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(74) 代理人: 北京同钧律师事务所(BEIJING TONGJUN
LAW FIRM); 中国北京市海淀区西直门北大街32
号院1号楼7层808室, Beijing 100082 (CN)。

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(71) 申请人: 阿里云计算有限公司 (ALIBABA
CLOUD COMPUTING LTD.) [CN/CN]; 中国浙江省
杭州市西湖区转塘科技经济区块 12
号, Zhejiang 310024 (CN)。

(72) 发明人: 杨煜溟 (YANG, Yuming); 中国浙江省
杭州市西湖区三墩镇灯彩街 1008 号云谷
园区, Zhejiang 310030 (CN)。

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(54) Title: DATABASE OPERATION METHOD AND APPARATUS, AND DEVICE AND STORAGE MEDIUM

(54) 发明名称: 数据库操作方法、装置、设备及存储介质

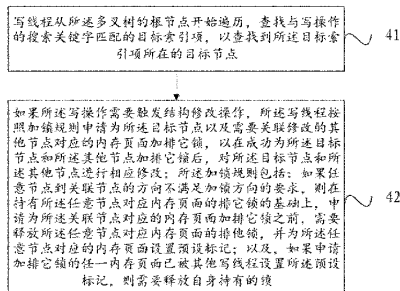


图 4

(57) Abstract: Provided are a database operation method and apparatus, and a device and a storage medium. The method comprises: a write thread performing traversal starting from a root node of a multi-way tree, and searching for a target record which matches a search key of a write operation; and the write thread applying to add, according to a latch adding rule, X latches to a target node where the target record is located and memory pages corresponding to other nodes which need to be associated and modified, wherein the latch adding rule comprises: if the direction from any node to an associated node does not meet the requirement of a latch adding direction, on the basis of holding the exclusive latch of the memory page corresponding to the any node, before applying to add the exclusive latch to the memory page corresponding to the associated node, the exclusive latch of the memory page corresponding to the any node needs to be released, and a preset mark is set for the memory page corresponding to the any node; and if any memory page which applies to add the exclusive latch has been provided with the preset mark by other write threads, a latch held by the any memory page itself needs to be released.

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NO, PL, PT, 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))。

(57) 摘要：提供一种数据库操作方法、装置、设备及存储介质。方法包括：写线程从多叉树的根节点开始遍历，查找与写操作的搜索关键字匹配的目标索引项，写线程按照加锁规则申请为目标索引项所在的目标节点以及需要关联修改的其他节点对应的内存页面加排它锁；加锁规则包括：如果任意节点到关联节点的方向不满足加锁方向的要求，则在持有任意节点对应内存页面的排它锁的基础上，申请为关联节点对应的内存页面加排它锁之前，需要释放任意节点对应内存页面的排他锁并为任意节点对应的内存页面设置预设标记；如果申请加排它锁的任一内存页面已被其他写线程设置预设标记，则需要释放自身持有的锁。