

Exhibit 502

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for configuring a timer in a computing device, the method comprising:

5 receiving a request from an application to set a hardware interrupt timer;
validating the request in a hardware-independent process;
relaying the validated request to a hardware-dependent process; and
setting the hardware interrupt timer in the hardware-dependent process to expire in
accordance with the validated request.

10 2. The method of claim 1, wherein validating the request includes verifying that
the application is authorized to set the hardware interrupt timer.

3. The method of claim 1, wherein validating the request includes validating a
parameter provided with the request.

15 4. The method of Claim 3, wherein the parameter specifies an interval
representing a period of time after which the hardware interrupt timer is requested to expire,
and wherein validating the request includes determining that the interval is of substantially
sufficient duration to set the hardware interrupt timer.

20 5. The method of Claim 3, wherein the parameter specifies a mode in which the
hardware interrupt timer is requested to operate, and wherein validating the request includes
determining that the mode is one of periodic and aperiodic.

6. The method of Claim 3, wherein the parameter specifies an application
service routine that is to be executed upon expiration of the hardware interrupt timer, and

wherein validating the request includes determining that the application service routine is properly registered.

7. The method of Claim 6, wherein the parameter further specifies a device object, and wherein validating the request includes determining that the application service routine corresponds to the device object.

8. The method of claim 6, wherein the parameter further specifies an interrupt request level at which the application service routine should execute.

9. The method of Claim 6, wherein setting the hardware interrupt timer includes registering a timer service routine to be executed upon expiration of the hardware interrupt timer, the timer service routine being modified to run the application service routine.

10. The method of claim 3, wherein the parameter specifies an area in memory accessible to the requesting application in which the hardware-dependent process is to store a value representing an actual time at which the hardware interrupt has been set to expire in accordance with the validated request.

11. A system to configure a timer in a computing device, the system comprising:
a timer substantially guaranteed to expire at a time certain;
a hardware-independent interface to the timer;
a hardware-dependent interface to the timer; and
a processor in which the hardware-independent interface operates to validate a request from an application to set the timer and to relay the validated request to the hardware-dependent process, and further in which the hardware-dependent interface operates to set the timer to expire in accordance with the validated request and to execute a timer service routine upon expiration of the timer.

12. The system of Claim 11, wherein the timer is a high precision event timer (HPET).

13. The system of Claim 12, wherein the hardware-dependent interface operates to set the timer by writing an actual time at which the HPET should expire to a comparator register associated with the HPET, the actual time being determined by the hardware-
5 dependent interface in accordance with the validated request.

14. The system of Claim 11, wherein the hardware-independent interface is a kernel mode routine having an interface to receive parameters associated with the request from the application to set the timer, and further wherein validating the request includes
10 validating the parameters.

15. The system of Claim 14, wherein the parameters specify an interval representing a period of time after which the hardware interrupt timer is requested to expire, and wherein the processor operates to validate the request by determining that the interval is of substantially sufficient duration to set the timer.

16. The system of Claim 14, wherein the parameters specify a mode in which the timer is requested to operate, and wherein the processor operates to validate the request by determining that the mode is one of periodic and aperiodic.

17. The system of Claim 11, wherein the hardware-dependent interface is a hardware application layer (HAL) routine having an interface to receive the validated
20 parameters associated with the request relayed from the hardware-independent interface.

18. The system of Claim 11, wherein the hardware-dependent interface further operates to execute an application service routine upon expiration of the timer.

19. A computer-accessible medium having instructions for setting a timer in a computing device, the instructions comprising:

a hardware-independent process to:

5 receive a request in from an application to set a timer in a computing device,
the timer being substantially guaranteed to expire at a time certain;

determine whether the application is privileged to make the request;

validate parameters associated with the request; and

a hardware-dependent process to set the timer to expire in accordance with the validated parameters.

10 20. The computer-accessible medium of Claim 19, wherein the instructions comprising the hardware-dependent process further include instructions to:

insert an application service routine in a timer service routine scheduled to execute upon expiration of the timer; and

15 return control to the application when execution of the timer service routine and inserted application service routine is complete.