - 2392 (hp 2392/2622 series)
  1 -KP0        2 -KP1        3 +KP2        4 -KP3        5 +KP4        6 -KP5
  7 +KP6        8 -KP7        9 +KP8       10 -KP9       11 -MINUS     12 -COMMA
 13 -ENTER     14 -PERIOD    15 -DO        16 *UP        17 *DOWN      18 +LEFT
 19 +RIGHT     20 +BACKSPC   21 +RETURN    22 +TAB       23 +INSERT    24 +DELETE
 25 +HOME      26 -END       27 -DELETEL   28 -INSERTL   29 -FIND      30 -SELECT
 31 -HELP      32 +PF1       33 +PF2       34 +PF3       35 +PF4       36 +F5
 37 +F6        38 +F7        39 +F8        40 -F9        41 -F10       42 -F11
 43 -F12       44 -F13       45 -F14       46 -F15       47 -F16       48 -F17
 49 -F18       50 -F19       51 -F20       52 -F21       53 -F22       54 -F23
 55 -F24       56 -F25       57 -F26       58 -F27       59 -F28       60 -F29
 61 -F30       62 -F31       63 -F32       64 -F33       65 -F34       66 -F35
 67 -F36       68 -F37       69 -F38       70 -F39       71 -F40       72 -F41
 73 -F42       74 -F43       75 -F44       76 -F45       77 -F46       78 -F47
 79 -F48       80 -F49       81 -F50       82 -F51       83 -F52       84 -F53
 85 -F54       86 -F55       87 -F56       88 -F57       89 -F58       90 -F59
 91 -F60       92 -F61       93 -F62       94 -F63

                SYSTEM Definitions - 2392 (hp 2392/2622 series)
 95 +smkx      96 +rmkx      97 +acsc      98 -enacs     99 +smacs    100 +rmacs
101 +sgr0

        (-) Undefined     (+) Defined     (*) Modified     (K)ey Mode
     (K)ey or (T)ext Mode (H)elp (L)ist (R)efresh (Q)uit (##) to Edit ?
```

Notice that the cursor is at the far right of the command line (bottom right). This is where you enter all commands.

The MANTIS Terminfo screen is divided into four major parts:

- **MANTIS Definitions.** Top part of the screen. Displays MANTIS logical keys listed horizontally in numeric order.
- **System Definitions.** Middle part of the screen. Displays terminfo capnames for system modes listed horizontally in numeric order. For example, the terminfo capname 'smkx' specifies the escape sequence to put the terminal in "keypad transmit" mode.
- **Status Line.** Bottom part of the screen, second last line. Displays status definitions for the MANTIS and System definitions. The first three statuses apply to the MANTIS and System definitions as follows:

This status	Indicates
(-) Undefined	the MANTIS logical key or system mode capname *is not* defined in the mantis.ti terminfo ASCII file.
(+) Defined	the MANTIS logical key or system mode capname *is* defined in the mantis.ti terminfo ASCII file.
(*) Modified	you have successfully modified a MANTIS logical key or system mode capname during the current MANTIS Terminfo session. If you exit the utility and come back in, the logical key or system mode capname you modified will have a + status, indicating that it is currently defined in mantis.ti. The definition becomes active when you recompile mantis.ti file (see "Recompiling the mantis.ti file" on page 294).
(T)ext Mode	the MANTIS Terminfo Construction utility is running in text mode (Text is default). The utility provides two definition modes: Text and Key. For example, to modify or create a terminfo definition, press the key to which you want it defined (Key mode) or type out the escape sequence (Text mode).

- **Command Line.** Bottom part of the screen, last line. Displays commands you can perform during your MANTIS Terminfo session. The capital letter in parentheses initiates a particular command.

Setting the definition mode

To allow flexibility when defining your MANTIS logical key and system mode definitions, the MANTIS Terminfo Construction utility offers two different modes: Text and Key. If you set the utility to run in Text mode, you must manually type in the escape sequence of the keyboard definition. By setting the utility to run in Key mode, you can simply press the actual key to which you want the MANTIS logical key or system mode defined and the utility enters the escape sequence for you.

The MANTIS Terminfo utility defaults to Text mode.

To set the utility to	Type this at the command line
Key Mode	K
Text Mode	T

Getting help

Type H on the command line to get help about the MANTIS Terminfo utility or about any of the MANTIS logical key or system mode definitions.

To get help on the MANTIS terminfo utility, type H and press ENTER. Information about the utility displays.

To get help on a particular MANTIS logical key or system mode definition, type H immediately followed by its corresponding number and press ENTER. For example, to get help on the MANTIS logical key DOWN, type H17 on the command line and press ENTER. The following displays:

