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ABSTRACT

An apparatus and method for decreasing the memory requirements of BIOS in a personal computer system (10) includes storing a first portion of BIOS in memory and a second portion on a direct storage access device. The personal computer system (10) comprises a system processor (26), a random access main memory, a read only memory (36), and at least one direct access storage device (62,66). The read only memory (36) includes the first portion of BIOS and data representing the type of system processor (26) and system planar (24) I/O configuration. The first portion of BIOS only includes routines for initializing the system (10) and the direct access storage device (62,66) to read in a master boot record into the system (10) from the direct access storage device (62,66). The master boot record includes a data segment (122-138) and an executable code segment (120). The data segment (122-138) includes data representing system hardware and a system configuration which is supported by the master boot record. The first BIOS portion confirms the master boot record is compatible with the system hardware by verifying that the data from the data segment (122-138) of the master boot record agrees with the system processor (26), system planar (24), and planar (24) I/O configuration. If the master boot record is compatible with the system hardware, the first BIOS portion vectors the system processor (26) to execute the executable code segment (120) of the master boot record. The executable code segment (120) confirms that the system configuration has not changed and loads in the remaining BIOS portion from the direct access storage device (62,66) into random access memory (32) superseding the first BIOS portion. The executable code segment (120) then verifies the authenticity of the remaining BIOS portion and vectors the system processor (26) to begin executing the remaining BIOS now in random access memory (32). The remaining BIOS in main memory includes reusable routines for operating the system (10) in a normal manner.

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