# Maintenance Update Notice: Application Capture Option

# DG/UX System Release 4.20MU01

# December 1997

Part number 078-600097-00

This release notice applies to the following models:

P001A

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## Release Notice: Application Capture Option

#### DG/UX System Release 4.20MU01

078-600097-00

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Contents

1. Introduction

# 1 Introduction

This release notice describes the Application Capture Option package for DG/UX® System Release 4.20MU01.

An on-line version of this release notice, suitable for line printers, is in the file /usr/release/dgux.aco\_R4.20MU01.un.

## 2 **Product description**

The Application Capture Option (ACO) package, available on DG/UX for Intel, contains features that allow certain UnixWare and SCO applications to run on DG/UX for Intel without recompilation. The ACO package consists of three components:

dgux.aco	contains non-GUI application capture features
X11.aco	contains support for GUI features
dgux.aco.man	contains the manual pages for the package.

The ACO package load by default with the DG/UX system. On rare occasions, an existing DG/UX application might have a conflict with something in the ACO. In this case, you will need to turn off one of the toggled features (see below) or even avoid loading the ACO.

The ACO package contains executables, files, directories and links that are required to run certain UnixWare and SCO applications. There are two classes of features shipped in or affected by the ACO package.

- self-contained These features ship in the ACO package only. They add capability to the DG/UX system without affecting base product features.
- toggled These features affect components of the base product. ACO package installation and setup modify these components so that they function in a manner that provides more compatibility for UnixWare and SCO applications. These features can be disabled and enabled as needed to support particular applications.

Note that the ACO package does not supply full UnixWare compatibility on the DG/UX system. UnixWare and SCO applications that depend on features that Data General chose not to include in the ACO package will not run on the DG/UX system.

## 2.1 dgux.aco content

The dgux.aco portion of the package contains executables, files, directories and links, which support certain UnixWare and SCO applications that do not use X Window System. Both toggled and self-contained features are included in dgux.aco.

### 2.1.1 Toggled features

The ACO package includes three toggled features, which are managed by the **admdguxaco** command. These features, listed below, are either enabled or disabled when the ACO package is installed and set up. The enabled state means that the feature is functioning in a way that is compatible with UnixWare and SCO applications. Use the **admdguxaco** command to disable or reenable any of the three toggled features:

rclinks Initially enabled. This feature controls the init script model used on the system. The standard DG/UX model for init scripts is to run only those scripts found in the target rc level when the system init level is changed. For example, when a DG/UX system is taken from init 1 to init 3, only the init scripts in rc level 3 are run.

The UnixWare model makes init level 3 a union of levels 1, 2, and 3. If a UnixWare system is taken from init 1 to init 3, init scripts in levels 2 AND 3 are run. The ACO package installs the rclinks feature in enabled state, which means it functions like the UnixWare model. If you disable the feature using **admdguxaco**, the DG/UX model will be used the next time you change init levels.

UnixWare or SCO products which deliver init scripts in init level 2 may require this feature.

devlinks Initially enabled. This feature adds to the system floppy and tape device names which are found on UnixWare or SCO, but not on standard DG/UX systems. Some UnixWare and SCO applications have dependencies on these names. The names are created as symbolic links to existing DG/UX devices. The names are removed when the devlinks

feature is disabled.

utmp Initially disabled. The default **utmp** and **wtmp** format for DG/UX on Intel is the extended format, **utmpx** and **wtmpx**. Some UnixWare and SCO applications may look for old-style **utmp** and **wtmp**. When enabled, the **utmp** feature of ACO creates old-style **utmp** and **wtmp** and simultaneously updates these along with Data General's default **utmpx** and **wtmpx**. When this feature is disabled, **utmp** and **wtmp** are removed, and the system only manages the **utmpx** and **wtmpx**.