```
                                17 - kcud1

      Cursor Keys            The terminfo capname 'kcud1' maps to the
                             MANTIS logical key {DOWN}.
                             The usual key chosen to correspond to this
                             capname is the cursor down key, which is
       +-----+               typically part of a group of cursor
       |     |               movement keys on the keyboard (as show left),
  +-----+-----+-----+        but on some terminals may only be on the
  |     |kcud1|     |        application keypad.
  +-----+-----+-----+        Put the terminal in application cursor keys
           |                 mode (if supported), select (K)ey mode, then
           V                 hit the cursor down key. If application cursor
                             keys mode is supported, ensure that this mode
                             is set/reset by the smkx/rmkx sequences.
```

Creating, modifying, or deleting a terminfo definition

Using the MANTIS Terminfo Construction utility, you can create, modify or delete terminfo definitions. In addition, if you are in the process of performing one of these functions but don't want to go through with it, the utility allows you to back out without making any modifications (see "Terminating a definition" on page 292).

Terminating a definition

If you are in the process of defining, modifying or deleting a terminfo definition and don't want to complete it, ensure that you delete whatever definition you were creating (the definition line *must be* blank) and press ENTER. The utility will terminate the definition without making any modifications and refresh the screen.

Creating or modifying a MANTIS logical key definition

To create or modify a terminfo definition for a MANTIS logical key, type the corresponding number on the command line and press ENTER. The utility displays the MANTIS logical key and its function on the left and the corresponding terminfo capname and its escape sequence on the right. Then, it prompts you for the new escape sequence of the terminfo capname.

After the utility prompts you for the new definition, continue as follows:

If you are in this mode	Do the following
Text	Type the text of the new escape sequence and press ENTER.
Key	Press the physical key that you want to define to the terminfo capname and press ENTER. After you press ENTER, the utility automatically inserts the escape sequence for you.

In either mode, after you define or edit your definition and press ENTER, the listing redisplays. Notice that an asterisk (*) displays next to the definition, indicating that you have modified it.

Creating or modifying a system definition

To create or modify a terminfo definition for a system mode, type the corresponding number on the command line and press ENTER. The utility displays a description followed by the terminfo capname and its definition. Then, it prompts you for the new escape sequence of the system mode capname.

After the utility prompts you for the new definition, continue as follows:

If you are in this mode	Do the following
Text	Type the text of the new escape sequence and press ENTER.
Key	Press the physical key that you want to define to the terminfo capname and press ENTER. After you press ENTER, the utility automatically inserts the escape sequence for you.

In either mode, after you create or modify your definition and press ENTER the listing redisplays. Notice that an asterisk (*) displays next to the definition, indicating that you have modified it.

Deleting a terminfo definition

To delete a terminfo definition from mantis.ti, enter the number of the definition you want to delete, and then press ENTER. When the utility prompts you for the new definition, type a period (.) then press ENTER. When the utility refreshes the screen, notice that the (-) status displays next to the definition you just deleted, indicating that it is undefined.

Refreshing the screen

Type R at the command line and press ENTER to refresh the screen. For example, if you modified a definition and your screen scrolled up causing some of the definitions to scroll out of view, type R to redisplay the entire listing.

Writing a listing of the terminfo definitions to a file

Type L at the command line and press ENTER to write the listing of the MANTIS logical key definitions and the System definitions to a file. The MANTIS Terminfo Construction utility writes the listing to a file called mantis.lst in your current directory.

Quitting the MANTIS terminfo construction utility

Type Q at the command and press ENTER to exit the MANTIS Terminfo Utility and press ENTER. The utility displays the following confirmation messages:

```
Continue? (Y/N)
```

If you type N, the utility redisplays the listing. If you type Y, the utility saves all changes to a file called mantis.ti.new in your current directory. If you have modified one or more of the definitions, you must recompile the mantis.ti file.

Recompiling the mantis.ti file

To make your changes effective, you must recompile the mantis.ti file. See your UNIX Commands Reference documentation for the syntax necessary to recompile an ASCII terminfo file.

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