

## Chapter 27 KIDS Utilities

KIDS provides the following utility options:

```
Kernel Installation and Distribution System...      [XPD MAIN]
Utilities...                                       [XPD UTILITY]
  Build File Print                                 [XPD PRINT BUILD]
  Install File Print                               [XPD PRINT INSTALL FILE]
  Convert Loaded Package for Redistribution[XPD CONVERT PACKAGE]
  Display Patches for a Package                   [XPD PRINT PACKAGE PATCHES]
  Purge Build or Install Files                    [XPD PURGE FILE]
  Rollup Patches into a Build                     [XPD ROLLUP PATCHES]
  Update Routine File                             [XPD ROUTINE UPDATE]
  Verify a Build                                  [XPD VERIFY BUILD]
  Verify Package Integrity                        [XPD VERIFY INTEGRITY]
```

These utilities can be used both by developers and by sites who install packages created by KIDS.

## Build File Print

The Build File Print option prints out the build entry for a package. It lists the complete definition of the package, including all files, components, install questions, and the environment, pre-install, and post-install routines.

## Install File Print

The INSTALL FILE PRINT option prints out the results of an installation, as stored in the INSTALL file. Use this option to check on the status of an installation in progress or to print out the results of a completed installation.

### ■ Print from BUILD File Sample

```

PACKAGE: ZXG DEMO 1.0                                     PAGE 1
-----
NATIONAL PACKAGE:
DESCRIPTION:
Package containing demonstration of ZXG* functions.

ENVIRONMENT CHECK : ZXGENV
PRE-INIT ROUTINE  : ZXGPRE
POST-INIT ROUTINE : ZXGPOS

          UP    SEND  DATA
          DATE  SEC.  COMES  SITE      USER
          DD   CODE  W/FILE DATA  RSLV  OVER
-----
662105    ZXG DEMO          YES   YES   NO

PRINT TEMPLATE:
  ZXG PRINT      FILE #662105          SEND TO SITE

ROUTINE:
  ZXGC00          SEND TO SITE
  ZXGC01          SEND TO SITE
  ZXGC02          SEND TO SITE
  ZXGC03          SEND TO SITE
  ZXGC04          SEND TO SITE
  ZXGC05          SEND TO SITE
  ZXGC06          SEND TO SITE
  ZXGC07          SEND TO SITE
  ZXGC08          SEND TO SITE

OPTION:
  ZXG TEST          SEND TO SITE

INSTALL QUESTIONS:

```

## ■ Sample Print from INSTALL File

```

PACKAGE: ZXG DEMO 1.0
                                                    PAGE 1
                                                    COMPLETED ELAPSED
-----
STATUS: Install Completed          DATE LOADED: FEB 07, 1995@07:51:59
NATIONAL PACKAGE:

INSTALL STARTED: FEB 07, 1995@07:52:14      07:52:23      0:00:09
ROUTINES:                                  07:52:15      0:00:01
PRE-INIT CHECK POINTS:
XPD PREINSTALL STARTED                   07:52:15
XPD PREINSTALL COMPLETED                 07:52:15
FILES:
ZXG DEMO                                  07:52:16      0:00:01
PRINT TEMPLATE                            07:52:17      0:00:03
OPTION                                     07:52:21      0:00:02
POST-INIT CHECK POINTS:
XPD POSTINSTALL STARTED                   07:52:21
XPD POSTINSTALL COMPLETED                 07:52:21
INSTALL QUESTION PROMPT                                     ANSWER
XPZ1  Want to DISABLE Scheduled Options, Options and Protocols  NO
MESSAGES:
  Install Started for ZXG DEMO 1.0 :
      Feb 07, 1995@07:52:14
  Installing Routines:
      Feb 07, 1995@07:52:15
  Running Pre-Install Routine: ^ZXGPRES
  Installing Data Dictionaries:
      Feb 07, 1995@07:52:16
  Installing PACKAGE COMPONENTS:
  Installing PRINT TEMPLATE
  Installing OPTION
      Feb 07, 1995@07:52:21
  Running Post-Install Routine: ^ZXGPOS
  Updating Routine file...
  Updating KIDS files...
  ZXG DEMO 1.0 Installed.
      Feb 07, 1995@07:52:23

```

## Convert Loaded Package for Redistribution

Use this option to add packages to an existing distribution.

