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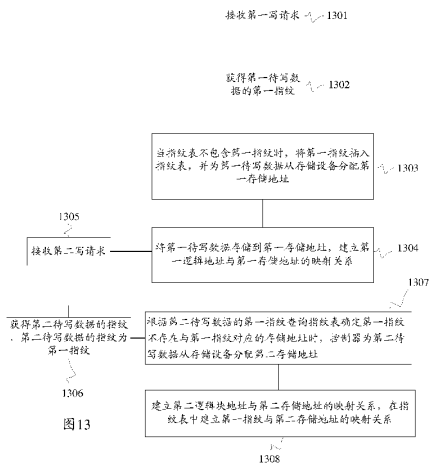
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(54) Title: METHOD FOR DELETING DUPLICATED DATA IN STORAGE SYSTEM, STORAGE SYSTEM AND CONTROLLER

(54) 发明名称: 一种存储系统中重复数据删除方法、存储系统及控制器



(57) Abstract: A method for deleting duplicated data in a storage system. The method comprises: a controller storing a firstly written data block in a first storage address, and inserting a first fingerprint of first data to be written, wherein same is written for the first time, into a fingerprint table, but not establishing a mapping relationship between the first fingerprint and the first storage address; and the controller receiving second data to be written, wherein same is written subsequently, distributing a second storage address to the duplicated second data to be written, storing the second data to be written in the second storage address, and establishing a mapping relationship between the first fingerprint and the second storage address in the fingerprint table, so that the amount of data of the fingerprint table is reduced.

(57) 摘要: 一种存储系统中重复数据删除方法, 本方法中控制器将首次写入的数据块存储在第一存储地址, 在指纹表中插入首次写入的第一待写数据的第一指纹, 但不建立第一指纹与第一存储地址的映射关系, 控制器接收后续写入的第二待写数据时, 为重复的第二待写数据分配第二存储地址, 将第二待写数据存储到第二存储地址, 在指纹表中建立第一指纹与第二存储地址的映射关系, 减少了指纹表的数据量。

1301 Receiving a first write request.
1302 Obtaining a first fingerprint of first data to be written.
1303 When a fingerprint table does not contain the first fingerprint, inserting the first fingerprint into the fingerprint table, and distributing, from a storage device, a first storage address to the first data to be written.
1304 Storing the first data to be written in the first storage address, and establishing a mapping relationship between the first logical address and the first storage address.
1305 Receiving a second write request.
1306 Obtaining a fingerprint of second data to be written, wherein the fingerprint of the second data to be written is the first fingerprint.
1307 When it is determined that, for the first fingerprint, there is no storage address corresponding to the first fingerprint by querying the fingerprint table according to the first fingerprint of the second data to be written, a controller distributing, from the storage device, a second storage address to the second data to be written.
1308 Establishing a mapping relationship between a second logical block address and the second storage address, and establishing a mapping relationship between the first fingerprint and the second storage address in the fingerprint table.

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RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI,
CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布：

— 包括国际检索报告(条约第21条(3))。