#### 2.1.2 Self-contained features

The following features, shipped in **dgux.aco**, are added to the system without affecting the base DG/UX system:

1. Commands and related files

/usr/ucblib /usr/ucblib/sendmail.cf symbolic link to ../../etc/sendmail.cf /usr/ucblis/sendmail symbolic link to ../bin/sendmail /usr/sbin/fixperm /etc/fixperm symbolic link to ../usr/sbin/fixperm /sbin/custom /usr/lib/custom/help /etc/default/lang.proto /usr/bin/maplocale /usr/lib/lang/english/us/88591/collate /usr/lib/lang/english/us/88591/ctype /usr/lib/lang/english/us/88591/currency /usr/lib/lang/english/us/88591/messages /usr/lib/lang/english/us/88591/numeric /usr/lib/lang/english/us/88591/time /usr/lib/lang/C/C/C/collate /usr/lib/lang/C/C/C/ctype /usr/lib/lang/C/C/C/currency /usr/lib/lang/C/C/C/messages /usr/lib/lang/C/C/C/numeric /usr/lib/lang/C/C/C/time

#### 2. Product description

#### 2. Kernel devices

/usr/src/uts/aviion/cf/system.aco.proto – socksys, sockmod, and the STREAMS loopback device.

#### 3. SCO shared libraries

/usr/lib/libnsl\_s /usr/lib/libBCSnsl\_s hard linked to libnsl\_s /usr/lib/libNSL\_s /usr/lib/libc\_s

4. Special streams support

A special library /usr/dglib/libstreamsocket.so.1 contains a version of the socket(2) interfaces that are implemented using streamio(7) instead of the normal direct kernel operations. This allows UnixWare applications to perform stream operations on sockets, a practice that normally fails on the DG/UX system. The library is used instead of libsocket.so.1 when you run an application that was not originally linked on a DG/UX system. Note that this library is not supported for applications that are linked on the DG/UX system.

### 2.2 X11.aco content

The X11.aco portion of the package contains libraries, directories, links, and configuration files that are not part of standard DG/UX X11 but are required by some UnixWare and SCO GUI applications. These are all self-contained features, adding features without affecting base DG/UX features.

#### 2.2.1 **Toggled features**

No toggled features are delivered in X11.aco.

#### 2.2.2 Self-contained features

1. /usr/opt/X11/lib files. All links are symbolic.

./libXIM.so.1 ./libXIM.so.5.0 - link to libXIM.so.1 ./libXIM.so - link to libXIM.so.1 ./libX11 s ./libX11R4sco s ./libXimp.so.1 ./libXimp.so.5.0 - link to libXimp.so.1 ./libXimp.so - link to libXimp.so.1 ./libXsi.so.1 ./libXsi.so.5.0 - link to libXsi.so.1 ./libX11.so.5.0 - link to libX11.so.2 ./libXt.so.5.0 - link to libXt.so.2 ./libXext.so.5.0 - link to libXext.so.2 ./libXext.so.1 – link to libXext.so.2 ./libXmu.so.5.0 – link to libXmu.so.2 ./libXaw.so.5.0 - link to libXaw.so.2 ./libXi.so.5.0 – link to libXi.so.2 ./libXi.so.1 – link to libXi.so.2 ./libX11.so.5.0 - link to libX11.so.2 ./libXXaw.so.5.0 - link to libXaw.so.2 ./libXext.so.5.0 - link to libXext.so.2 ./libXm.so.5.0 - link to libXm.so.2 ./libXm.so.1.2 – link to libXm.so.2

2. lib links in /usr. All links are symbolic.

