CLAIMS

1. A computer program product for facilitating processing in a computing environment, said computer program product comprising:

at least one computer readable storage medium readable by at least one processing circuit and storing instructions for performing a method comprising:

obtaining an instruction to perform an action related to one or more guarded storage controls, the instruction comprising a load guarded storage controls instruction and the action comprising loading parameters to control operation of a guarded storage event and to provide information describing a state of a processor at a time of the guarded storage event; and

executing the instruction to perform the action, the executing comprising:

obtaining, from a location, based on executing the instruction, content associated with the one or more guarded storage controls, the one or more guarded storage controls to control operation of a guarded storage facility used to guard a portion of memory, and wherein the one or more guarded storage controls include a guarded storage section mask register to indicate whether particular sections of an area of memory designated as a guarded storage area are to be guarded for storage reclamation, the guarded storage section mask register including a plurality of indicators for a plurality of sections of the area of memory designated as the guarded storage area, wherein an indicator of the plurality of indicators having one value indicates a section of the area of memory designated as the guarded storage area corresponding to the indicator is guarded and the indicator having another value indicates the section is not guarded; and

performing the action using the content obtained based on executing the instruction, the instruction specifying the action to be performed with respect to the one or more guarded storage controls, including the guarded storage section mask register.

2. The computer program product of claim 1, wherein the obtaining the content comprises obtaining the content from memory, and the performing the action comprises loading the content obtained from memory into the one or more guarded storage controls.

3. The computer program product of claim 2, wherein the one or more guarded storage controls further comprise a designation register used to designate the area of memory to be guarded, and a parameter list address register to designate a location of one or more attributes of the guarded storage event.

4. The computer program product of claim 2, wherein the obtaining the content from memory comprises obtaining the content from a control block in memory.

5. The computer program product of claim 4, wherein the control block comprises content of a guarded storage designation register, content of the guarded storage section mask register, and content of a guarded storage event parameter list address register.

6. The computer program product of claim 1, wherein the method further comprises obtaining a store guarded storage controls instruction, the action comprises storing the controls, the obtaining the content comprises obtaining the content from the one or more guarded storage controls, and the performing the action comprises storing the content obtained from the one or more guarded storage controls into memory.

7. The computer program product of claim 6, wherein the one or more guarded storage controls further comprise a designation register used to designate the area of memory to be guarded, and a parameter list address register to designate a location of one or more attributes of the guarded storage event.

8. The computer program product of claim 6, wherein the storing comprises storing the content in a control block in memory.

9. The computer program product of claim 1, wherein the one or more guarded storage controls further include a guarded storage event parameter list address register including an address to locate a guarded storage event parameter list that includes state of the processor at the time of the guarded storage event, and wherein the action includes loading the guarded storage event parameter list address register with an address to be used to locate the guarded storage event parameter list based on recognizing the guarded storage event.

10. The computer program product of claim 1, wherein the load guarded storage controls instruction comprises an operation code to specify a load guarded storage controls operation, and at least one field to define an address, the address designating a location in memory from which contents are loaded into the one or more guarded storage controls.

11. The computer program product of claim 6, wherein the store guarded storage controls instruction comprises an operation code to specify a store guarded storage controls operation, and at least one field to define an address, the address designating a location in memory to which contents of the one or more guarded storage controls are stored.

12. A computer system for facilitating processing in a computing environment, said computer system comprising:

a memory; and

a processor in communication with the memory, wherein the computer system is configured to perform a method, said method comprising:

obtaining an instruction to perform an action related to one or more guarded storage controls, the instruction comprising a load guarded storage controls instruction and the action comprising loading parameters to control operation of a guarded storage event and to provide information describing a state of the processor at a time of the guarded storage event; and

executing the instruction to perform the action, the executing comprising:

obtaining, from a location, based on executing the instruction, content associated with the one or more guarded storage controls, the one or more guarded storage controls to control operation of a guarded storage facility used to guard a portion of memory, and wherein the one or more guarded storage controls include a guarded storage section mask register to indicate whether particular sections of an area of memory designated as a guarded storage area are to be guarded for storage reclamation, the guarded storage section mask register including a plurality of indicators for a plurality of sections of the area of memory designated as the guarded storage area, wherein an indicator of the plurality of indicators having one value indicates a section of the area of memory designated as the guarded storage area corresponding to the indicator is guarded and the indicator having another value indicates the section is not guarded; and

performing the action using the content obtained based on executing the instruction, the instruction specifying the action to be performed with respect to the one or more guarded storage controls, including the guarded storage section mask register.

13. The computer system of claim 12, wherein the obtaining the content comprises obtaining the content from memory, and the performing the action comprises loading the content obtained from memory into the one or more guarded storage controls.

14. The computer system of claim 13, wherein the one or more guarded storage controls further comprise a designation register used to designate the area of memory to be guarded, and a parameter list address register to designate a location of one or more attributes of the guarded storage event.

15. The computer system of claim 12, wherein the method further comprises obtaining a store guarded storage controls instruction, the action comprises storing the controls, the obtaining the content comprises obtaining the content from the one or more guarded storage controls, and the performing the action comprises storing the content obtained from the one or more guarded storage controls into memory.

16. The computer system of claim 12, wherein the one or more guarded storage controls further include a guarded storage event parameter list address register including an address to locate a guarded storage event parameter list that includes state of the processor at the time of the guarded storage event, and wherein the action includes loading the guarded storage event parameter list address register with an address to be used to locate the guarded storage event parameter list based on recognizing the guarded storage event.

17. A computer-implemented method of facilitating processing in a computing environment, said computer-implemented method comprising:

obtaining an instruction to perform an action related to one or more guarded storage controls, the instruction comprising a load guarded storage controls instruction and the action comprising loading parameters to control operation of a guarded storage event and to provide information describing a state of a processor at a time of the guarded storage event; and

executing, by at least one processor, the instruction to perform the action, the executing comprising:

obtaining, from a location, based on executing the instruction, content associated with the one or more guarded storage controls, the one or more guarded storage controls to control operation of a guarded storage facility used to guard a portion of memory, and wherein the one or more guarded storage controls include a guarded storage section mask register to indicate whether particular sections of an area of memory designated as a guarded storage area are to be guarded for storage reclamation, the guarded storage section mask register including a plurality of indicators for a plurality of sections of the area of memory designated as the guarded storage area, wherein an indicator of the plurality of indicators having one value indicates a section of the area of memory designated as the guarded storage area corresponding to the indicator is guarded and the indicator having another value indicates the section is not guarded; and

performing the action using the content obtained based on executing the instruction, the instruction specifying the action to be performed with respect to the one or more guarded storage controls, including the guarded storage section mask register.

18. The computer-implemented method of claim 17, wherein the obtaining the content comprises obtaining the content from memory, and the performing the action comprises loading the content obtained from memory into the one or more guarded storage controls.

19. The computer-implemented method of claim 17, further comprising obtaining a store guarded storage controls instruction, wherein the action comprises storing the controls, the obtaining the content comprises obtaining the content from the one or more guarded storage controls, and the performing the action comprises storing the content obtained from the one or more guarded storage controls into memory.

20. The computer-implemented method of claim 17, wherein the one or more guarded storage controls further include a guarded storage event parameter list address register including an address to locate a guarded storage event parameter list that includes state of the processor at the time of the guarded storage event, and wherein the action includes loading the guarded

storage event parameter list address register with an address to be used to locate the guarded storage event parameter list based on recognizing the guarded storage event.