

Glossary

A5 world An area of memory in an application's partition that contains the QuickDraw global variables, the application global variables, the application parameters, and the jump table—all of which are accessed through the A5 register.

active application The application currently interacting with the user. Its icon appears on the right side of the menu bar. See also **current process**, **foreground process**.

alert notification A notification in which an alert box containing a short message appears on the screen.

Apple events High-level events whose structure and interpretation are determined by the Apple Event Interprocess Messaging Protocol.

application heap An area of memory in the application heap zone in which memory is dynamically allocated and released on demand. The heap contains the application's 'CODE' segment 1, data structures, resources, and other code segments as needed.

application partition A partition of memory reserved for use by an application. The application partition consists of free space, the application heap, the application's stack, and the application's A5 world.

asynchronous execution A mode of invoking a routine. During the asynchronous execution of a routine, an application is free to perform other tasks. See also **completion routine**.

audible notification A notification in which the Sound Manager plays the system alert sound or a sound contained in an 'snd' resource.

background-only application An application that does not have a user interface.

background process A process that isn't currently interacting with the user. See also **foreground process**.

completion routine A routine that is executed when an asynchronous call to some other routine is completed.

context Information the Process Manager maintains about a process. This information includes the current state of the process, the address and size of its partition, its type, its creator, a copy of its low-memory global variables, information about its 'SIZE' resource, and its process serial number.

context switch A major or minor switch.

cooperative multitasking environment A multitasking environment in which applications explicitly cooperate to share the available system resources. See also **multitasking environment**.

current process The process that is currently executing and whose A5 world is valid. This process can be in the background or foreground.

defer To postpone the execution of an interrupt task until all interrupts have been reenabled.

deferred task An interrupt task whose execution has been postponed until interrupts have been reenabled.

Deferred Task Manager The part of the Macintosh Operating System that allows you to defer the execution of lengthy interrupt tasks until interrupts have been reenabled.

deferred task queue An operating-system queue that contains deferred task records.

deferred task record A record that contains information about a deferred task. Defined by the DeferredTask data type.

desk accessory A "mini-application" that is available from the Apple menu regardless of which application you're using—for example, the Calculator, Note Pad, Alarm Clock, Puzzle, Scrapbook, Key Caps, and Chooser.

desktop The working environment on the computer—the menu bar and the gray area on the screen. The user can have a number of documents on the desktop at the same time. At the Finder level, the desktop displays the Trash icon and the icons (and windows) of volumes that have been mounted.

device A part of a computer, or a piece of external equipment, that can transfer data into or out of the computer.

device driver A program that controls the exchange of information between an application and a device.

Device Manager The part of the Macintosh Operating System that supports device I/O.

disabled interrupt An interrupt whose priority level is lower than or the same as that of an interrupt that is currently being serviced.

drift To deviate or vary from scheduled execution.

drift-free Executed precisely as scheduled, without drifting.

event The means by which the Event Manager communicates information about user actions, changes in the processing status of the application, and other occurrences that require a response from the application.

Event Manager The collection of routines that an application can use to receive information about actions performed by the user, to receive notice of changes in the processing status of the application, and to communicate with other applications.

exception An error or other special condition detected by the microprocessor in the course of program execution.

external reference A reference to a routine or variable defined in another code segment.

fixed-frequency Of constant frequency.

foreground process The process that is currently interacting with the user; it appears to the user as the active application. The foreground process displays its menu bar, and its windows are in front of the windows of all other applications. See also **background process**.

frequency The number of times per second that an action (such as the issuance of an interrupt) occurs. An action's frequency is measured in cycles per second, or hertz. See also **period**.

good-bye message A message sent by the Operating System to notify device drivers when an application quits or the system shuts down. To receive a good-bye message, drivers must set the `dNeedGoodBye` bit in the `drvFlags` word.

hertz (Hz) A unit of frequency, equal to one cycle per second.

interrupt An exception signaled by a device to the processor, notifying it of a change in the condition of the device, such as the completion of an I/O request.

interrupt handle A routine that services interrupts.

interrupt priority level A number that identifies the importance of an interrupt. It indicates which device is interrupting, and which interrupt handler should be executed in response to the interrupt.

interrupt table A list (stored in low memory) of interrupt vectors.

interrupt task A routine executed as the result of an interrupt.

interrupt vector The address of an interrupt handler.

jump table An area of memory in an application's A5 world that contains one entry for every externally referenced routine in every code segment of the application. The jump table is the means by which segments are loaded and unloaded.

jump table entry A single entry in a jump table.

kill To cause a process or task to stop executing.

load To move a segment into RAM.

