

Customizing Continuity

Part 1

Introduction

'Continuity' is an INIT resource which can cause Desk Accessories to be automatically opened. It is possible to configure the system so that in the event a DA is left open when one application is terminated that particular DA will be opened automatically in the next application. This is the nominal configuration installed by the present version of 'Continuity' Installer.

When a system file containing 'Continuity' is booted 'Continuity' is installed in the system heap where it patches 10 traps and proceeds to track aspects of the status of applications and DAs. 'Continuity' uses resources of type AUTO to hold configuration information and system status. The resource 'AUTO 0' holds application status and 5 configuration flags governing the high level behavior of 'Continuity'. A resource of type AUTO with the name of a DA (without any leading null character) holds status for that DA and 16 configuration flags specific to that DA. To establish configuration, resources of type AUTO can be installed in either the System file or in applications (including with limits the Finder); if they occur in applications they will override any corresponding resource in the System file. 'Named AUTO' resources do not necessarily have to be in the same file as the corresponding DA. In any event the behavior of 'Continuity' is determined by all these considerations. The present version of 'Continuity Installer' installs only a single default configuration (no variations considered) in the System file. ResEdit can be used to structure a custom configuration in the event anyone requires something more.

There are countless possible variations in the configuration of 'Continuity'; however a configuration is meant to be done only once and then left static. The subsequent actual operation of 'Continuity' is exceptionally 'transparent'.

Before Using ResEdit

It is important that you boot your system from a disk that does not contain 'Continuity' before you use ResEdit to customize your system. This must be done because otherwise both ResEdit and 'Continuity' will be attempting to modify the same resources at the same time. As a result there may be undesired consequences.

There will be many resources present in the various files, however the only ones of interest to this discussion are those of type 'AUTO'. These are the only resources that need be touched. Using ResEdit to play around with other resources could be dangerous if you do not know what you are doing.

Simple Customization

For any number of reasons you may desire that Continuity work with certain DAs and at the same time not work at all with other DAs. Generally your choice will depend on the characteristics of the DA, the characteristics of the applications it may be used under, as well as your personal preferences. There is a whole spectrum of possibilities concerning the characteristics of DAs: some DAs may be violently incompatible with 'Continuity'; other DAs may present Modal Dialogs which are a nuisance to answer if you do not need to; some DAs may have very large windows and obscure your real work while other DAs just have a menu and are very inconspicuous; finally still other DAs may have a use which has no logical need to be carried from application to application. You may decide for example that DAs like Choose Printer, Control Panel, Key Caps, MockWrite, Notepad+ etc. have no need for automatic opening (at least globally). Unless you want some interesting times, you would not want an 'Eject and Reset' type of DA to be automatically opened under any circumstances.

ResEdit can be used to remove a DA from the scope of 'Continuity' by simply removing the corresponding 'named AUTO' resource from the resource map of the System file. After having installed 'Continuity' the steps are:

1. Boot your system from a disk not containing 'Continuity'.
2. Run ResEdit. OPEN the System file that contains 'Continuity'. OPEN the 'AUTO' resources.
3. CLEAR the AUTO resource for the DA you wish to exclude from 'Continuity'.
4. Close up the windows, save the new System file, and quit ResEdit.

Local and Global

Version 0.1 of 'Continuity' Installer places a 'global' standard configuration on your system. This means that DAs will follow from application to application as long as you use the same System file. If a different System file is used at some point, your DAs will obey the configuration (if any) on the new System file. In the event you should return to the original System file the original configuration will be restored. It is possible to make the operation of Continuity 'local' to an application. This would mean that you could arrange for certain DAs to be automatically opened in one application but they would not follow you to a second application. Certain DAs may be appropriate only to certain applications where they are highly desired. For example you could arrange to have the 'Windows' DA opened automatically in applications which use a lot of windows and which have space in the menu bar. Or you could leave yourself messages on 'Note Pad' (or a clone) within an application and have them automatically shown when you later return to that application but not shown elsewhere unless you explicitly look.

The method of using ResEdit to construct 'local' configurations is very simple: one simply copies the appropriate 'named AUTO' resources from the system file and pastes into the appropriate applications. The steps are:

1. Boot your system from a disk not containing 'Continuity'.
2. Run ResEdit. OPEN the System file that contains 'Continuity'. OPEN the 'AUTO' resources.
3. COPY the AUTO resource for the DA you wish to have 'local' operation.
4. OPEN the application into which you wish to paste the 'named AUTO' resource, and PASTE it in.
5. Close up the windows and save the changed application file. Quit ResEdit.

This will work with most applications. It does not work fully with the Finder however; special methods to use on the Finder will be given later. The AUTO resource in an application overrides any AUTO resource of the same name in the System.

More About the Operation of Continuity

'Continuity' tracks the status of DAs and 'flags' the appropriate 'named AUTO' resources to indicate whether the DAs should be automatically opened. There are two such flags; one indicates whether the DA can be automatically opened under Switcher and the other indicates whether it should be automatically opened in a non-Switcher environment. 'Continuity' performs this flagging both when DAs are opened and when DAs are closed or presumed closed (any DAs left open when an application terminates are presumed closed). 'Continuity' also assigns 'responsibility' for opening and closing to either the 'system' or the 'user'. Automatic opening under 'Continuity' is defined as a 'system open' while any other case is taken as a 'user open'. The case for closing DAs is considerably more complicated and is given in the following list:

DA closed by close box -- 'user'.
DA closed by Application -- 'system'
(e.g. DA closed from Close in Edit menu).
DA closed by DA itself (except in Goodbye Kiss) -- 'user'
(e.g. DA closed from its own menu).
DA still open at _ExitToShell -- 'system'.