A KIDS distribution can transport one or more packages. What if you want to add additional packages to an existing distribution? For example, suppose you have a distribution for a package. Further suppose that patches are transported as individual KIDS packages, and you want to add all existing patches to the package's distribution? The Convert Loaded Package for Redistribution option lets you do this.

In the example used below, distributions for a package (ZXG 1.0) and a patch (ZXG\*1.0\*1) are both loaded. The Convert Loaded Package for Redistribution option is used to build a new distribution combining both original distributions.

Follow these steps to create a new distribution from existing distributions:

1. Load the original distributions (there is no need to install them, however).

In this example, we would load the distributions for ZXG 1.0 and ZXG\*1.0\*1 (but we wouldn't install them).

2. Use the Convert Loaded Package for Redistribution option. It lets you choose loaded transport globals, and transfers them into a format ready for export. Also, it creates build entries for each package contained in the distributions. This allows you to create a new distribution containing the transport globals from the existing distributions. A new prompt was added with Patch XU\*8\*44, "Want to make the Transport Globals Permanent? NO//," answering Yes to this prompt flags the global so that it isn't deleted after the transportation. This provides a "Gold" account or library of packages and patches that are included in a Transport Global.

In this example, we would first convert the loaded distribution ZXG 1.0 into a form ready to re-distribute:

```
Select Utilities Option: Convert Loaded Package for Redistribution
Select INSTALL NAME: ZXG 1.0 <RET>                Loaded from Distribution

This distribution was loaded on Feb 28,1995@08:15:05 with header of

It consisted of the following Install(s):
ZXG 1.0

Want to make the Transport Globals Permanent? NO//YES
Want to continue with the conversion of the package(s)? NO//YES
** DONE **

Select Utilities Option:
```

Then we would convert the patch distribution, ZXG\*1.0\*1, into a form ready to re-distribute:

```
Select Utilities Option: Convert Loaded Package for Redistribution
Select INSTALL NAME: ZXG*1.0*1 <RET>           Loaded from Distribution

This distribution was loaded on Feb 28,1995@08:15:35 with header of

It consisted of the following Install(s):
ZXG*1.0*1

Want to make the Transport Globals Permanent? NO//YES
Want to continue with the conversion of the package(s)? NO//YES
** DONE **
```

3. Create the new distribution with the Transport a Distribution option. Select each build from the original distributions that you want to be part of the new distribution. For each build that you select, you should be told that the transport global already exists and be asked if you want to use this transport global. Answer YES in each case to use the current transport global.

Once you have selected all of the builds for the new distribution, go ahead and create the new distribution.

In the example below, we create a new distribution containing both ZXG 1.0 (the original package) and ZXG\*1.0\*1 (an added package):

```
Select Edits and Distribution Option: Transport a Distribution

Enter the Package Names to be transported. The order in which they are
entered will be the order in which they are installed.

First Package Name: ZXG 1.0 <RET>   **Transport Global exists**
  Use this Transport Global? YES
Another Package Name: ZXG*1.0*1 <RET>   **Transport Global exists**
  Use this Transport Global? YES
Another Package Name: <RET>

Order
  1   ZXG 1.0   **will use current Transport Global**
  2.  ZXG*1.0*1 **will use current Transport Global**

OK to continue? NO//YES

Enter a Host File: ZXG1.KID
Header Comment: PATCHED DISTRIBUTION ZXG 1.0

  ZXG 1.0...
  ZXG*1.0*1...

Package Transported Successfully
```

NOTE: Changing a distribution's build entries before redistributing is *not* recommended.

## Display Patches for a Package

This option will print all patches installed for a package. It displays the Date Installed and who installed the patches. It optionally will print the description of the patch. All the displayed information comes from the PACKAGE file.