./lib/libXt.so.5.0 – link to /usr/opt/X11/lib/libXt.so.5.0 ./lib/libXt.so.1 – link to /usr/opt/X11/lib/libXt.so.1 ./lib/libXsi.so.5.0 – link to /usr/opt/X11/lib/libXsi.so.5.0 ./lib/libXsi.so.1 – link to /usr/opt/X11/lib/libXsi.so.1 ./lib/libXmu.so.2 – link to /usr/opt/X11/lib/libXmu.so.2 ./lib/libXmu.so.5.0 – link to /usr/opt/X11/lib/libXmu.so.5.0 ./lib/libXm.so.5.0 – link to /usr/opt/X11/lib/libXm.so.5.0 ./lib/libXimp.so.5.0 – link to /usr/opt/X11/lib/libXimp.so.5.0 ./lib/libXimp.so.1 – link to /usr/opt/X11/lib/libXimp.so.5.0 ./lib/libXimp.so - link to /usr/opt/X11/lib/libXimp.so ./lib/libXi.so.2 - link to /usr/opt/X11/lib/libXi.so.2 ./lib/libXi.so.1 - link to /usr/opt/X11/lib/libXi.so.1 ./lib/libXext.so.5.0 - link to /usr/opt/X11/lib/libXext.so.5.0 ./lib/libXext.so.2 – link to /usr/opt/X11/lib/ libXext.so.2 ./lib/libXext.so.1 - link to /usr/opt/X11/lib/libXext.so.1 ./lib/libXaw.so.5.0 - link to /usr/opt/X11/lib/libXaw.so.5.0 ./lib/libXaw.so.1 - link to /usr/opt/X11/lib/libXaw.so.1 ./lib/libXR4sco\_s - link to /usr/opt/X11/lib/libXR4sco\_s ./lib/libXIM.so.5.0 - link to /usr/opt/X11/lib/libXIM.so.5.0 ./lib/libXIM.so.1 – link to /usr/opt/X11/lib/libXIM.so.1 ./lib/libXIM.so - link to /usr/opt/X11/lib/libXIM.so ./lib/libX11 s - link to /usr/opt/X11/lib/libX11 s ./lib/libX11.so.5.0 - link to /usr/opt/X11/lib/libX11.so.5.0 ./lib/libX11.so.1 – link to /usr/opt/X11/lib/libX11.so.1 ./lib/X11/config - link to /usr/opt/X11/lib/config

3. dglib links in /usr. All links are symbolic.

./dglib/libXt.so.5.0 - link to /usr/opt/X11/lib/libXt.so.5.0 ./dglib/libXt.so.1 - link to /usr/opt/X11/lib/libXt.so.1 ./dglib/libXsi.so.5.0 - link to /usr/opt/X11/lib/libXsi.so.5.0 ./dglib/libXsi.so.1 - link to /usr/opt/X11/lib/libXsi.so.1 ./dglib/libXmu.so.2 - link to /usr/opt/X11/lib/libXmu.so.2 ./dglib/libXmu.so.1 - link to /usr/opt/X11/lib/libXmu.so.1 ./dglib/libXimp.so.5.0 - link to /usr/opt/X11/lib/libXimp.so.5.0 ./dglib/libXimp.so.1 – link to /usr/opt/X11/lib/libXimp.so.1 ./dglib/libXi.so.2 - link to /usr/opt/X11/lib/libXi.so.2 ./dglib/libXi.so.1 - link to /usr/opt/X11/lib/libXi.so.1 ./dglib/libXext.so.5.0 - link to /usr/opt/X11/lib/libXext.so.5.0 ./dglib/libXext.so.2 – link to /usr/opt/X11/lib/libXext.so.2 ./dglib/libXext.so.1 - link to /usr/opt/X11/lib/libXext.so.1 ./dglib/libXaw.so.5.0 - link to /usr/opt/X11/lib/libXaw.so.5.0 ./dglib/libXaw.so.1 - link to /usr/opt/X11/lib/libXaw.so.1 ./dglib/libXIM.so.5.0 - link to /usr/opt/X11/lib/libXIM.so.5.0 ./dglib/libXIM.so.1 - link to /usr/opt/X11/lib/libXIM.so.1 ./dglib/libX11.so.5.0 – link to /usr/opt/X11/lib/libX11.so.5.0 ./dglib/libX11.so.1 - link to /usr/opt/X11/lib/libX11.so.1 ./dglib/libX11.so.5.0 – link to /usr/opt/X11/lib/libX11.so.5.0

```
./dglib/libXaw.so.5.0 – link to /usr/opt/X11/lib/libXaw.so.5.0
./dglib/libXext.so.5.0 – link to /usr/opt/X11/lib/libXext.so.5.0
./dglib/libXi.so.5.0 – link to /usr/opt/X11/lib/libXi.so.5.0
./dglib/libXm.so.5.0 – link to /usr/opt/X11/lib/libXm.so.5.0
./dglib/libXm.so.1.2 – link to /usr/opt/X11/lib/libXm.so.5.0
./dglib/libXmu.so.5.0 – link to /usr/opt/X11/lib/libXmu.so.5.0
./dglib/libXmu.so.5.0 – link to /usr/opt/X11/lib/libXmu.so.5.0
```

