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Tool-Less Quick Access Removable Front Cage

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Abstract

In some computer systems, it is advantageous to provide fast access to system components. Disclosed is a removable front cage for a computer system which provides quick access to the components within it without the use of tools.

Description

This disclosure relates to the field of computer systems.

A technique is disclosed that provides a tool-less, quick access, removable front cage for a computer system.

Computer systems, such as for example blade servers, include a front cage for various components. At times the front cage needs to be accessed in order to install, remove, or replace these components. In some cases, this access is neither quick nor simple.

According to the present disclosure, and as understood with reference to the Figure, a front cage 10 contains small form factor (SFF) drives, a hard disk drive (HDD) backplane 20, SATA paddle card 30, FROC 40, and/or other components. This assembly occupies the front section of the blade server. The HDD backplane 20 has a card edge solution to allow it to connect directly to the system PCA through any card-edge receptacle.

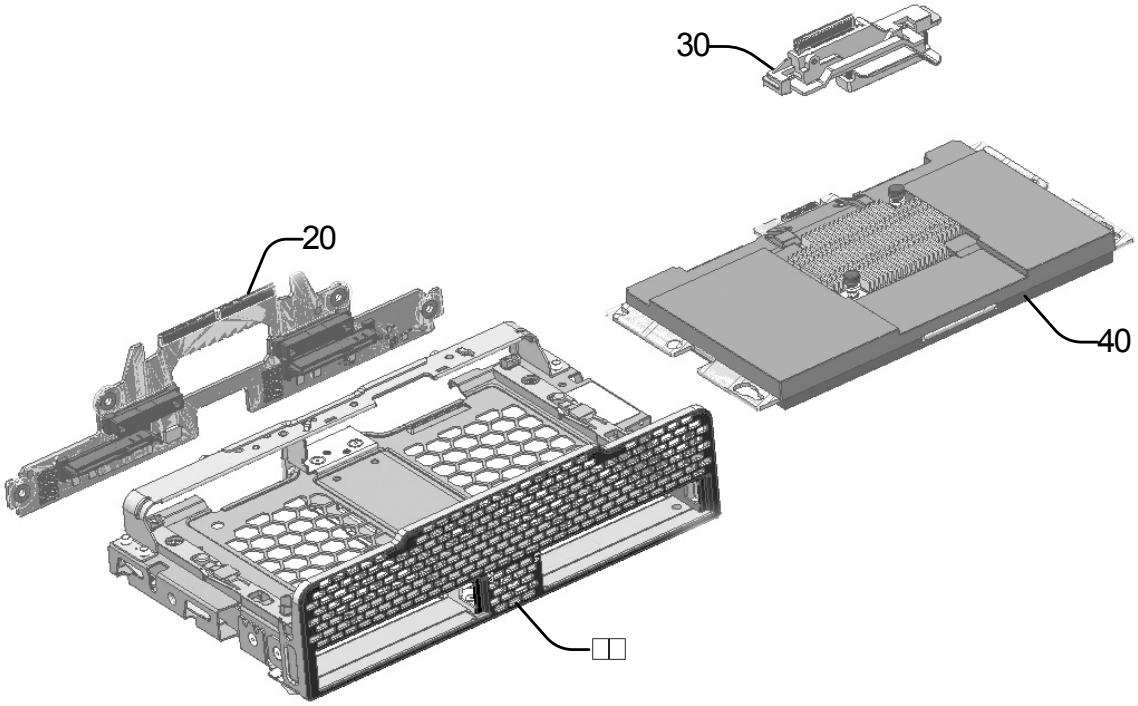
The front cage 10 is designed as a drop-in component, and can be easily removed and installed without using a tool. The lock-down features are pins from the hood. When the hood is put in place, the pins engage the front cage, providing the lock down function.

This design advantageously provides easy, quick access to the bottom side of the front cage. This allows a quick change between different versions of the front cage to fit customer needs.

It also increases the usable area on the front of the system PCA. Since this design does not require a tie-down to the system board, it provides extra motherboard areas for the placement of additional electrical components. This increased area also can reduce the number of layer used on the system board, which in turn reduces the system board cost.

The design also allows a SATA paddle card and FROC to be placed on the bottom side of the front cage, something which was not possible with prior solutions. This reduces the time needed to change from a SATA paddle card to a FROC, making it as fast and easy as changing the DIMMs, and can be done without using any tools.

This quick-change front cage design can be used on multiple programs, rather than requiring a unique front cage design for each program.



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