### ■ Display Patches for a Package Sample

```

Select Utilities Option: DISplay Patches for a Package
Select PACKAGE NAME: KERNEL
Select VERSION: 8.0// <RET>          07-29-95
Do you want to see the Descriptions? NO// <RET>
DEVICE: HOME// <RET>  SYSTEM

```

PATCH #	INSTALLED	INSTALLED BY
VERSION: 8.0	JUL 29, 1995	BROWN, JOE
28	APR 25, 1996	WHITE, JOE
20 SEQ #23	FEB 09, 1996	WHITE, JOE
32 SEQ #24	MAY 15, 1996	WHITE, JOE
23 SEQ #25	MAY 17, 1996	BROWN, JOE
39 SEQ #26	JUL 19, 1996	BLACK, JOE
26 SEQ #27	JUN 01, 1996	BROWN, JOE
27 SEQ #28	JUN 13, 1996	WHITE, JOE
24 SEQ #29	JUN 30, 1996	BROWN, JOE
40 SEQ #30	AUG 28, 1996	BLACK, JOE
41 SEQ #31	AUG 29, 1996	BROWN, JOE
29 SEQ #32	AUG 30, 1996	WHITE, JOE

## Purging Build and Install Files

Each KIDS installation adds one entry to the BUILD and INSTALL files for every transport global installed from the distribution. You can use the Purge Build or Install Files option to purge entries in these files.

The first question the option asks is which file to purge, the BUILD or INSTALL file. Choose one of these files.

The next question asked is the number of versions to retain.

## Versions to Retain

When you choose to retain some number entries for a package, the option must decide which entries are most recent. The Purge Install or Build Files option uses numeric order based on package version number to decide which entries are the most recent. When there are multiple entries for the same version number (for example, alpha or beta installs took place), the following order of precedence is used:

1. Released Version is the most recent (version number contains no letters, e.g., 8.0)
2. Beta Test Version (version number contains V, e.g., 8.0V10)
3. Alpha Test Version (version number contains T, e.g., 8.0T10)

## Selecting Package Names for Purging

After versions to retain, the next prompt is Package Name. You can enter a partial or full package name. You will continue to be prompted for additional package names until you are told to press return at the Package Name prompt.

**Packages:** To select package entries for purging, at the Package Name prompt, enter a partial or full package name. You can optionally enter partial or full version numbers. The list of candidates for purging will contain all entries (excluding patch entries) whose first characters match all characters in the package name that you specify. If you enter "ALL", all packages (but not patches) will be selected for purging.

**Patches:** Patches are a special case. To select patch entries for purging, you must enter the full namespace of the patch, the full version number, and an asterisk. You can optionally add a partial or full patch number after the asterisk. The list of candidates for purging will contain all entries whose first characters match all characters in the string you specify.

## ■ Purging Build File Entries for a Package

```
Select Utilities Option: Purge or Install Files

      Select one of the following:

          B          Build
          I          Install

Purge from what file: B
Versions to Retain: (0-100): 1//0
Package Name: ALL// ZXG
Another Package Name: <RET> ...

Package(s) in Build file, Don't retain any versions           Page 1
-----
ZXG 1.0
ZXG 2.0
ZXG 3.0

OK to DELETE these entries? NO// YES

Select Utilities Option:
```

### Purging Selected Entries

Based on the package name you enter and the number of entries you ask to retain, the option lists the packages it finds to purge. If you answer YES to the OK to DELETE these entries prompt, the option purges the listed entries.

### Reasons to Retain BUILD and INSTALL File Entries

**BUILD file:** Entries in the BUILD file are created by the package developers and identify every component in the package. BUILD file entries also contain the checksums for a package's components. You may want to retain the build entry for the most recent versions of installed packages, so that you can verify the checksums of the loaded package against its original checksums.

**INSTALL file:** Each entry in the INSTALL file contains a record of the installation for a given package. This information is useful as a record of each installation. Also, for MSM systems, if you need to manually move routines from the installation CPU to other CPUs at some point after the installation takes place, the routines that do this (MOVE^XPDCPU and INSTALL^XPDCPU) depend on the INSTALL file entry for the list of routines that need to be moved.