 UnixWare X directory and link /usr/X – directory /usr/X/lib – symbolic link to /usr/opt/X11/lib

## 2.3 Kernel and library content

In addition to the self-contained and toggled features delivered in dgux.aco and X11.aco, the DG/UX kernel and libraries contain limited support for UnixWare and SCO system calls and library interfaces. This support provides binary compatibility for some UnixWare and SCO applications, and object compatibility for some UnixWare applications. The DG/UX system does not support the full set of UnixWare and SCO system calls and library interfaces, nor does it provide object support for SCO COFF objects. UnixWare and SCO applications that depend on these unsupported features will not run on the DG/UX system without porting.

## 2.4 UW/SCO unsupported features

A list of known unsupported features is included below. This is not a comprehensive list; many differences between UW/SCO and the DG/UX system may not have been identified. The best way to determine if your application has any additional unsupported dependencies is to install the ACO package on your system and then try your application.

Some UW/SCO features that DG/UX plus ACO does not support:

COFF objects DDI/DKI interface for drivers /dev/cmos /dev/kmem access to UnixWare kernel internals dynamically loadable modules libucb.a – UnixWare's BSD support libx.a – Xenix support persistent /dev - /dev is recreated on each boot in DG/UX /proc RFS SCO tape joctls MT DSTATUS, MT\_EOD, MTTENSION, MTTAPE\_STATUS, MT REPORT, MT\_AMOUNT, MT\_STATUS tape utility tapecntl utility UW async I/O interfaces - partial support is available for some UW async I/O interfaces. UW device names which aren't part of the ACO devlinks toggled feature. UW physical disk format UW realtime system calls keyctl, online, priocntl, priocntllst, priocntlsys UW system calls nfssys, sleep, uadmin UW security UW system administration UW tape ioctls T\_RDSTAT, T\_SBF, T\_RDBLKLEN, T\_WRBLKLEN, T\_PREVMV, T\_ALLOMV, T\_SBB, T\_EOD, T\_SSFB, T\_SSFF, T\_STS, T\_STD UW threads XTI library interfaces

A UW/SCO application that contains dependencies on unsupported features will need to be ported, either on the DG/UX or UnixWare platform, in order to replace the dependency. The manual *Porting and Developing Applications for the DG/UX System* contains suggestions for porting applications from UnixWare or SCO source.

# 3 Environment

This section lists the hardware and software required for the ACO package.

## 3.1 Software environment

This package runs on DG/UX System Release 4.20MU01 for Intel. It is delivered on the DG/UX for Intel media and is not available on 88K platforms.

## 3.2 Hardware environment

The ACO package runs on all Intel hardware supported by DG/UX System Release 4.20MU01. The update notice for DG/UX System Release 4.20MU01 (/usr/release/dgux\_R4.20MU01.un) contains a list of the supported hardware.

