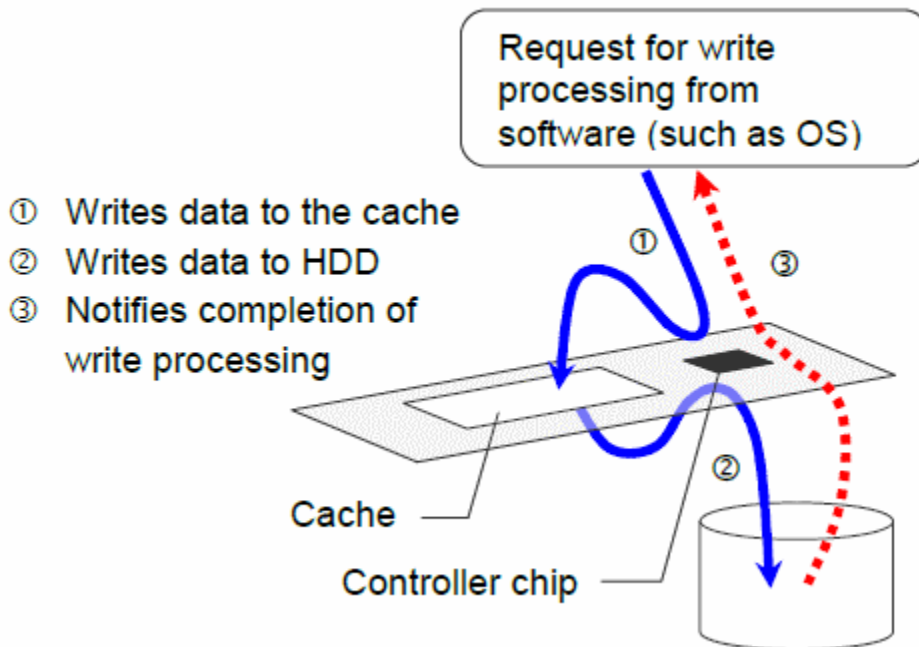


**Cache** is the memory that is installed in a RAID controller and is used as a data buffer for the RAID controller to read and write data to the HDD units. Cache is used as a work area for parity generation processing.

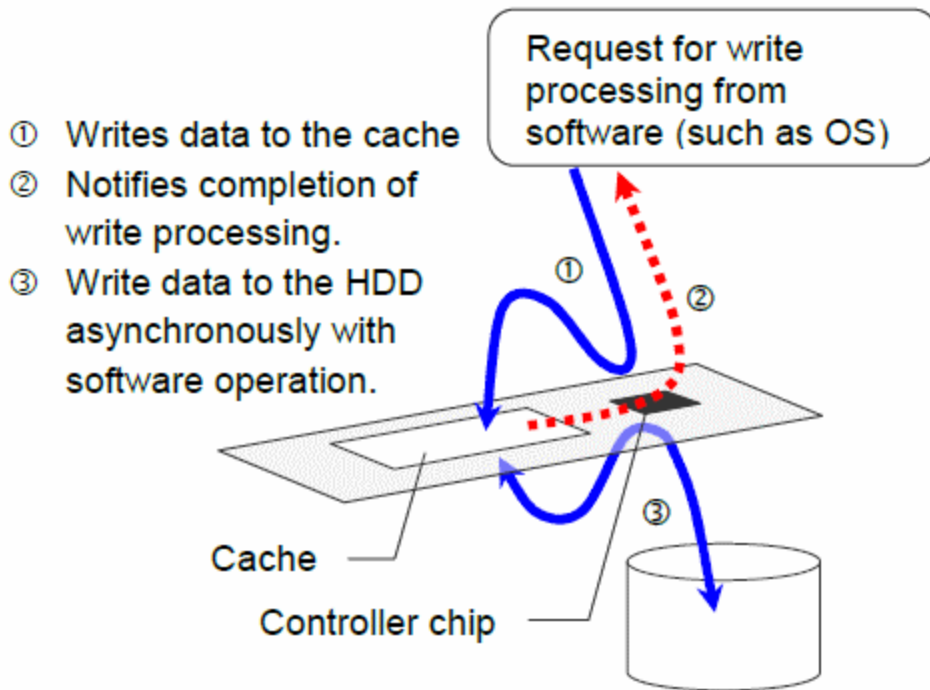
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### Write Through



When write processing is requested from software such as OS, data is written to both the cache and the HDD on the RAID controller in Write Through mode. Since software advances to the next processing after completion of HDD write processing, in general, the access performance deteriorates due to Write Back. However, since the write request from the software reflects in the HDD immediately, the advantage of this mode is the low risk of losing data at the occurrence of an unexpected accident such as a temporary power failure.

### Write Back



When write processing is requested from software such as OS, in Write Back mode, data is written to the cache in the RAID controller and to the HDD by the RAID controller asynchronously based on the data on the cache.

Since completion notification is issued to the software when data is written to the cache, the software can continue processing without having to wait for completion of the HDD write processing.

In general, access performance is improved by Write Through. However, since the contents of the cache may not reflect in the HDD at the occurrence of an unexpected accident such as a temporary power failure, the data may be lost.

### Auto Select

For writing data request, Auto Select operates in Write Back Mode by using cache memory, however, when battery is malfunction or on charging, changes the mode to Write Through Mode. Auto Select is recommended for data protection. This function is not available in some RAID controllers .

### Battery backup

This function stores data in cache during a period after setting of a battery in the RAID controller and before the power supply to the server (within the range of “cache data retention period”). This function prevents loss of data caused by an unexpected accident such as a temporary power failure in the system that is running in Write Back mode.