Getting Data Out of a Parameter

You can use the **AEGetParamPtr** or **AEGetParamDesc** function to get the data out of a parameter. Use the **AEGetParamPtr** function to return the data contained in a parameter. Use the **AEGetParamDesc** function when you need to get the descriptor record of a parameter. You often use the **AEGetParamDesc** function to extract the descriptor list from a parameter.

You can also use the **AEGetKeyPtr** function to return the data contained in a parameter. The **AEGetKeyPtr** function provides an additional feature-you can use this function to get data out of an AE record.

For example, you use an **Apple Event Manager** function to get the data out of a Section Read event. The **Edition Manager** sends your application a Section Read event to tell your application to read updated information from an edition into the specified subscriber. The direct parameter of the Apple event contains a handle to the section record of the subscriber. You can use the **AEGetParamPtr** function to get the data out of the Apple event.

You specify the Apple event that contains the desired parameter, the keyword of the desired parameter, the descriptor type the function should use to return the data, a buffer to store the data, and the size of this buffer as parameters to the **AEGetParamPtr** function. The **AEGetParamPtr** function returns the descriptor type of the resulting data and the actual size of the data, and it places the requested data in the specified buffer.

```
SectionHandle  sectionH;
AppleEvent     theAppleEvent;
DescType       returnedType;
Size           actualSize;
OSErr          myErr;

myErr = AEGetParamPtr(&theAppleEvent, keyDirectObject, typeSectionH,
                      &returnedType, (Ptr) &sectionH, sizeof(sectionH),
                      &actualSize);
```

In this example, the keyDirectObject keyword specifies that the **AEGetParamPtr** function should extract information from the direct parameter; **AEGetParamPtr** returns the data in the buffer specified by the sectionH variable.

You can request that the **Apple Event Manager** return the data using the descriptor type of the original data or you can request that the **Apple Event Manager** coerce the data into a descriptor type that is different from the original. See **Built-in Coercion Handlers** for a list of coercions that the **Apple Event Manager** can perform. You can specify the desired descriptor type as typeWildCard if you don't want any coercion performed-in which case, the **AEGetParamPtr** function returns the original descriptor type of the parameter.

The typeSectionH descriptor type specifies that the returned data should be coerced to a handle to a section record. You can use the information returned in the sectionH variable to identify the subscriber and read in the information from the edition.

In this example, the **AEGetParamPtr** function returns in the returnedType variable the descriptor type of the resulting data. In most cases, the descriptor type of the resulting data matches the requested descriptor type, unless the **Apple Event Manager** wasn't able to coerce the data to the specified descriptor type. If the coercion fails, the **Apple Event Manager** returns the result code.

The **AEGetParamPtr** function returns the actual size of the data in the *actualSize* variable. If the value returned in the *actualSize* variable is greater than the amount your application allocated for the buffer to hold the returned data, your application can increase the size of its buffer to this amount, and get the data again. You can also choose to use the **AEGetParamDesc** function when your application doesn't know the size of the data.

You can use the **AEGetParamDesc** function to return the descriptor record of a parameter. This function is useful, for example, when extracting descriptor lists from a parameter.

You specify the Apple event that contains the desired parameter, the keyword of the desired parameter, the descriptor type the function should use to return the descriptor record, and a buffer to store the returned descriptor record as parameters to the **AEGetParamDesc** function. The **AEGetParamDesc** function returns the descriptor record using the specified descriptor type.

For example, the direct parameter of the Open Documents event contains a descriptor list that specifies the documents to open. You can use the **AEGetParamDesc** function to get the descriptor list out of the direct parameter.

```
AEDescList  docList;
AppleEvent  theAppleEvent;
OSErr       myErr;

myErr = AEGetParamDesc(&theAppleEvent, keyDirectObject, typeAEList,
                       &docList);
```

In this example, the Apple event specified by the variable the AppleEvent contains the desired parameter. The keyDirectObject keyword specifies that the **AEGetParamDesc** function should get the descriptor record of the direct parameter. The typeAEList descriptor type specifies that the descriptor record should be returned as a descriptor list. In this example, the **AEGetParamDesc** function returns a descriptor list in the *docList* variable.

The descriptor list contains a list of descriptor records. To get the descriptor records and their data out of a descriptor list, use the **AECountItems** function to find the number of descriptor records in the list, and then make repetitive calls to the **AEGetNthPtr** function to get the data out of each descriptor record.

Note that the **AEGetParamDesc** function copies the descriptor record from the parameter. When you're done with a descriptor record that you obtained from **AEGetParamDesc**, you must dispose of it by calling the **AEDisposeDesc** function.