## 3.3 **Development environment**

UnixWare and SCO applications that are development tools themselves or that compile, build, and/or link during installation require the Software Development Kit (SDK) package for DG/UX System Release 4.20MU01. The SDK package, on the DG/UX media, contains software development components such as libraries, optimizing compiler, headers, and programming tools. Although the ACO package provides links for UW/SCO locations of libraries and programming tools, these links are useless if the underlying files are not in place.

# 4 Enhancements and changes

## 4.1 Installation defaults

The DG/UX System 4.20MU01 introduces two policy changes with respect to the ACO package:

- 1. The ACO package is installed by default. You must perform a custom installation to avoid loading it.
- 2. The **utmp** feature is installed in a disabled state.

# 5 Notes and warnings

This section contains notes and warnings specific to this release.

## 5.1 **utmp**

The ACO utmp feature may have a small affect on login performance and disk space consumption. When the feature is enabled, the DG/UX system creates UnixWare-style utmp and wtmp files in addition to the default utmpx and wtmpx. For every login, the DG/UX system simultaneously updates both the UnixWare-style and the DG/UX default files. When the utmp feature is disabled, the UW style files are deleted, and only the extended style files are updated. The utmp feature is managed with the **admdguxaco** command (see the **admdguxaco**(3) manual page for more information).

## 5.2 SCO-compatible locales

If you have locale problems when running SCO applications, **maplocale** can be used to convert DG/UX locales to SCO compatible locales. See the **maplocale**(1M) manual page for more information.

## 5.3 devlinks

The ACO devlinks feature creates UnixWare-style device names in /dev, /dev/rmt, /dev/dsk, and /dev/rdsk. These entries, defined in /etc/aco.devlinks, are needed by some UnixWare and SCO applications. DG/UX applications may have made assumptions about the contents of these directories and may break when this feature is enabled. Use the admdguxaco command to disable this feature, if necessary (see the admdguxaco(3) manual page for more information).

## 5.4 Conflicts with toggled features

Since the toggled features of the ACO package operate systemwide in either enabled or disabled state, conflicts over some of these features may arise. This could happen if a UW/SCO application expects a feature to be enabled, while a DG/UX application needs the feature to be disabled. If such a conflict arises, you must manage the feature in question using the **admdguxaco** command. You may not be able to run the two conflicting applications simultaneously.

## 6 **Documentation**

The ACO package on-line documentation consists of this release notice and the following manual pages:

```
admdguxaco(1M)
custom(1M)
fixperm(1M)
maplocale(1M)
```

# 7 Software distribution

This package is released on the DG/UX System Release 4.20MU01 media.

A list of files that are loaded when the ACO package is loaded on your disk is in the files

/usr/release/dgux.aco\_R4.20MU01.fl
/usr/release/dgux.aco.man\_R4.20MU01.fl
/usr/opt/X11/release/X11.aco\_R4.20MU01.fl

# 8 Installation instructions

The ACO package is installed with the DG/UX system by default as part of the "Production" package suite because it is required by a number of important third-party software products.

The ACO package can be excluded from the load or some of its individual features can be turned off if you have no dependencies on it or the specific features. To exclude it from the load, select either the "DevelopmentLessACO" or the "ProductionLessACO" package suite when prompted for packages to load during installation.

## 8.1 Installing ACO after the DG/UX system is installed

To install the ACO package after the system is loaded with DG/UX R4.20MU01, insert the R4.20MU01 CD-ROM in your drive, and do the following:

- 1. Register the CD-ROM.
- 2. Mount the +release virtual disk on /release.
- 3. Install the ACO package, with or without support for X Window applications.
- 4. Delete the CD-ROM file system, deregister the CD-ROM, and remove the CD-ROM from your drive.
- 5. Rebuild the kernel, and reboot the system with the new kernel.