Macintosh Operating System The part of Macintosh system software that manages basic low-level operations such as file reading and writing, memory allocation and deallocation, process execution, and interrupt handling.

main segment The segment that contains the main program.

major switch The process of switching the context of the foreground process with the context of a background process (including the A5 worlds and application-specific system global variables) and bringing the background process to the front, sending the previous foreground process to the background. See also **context**, **minor switch**.

microsecond A unit of time equal to one millionth of a second. Abbreviated μ sec.

millisecond A unit of time equal to one thousandth of a second. Abbreviated msec.

minor switch The process of switching the context of a process to give time to a background process without bringing the background process to the front. See also **context**, **major switch**.

multitasking environment An environment in which several independent applications or other processes can be open at once. See also **cooperative multitasking environment**.

notification An audible or visible indication that your application (or other piece of software) requires the user's attention. See also **alert notification**, **audible notification**, and **polite notification**.

Notification Manager The part of the Macintosh Operating System that allows you to inform users of significant occurrences in applications that are running in the background or in software that is largely invisible to the user.

notification queue The Notification Manager's list of pending notification requests.

notification record The internal representation of a notification request, through which you specify how a notification is to occur. Defined by the `NMRec` data type.

notification request A request to the Notification Manager to create a notification.

notification response procedure A procedure that the Notification Manager can execute as the final step in a notification.

null event An event signaling that there are no more events to report.

open application An application that is loaded into memory.

Operating System See **Macintosh Operating System**.

operating-system event An event returned by the Event Manager to communicate changes in the operating status of applications (suspend and resume events) and movement of the mouse outside of an area defined by the application (mouse-moved events).

operating-system queue See **queue**.

partition A contiguous block of memory reserved for use by the Operating System or by an application. See also **application partition** and **system partition**.

period The time elapsed during one complete cycle. See also **frequency**.

persistent VBL task A VBL task that is executed as scheduled, even when the application that installed it is switched out and is no longer in control of the CPU.

polite notification A notification in which a small icon blinks in the menu bar at the location of the Apple menu icon (the Apple logo) or the Application menu icon.

prime To activate a Time Manager task that is already installed in the Time Manager queue.

process An open application or, in some cases, an open desk accessory. (Only desk accessories that are not opened in the context of another application are considered processes.)

Process Manager The part of the Macintosh Operating System that provides a cooperative multitasking environment by controlling access to shared resources and managing the scheduling, execution, and termination of applications.

processor priority Bits in the status register of the CPU that indicate which interrupts are to be processed and which are to be ignored.

process serial number A number assigned by the Process Manager that identifies a particular instance of an application; this number is unique during a single boot of the local machine. Defined by the `ProcessSerialNumber` data type.

queue A list of identically structured entries linked together by pointers.

resume event An operating-system event that indicates that the execution of your application is about to be resumed. See also **suspend event**.

segment One of several logical divisions of the code of an application. Not all segments need to be in memory at the same time.

segment header A 4-byte area at the beginning of a segment that contains the offset of the first routine's entry from the beginning of the jump table (2 bytes) and the number of entries for the segment (2 bytes).

Segment Manager The part of the Macintosh Operating System that loads and unloads your application's code segments into and out of memory.

service To handle an interrupt by executing its interrupt handler.

Shutdown Manager The part of the Macintosh Operating System that manages the final stages of shutting down or restarting a Macintosh computer.

shutdown procedure An custom procedure installed by calling the `ShutDownInstall` procedure and executed by the Shutdown Manager before the computer restarts or shuts down.

slot-based VBL task A VBL task that is linked to an external video monitor.

slot-card interrupt An interrupt sent by a slot device.

stack An area of memory in the application partition that is used to store temporary variables.

suspend event An operating-system event that indicates that the execution of your application is about to be suspended. See also **resume event**.

switch See **major switch** and **minor switch**.

synchronous execution A mode of invoking a routine. After calling a routine synchronously, an application cannot perform other tasks until the routine is completed.

system-based VBL task A VBL task that is not linked to an external video monitor.

system partition A partition of memory reserved for use by the Operating System.

terminate To end the execution of a process. A process can terminate by crashing, by quitting, or by being killed by some other process.

Time Manager The part of the Macintosh Operating System that lets you schedule the execution of a routine after a certain time has elapsed.

Time Manager queue A list of all installed Time Manager tasks.

Time Manager task record A data structure that contains information about a Time Manager task. Defined by the `TMTask` data type.

unload To unlock a segment. By unlocking unneeded segments, you allow them to be relocated or purged if necessary to accommodate a later memory-allocation request.

VBL See **vertical retrace interrupt**.

VBL task A task executed during a vertical retrace interrupt. See also **slot-based VBL task** and **system-based VBL task**.

VBL task record A data structure that contains information about a VBL task. Defined by the `VBLTask` data type.

vertical blanking interrupt (VBL) See **vertical retrace interrupt**.

vertical retrace interrupt An interrupt generated by the video circuitry each time the electron beam of a monitor's display tube returns from the lower-right corner of the screen to the upper-left corner.

Vertical Retrace Manager The part of the Operating System that schedules and executes tasks during a vertical retrace interrupt.

vertical retrace queue A list of the tasks to be executed during a vertical retrace interrupt.

virtual memory Addressable memory beyond the limits of the available physical RAM. The Operating System extends the logical address space by allowing unused applications and data to be stored on a secondary storage device instead of in physical RAM.

wake up To make a previously suspended process eligible to receive CPU time.