Generally under a normal configuration if the user closes a DA explicitly, the DA is not opened automatically, while if the system closes the DA it could be opened automatically (under the right circumstances).

For 'Continuity' to recognize a close the _CloseDeskAcc trap must actually be executed. Some DAs (e.g. the current versions of 'Windows' and 'Drawers') provide no way for the 'user' to truly close the DA. These DAs have no window and therefore no close box; as well the menu selection for 'Close' does not issue a _CloseDeskAcc trap but merely hides the menu. Thus all true closes for these DAs are 'system' closes and the DA is perpetually kept open by the automatic action of Continuity.

Continuity recognizes 8 states while it is tracking:
(switcher,non-switcher)*(open,close)*(user,system).

There are two flags (to specify automatic opening under switcher and non-switcher) set by the tracking logic depending on which of these 8 states is in effect. The way these two flags are to be set is given in a table of 16 (=8*2) configuration flags contained in each 'named AUTO' resource. Thus a DA can be configured to behave differently by constructing the appropriate table in the AUTO resource for that DA. (The AUTO resource for a DA has the same name as the DA itself--without the leading null). Most combinations of these 16 configuration flags produce useless results, however there are still a large number of potentially useful combinations. As Continuity tracks the status of DAs it writes out the new status recorded in the AUTO resources back to the file they came from. The new status is then present for the next application.

Some Types of Named AUTO Resources

There are many ways of setting up the configuration bytes of a named AUTO resource; most of these ways perform no useful function. There are 4 very useful types though; these are:

Type 1-1. Never automatically open the DA.

Type 2-2a. Open automatically in a controllable fashion. If the Switcher is active open the DA at most once automatically via this resource.

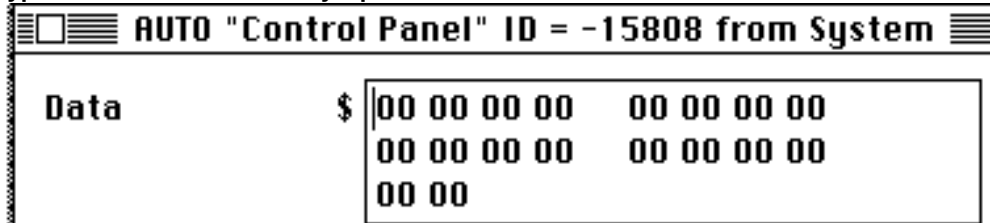
Type 2-2b. Open automatically in a controllable fashion. If the Switcher is active this DA may possibly be opened more than once automatically via this resource.

Type 3-3. Always open the DA automatically.

Type 2-2a and type 2-2b allow the user to control how often a DA is opened in a Switcher environment. This may be desirable for certain DAs (for example NotePad) which use files. If you use two invocations of NotePad under switcher it is possible that work done in one may not be reflected in the file. As much as possible then, NotePad should be limited to one automatic invocation in a Switcher environment.

Version 0.1 of 'Continuity' Installer sets up all DAs in the System file to have type 2-2a format by default. DAs like Alarm Clock can have type 2-2b formats if you desire. A DA like Drawers could have type 3-3 configuration format and be opened everywhere. The type 1-1 format is used in local configurations to override the 'global' configuration for a DA and prohibit automatic opening in the selected application. The following figures give the configuration layout (in hex) for each of these for types as would be seen on the ResEdit screen.

Type 1-1: Never Automatically Open



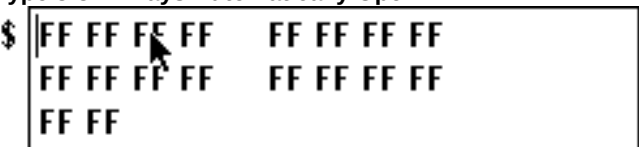
Type 2-2a: Open Automatically Once under Switcher



Type 2-2b: Open Automatically Multiple Times under Switcher



Type 3-3: Always Automatically Open



Example

If you have a HyperDrive you may have noticed that 'Manager' objects mildly to any attempts to open the Drawers accessory. You would never want to automatically open Drawers in 'Manager' even if it is automatically opened everywhere else. This can be accomplished by installing a local configuration of type 1-1 inside 'Manager'. This can be done as follows using ResEdit:

1. Copy the named AUTO resource for Drawers and paste it into Manager.
2. Open the AUTO resources in Manager and then open the 'Drawers' AUTO resource.
3. Edit the data in the box changing all 'F's to '0's as in the Type 1-1 format above.
4. Close up and save the changes to Manager.

Local Configurations for the Finder

The static types 1-1 and 3-3 can be pasted into the Finder and they will 'work' properly. The other formats for named AUTO resources do not work properly in the Finder; nothing bad occurs--the DA just does not track.

Suppose you wish to have 'Windows' and 'Alarm Clock' always open in the Finder. Just copy the AUTO resources for these two accessories and paste them into Finder using ResEdit. Open up these two resources and edit the data to all 'F's as in format type 3-3. Do not shorten or lengthen the resources; they should have 18 bytes each--36 'F's.