#### 8.1.1 Registering the CD-ROM

To register the CD-ROM, select **sysadm**'s Device  $\rightarrow$  Disk  $\rightarrow$  Physical  $\rightarrow$  Register. **sysadm** prompts for the physical disk you wish to register (to display the devices available to be registered, enter ? at the prompt). Enter the number of the device you want registered. For example:

```
Physical Disk(s): ?   
<sysadm lists devices; you wish to register device 1>
Physical Disk(s): 1
```

```
OK to perform operation? [yes] ↓
Physical disk sd(npsc(cpci(0),2,0,7),4,0) registered.
```

#### 8.1.2 Mounting the virtual disk

To mount the **+release** virtual disk on directory **/release**, select **sysadm**'s File System  $\rightarrow$  Local Filesys  $\rightarrow$  Add, and complete the following dialog:

```
File System Type: [dg/ux] ↓
Virtual Disk: +release ↓
Mount Directory: /release ↓
Write Permission: [Read/Write] Read Only ↓
Dump Frequency: [Daily] None ↓
Fsck Pass Number: [1] 0 ↓
Fsck Logging? [no] ↓
Exportable? [yes] no ↓
Mount the file system? [yes] ↓
OK to perform operation? [yes] ↓
Mount point directory /release does not exist.
Do you wish to create it? [yes] ↓
File system added: /release
File system mounted: /release
```

#### 8.1.3 Installing the ACO package

To install the ACO package, select sysadm's Software  $\rightarrow$  Package  $\rightarrow$  Install. To install dgux.aco, dgux.aco.man, and X11.aco, complete the dialog as follows:

```
Release Medium: [/release] ,
Release Name: [DG/UX R4.20MU01] ,
Package Name(s): [development] aco ,
```

To install the ACO package without support for X Window applications, complete the **Package Name(s)** line as follows:

Package Name(s): [development] dgux.aco dgux.aco.man 🗸

#### 8.1.4 Deleting the file system and deregistering the CD-ROM

After sysadm has installed the package, delete the CD-ROM file system and deregister the CD-ROM. To delete the file system, use sysadm's File System  $\rightarrow$  Local Filesys  $\rightarrow$  Delete:

```
File System(s) to Delete: /release ↓
Unmount after deleting? [yes] ↓
Delete the following file system(s)?
/release [yes] ↓
File system deleted: /release
File system unmounted: /release
```

Once the file system is deleted, deregister the CD-ROM through sysadm's Device  $\rightarrow$  Disk  $\rightarrow$  Physical  $\rightarrow$  Deregister:

Physical Disk(s): sd(npsc(cpci(0),2,0,7),4,0) ↓ OK to perform operation? [yes] ↓ Physical disk sd(npsc(cpci(0),2,0,7),4,0) deregistered.

Remove the CD-ROM from your drive.

#### 8.1.5 Rebuilding the kernel

If you have custom parameters, save /var/Build/system.parameters.system-id, which contains your custom parameter definitions, to a temporary file because the parameter file needs to be regenerated. To rebuild your kernel, select sysadm's System  $\rightarrow$  Kernel  $\rightarrow$  Config and Build. When sysadm asks if it should retain your parameter configuration file, answer regenerate.

Parameter configuration file: [retain] regenerate

sysadm checks your parameters and invokes an editor, where you reenter any custom parameter definitions. After rebuilding your kernel, reboot the system with the new kernel.

# 9 **Preparing a software trouble report**

If you believe you have found an error in an ACO component or have a suggestion for enhancing or improving the package, follow procedures outlined in the manual *Preventing and Fixing Problems on the DG/UX System*. Include with your report a file or hard copy of output of the command:

admdguxaco -o check

A copy of the standard STR form suitable for printing on a line printer is in the file /usr/release/STR\_form.

- The product name is **aco**.
- The model is **Q501A**.
- The revision is 4.20MU01.

To comment on the documentation, fill out the reader comment form in /usr/release/doc\_comment\_form and send it to the address on the form.

End of Release Notice