



#129: `_SysEnvirons`: System 6.0 and Beyond

Revised by: Guillermo Ortiz & Dave Radcliffe
Written by: Jim Friedlander

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This Technical Note discusses changes and enhancements in the `_SysEnvirons` call in System Software 6.0 and later.

Changes since October 1988: Added a `machineType` constant for the Macintosh SE/30.

`_SysEnvirons` and New Machines

`_SysEnvirons` is the standard way to determine the features available on a given machine, and its main characteristic is that it continually evolves to provide the necessary information as new machines and System Software appear. As originally conceived, `_SysEnvirons` would check the `versionRequested` parameter to determine what level of information you were prepared to handle, but this technique means updating `_SysEnvirons` for every new hardware product Apple produces. With System Software 6.0, `_SysEnvirons` introduced `environsVersion 2` to provide information about new hardware as we introduce it; this new version returns the same `SysEnvRec` as version 1.

Beginning with System Software 6.0.1, Apple only releases a new version of `_SysEnvirons` when engineering make changes to its structure (i.e., when they add new fields to `SysEnvRec`); all existing versions will return accurate information about the machine environment even if part of that information was not originally defined for the version you request. For example, if you call `_SysEnvirons` with `versionRequested = 1` on a Macintosh IIx, it will return a `machineType` of `envMacIIx` even though this machine type originally was not defined for version 1 of the call.

You should use version 2 of `_SysEnvirons` until Apple releases a newer version. Regardless of the version used, however, your software should be prepared to handle unexpected values and should not make assumptions about functionality based on current expectations. For example, if your software currently requires a Macintosh II, testing for `machineType >= envMacII` may result in your software trying to run on a machine which will not support the features it requires, so test for specific functionality (i.e., `hasFPU`, `hasColorQD`, etc.).

You should always check the `environsVersion` when returning from `_SysEnvirons` since the glue always returns as much information as possible, with `environsVersion` indicating the highest version available, even if the call returns an `envSelTooBig` (–5502) error.

New Constants

The following are new `_SysEnviron`s constants and are not documented in *Inside Macintosh*; however, you should refer to *Inside Macintosh*, Volume V, Compatibility Guidelines (pp. 5–8,11,12), for the rest of the story.

machineType

<code>envMacIIx = 5</code>	<code>{Macintosh IIx}</code>
<code>envSE30 = 7</code>	<code>{Macintosh SE/30}</code>

processor

<code>env68030 = 4</code>	<code>{MC68030 processor}</code>
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Further Reference:

- *Inside Macintosh*, Volume V-1, Compatibility Guidelines