## Rollup Patches into a Build

This option will find all the patches for a package and add their individual BUILD file definitions to the package's BUILD file definition. This will enable you to create a single BUILD file entry that contains the definition for the patched package.

KIDS checks the BUILD file and lists all KIDS patches with a matching package name and version number. The list of patches is not necessarily displayed in patch sequence number.

This list only includes KIDS patches. Also, it does *not* include any pre- or post-install routines. You can use the Edit a Build option to further modify the build and add any additional patches.

### ■ Rollup Patches into a Build Sample

```
Select Utilities Option:  Rollup Patches into a Build

Rollup patches into Build:  KERNEL 8.0T20 <RET>      KERNEL
This package already contains the following patches:
    XU*8.0T20*4

The following patches can be rolled into Package RON 8.0T20
    XU*8.0T20*5
    XU*8.0T20*6
    XU*8.0T20*7
    XU*8.0T20*8
    XU*8.0T20*11

OK to continue? YES//  <RET>
...SORRY, HOLD
ON.....
.....Done.
```

## Update Routine File

The Update Routine File option updates the ROUTINE file to match the routine set stored on the current system.

Ideally, the ROUTINE file would contain an entry for every routine on the current system. However, the ROUTINE file does not get updated automatically when routines are added to or deleted from the system. But KIDS needs the ROUTINE file so that it can store the list of routines in a package as pointers to the ROUTINE file (rather than relying on namespace alone).

Developers should use this option to update the ROUTINE file before editing the routine component in a build entry, to ensure that all the routines they

want to include in a package can be selected by the routines' matching entries in the ROUTINE file.

If you answer YES to the question "Want me to clean up the Routine file before updating?", the option goes through the ROUTINE file and deletes any entries across all namespaces that have no matches with an actual routine on the current system.

Then, Update Routine File re-populates the ROUTINE file with all routines currently on the system for the namespaces you enter (you can exclude parts of a namespace if you want, as well).

## ■ Updating Routine File

```

Select Utilities Option: Update Routine File

Routine Namespace: XU
Routine Namespace: -XUI
Routine Namespace: <RET>

NAMESPACE   INCLUDE           EXCLUDE
           -----
                XU                XUI

OK to continue? YES// <RET>

Want me to clean up the Routine File before updating? YES// <RET>
...SORRY, THIS MAY TAKE A FEW MOMENTS...      ...Done.

```

## Verify a Build

The Verify a Build option checks whether a build entry's listed components actually exist on the current system. This is useful for developers who are preparing to create a transport global: they can check that there are actual components on the system matching the components requested in the build entry, in advance of trying to create a transport global. Therefore, developers should use *VERIFY A BUILD* *before* creating transport globals from build entries.

For any component in the build entry that doesn't actually exist on the system, the option outputs a one-line message identifying the missing component, with the appellation **\*\*NOT FOUND\*\***. The developer is also prompted with "Do you want to remove the missing Files? NO//". This allows you to verify if the missing component should in fact be removed from the build. If the missing component is required, the developer should create the missing component for the build entry before creating a transport global.



## ■ Verifying a Build

```

Select Utilities Option: Verify a Build
Select BUILD NAME:      XU*8.0*11 <RET>      KERNEL
File #8995  ** NOT FOUND **
Do you want to remove the missing Files? NO// <RET>

  ** DONE **

Select Utilities Option:

```

## Verify Package Integrity

You can use the Verify Package Integrity option to compare checksums of package components on the system against the checksums of the components when they were originally transported. Any discrepancies are reported. Currently, routines are the only components that are checked, but checksums will be extended to other package components in the future.

The checksums of components for the currently installed package are verified against checksums stored in the BUILD file entry for the package. If the most recent version of the BUILD file entry for a package has been purged, the Verify Package Integrity option will no longer be able to verify checksums for the loaded package. Because of this, in most cases you should not purge the most recent build entry for a package.