

9. A method as in claim 5 wherein the size of the type is less than or equal to the fixed size of the block of bits

10. A method as in claim 1 further comprising:

loading said firmware image into a host;

providing a dynamic discovery monitor in said host to monitor hardware connected to said host and to activate aspects of said firmware in response to discovered hardware changes.

11. A method as in claim 10 wherein said host is an Application Specific Integrated Circuit (ASIC).

12. A method as in claim 1 wherein physical description may include one or more of the following: the number of output pins on a chip; the assignment, the memory locations of certain data, various clock and timing parameters, temperature parameters.

13. A method for producing a fixed-size firmware image for a plurality of hardware devices, each parameterized for a plurality of component environments, the method comprising:

(A) for each of said plurality of hardware devices,

(a1) providing a logical description of aspects of each of said plurality of component environments;

(a2) providing a physical description of physical aspects of each of said plurality of component environments;

(a3) associating said logical description with said physical description;

(B) providing said firmware image to include a plurality of parameterized functions to support each of said hardware devices in each of said plurality of component environments.

14. A method as in claim 13 wherein each of said hardware devices is selected from the group comprising: power supplies, busses; fans, disk drives, sensors, and flash parts.

15. A method as in claim 13 wherein actual arguments to said parameterized functions are bound at run time.

16. A method as in claim 13 wherein actual arguments to each of said parameterized functions are provided as untyped blocks of bits.

17. A method as in claim 16 wherein each block of bits is the same fixed size.

18. A method as in claim 17 wherein each block of bits is between 64 and 256 bits long.

19. A method as in claim 13 wherein the firmware image comprises:

an operational block including abstract device driver interfaces for each of said hardware devices; and

at least one description block that includes said logical and physical descriptions.

20. A method as in claim 19 further comprising:

loading said firmware image into a host;

providing a dynamic discovery monitor in said host to monitor hardware connected to said host and to activate or modify aspects of said firmware in response to discovered hardware changes.

21. A method as in claim 20 wherein said host is an Application Specific Integrated Circuit (ASIC).

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