

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局



(10) 国际公布号
WO 2025/097949 A1

(43) 国际公布日
2025 年 5 月 15 日 (15.05.2025)

- (51) 国际专利分类号:
G06F 16/27 (2019.01) **G06F 9/46** (2006.01)
- (21) 国际申请号: PCT/CN2024/114437
- (22) 国际申请日: 2024 年 8 月 26 日 (26.08.2024)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:
202311470163.1 2023 年 11 月 6 日 (06.11.2023) CN
- (71) 申请人: 腾讯科技(深圳)有限公司 (TENCENT TECHNOLOGY (SHENZHEN) COMPANY LIMITED) [CN/CN]; 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层 518057 (CN)。
- (72) 发明人: 刘畅(LIU, Chang); 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层 518057 (CN)。

朱翀(ZHU, Chong); 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层 518057 (CN)。雷海林(LEI, Hailin); 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层 518057 (CN)。潘安群(PAN, Anqun); 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层 518057 (CN)。

- (74) 代理人: 深圳市深佳知识产权代理事务所(普通合伙) (SHENPAT INTELLECTUAL PROPERTY AGENCY); 中国广东省深圳市罗湖区南湖街道春风路庐山大厦 B 座 18C2、18D、18E、18E2 518001 (CN)。
- (81) 指定国(除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ,

(54) Title: DATA SHARDING PROCESSING METHOD AND APPARATUS, DEVICE, STORAGE MEDIUM, AND PROGRAM PRODUCT

(54) 发明名称: 数据分片处理方法、装置、设备、存储介质及程序产品

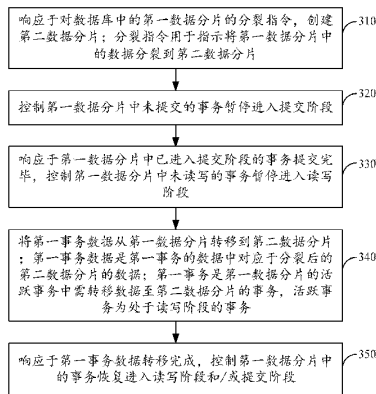


图 3

- 310 In response to a split instruction for a first data shard in a database, create a second data shard, the split instruction is used for instructing to split data in the first data shard into the second data shard
- 320 Control transactions having not been committed in the first data shard to be suspended from entering a commit phase
- 330 In response to the completion of commit of transactions having entered the commit phase in the first data shard, control transactions having not been read and written in the first data shard to be suspended from entering a read-write phase
- 340 Transfer first transaction data from the first data shard to the second data shard, wherein the first transaction data is data, among the data of a first transaction, corresponding to the second data shard obtained by splitting, the first transaction is a transaction needing to be transferred to the second data shard among active transactions of the first data shard, and the active transactions are transactions in the read-write phase
- 350 In response to the completion of transfer of the first transaction data, control the transactions in the first data shard to resume entering the read-write phase and/or the committee phase

(57) Abstract: The present application relates to the technical field of distributed storage, and in particular to a data sharding processing method and apparatus, a device, a storage medium, and a program product. The method comprises: in response to a split instruction for a first data shard in a database, creating a second data shard; controlling transactions having not been committed in the first data shard to be suspended from entering a commit phase; in response to the completion of commit of transactions having entered the commit phase in the first data shard, controlling transactions having not been read and written in the first data shard to be suspended from entering a read-write phase; transferring first transaction data from the first data shard to the second data shard, wherein the first transaction data is data, among the data of a first transaction, corresponding to the second data shard obtained by splitting; and in response to the completion of transfer of the first transaction data, controlling the transactions in the first data shard to resume entering the read-write phase and/or the committee phase. The present application can reduce the transaction blocking time while ensuring the execution efficiency of distributed transactions.

[见续页]

LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN,
MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA,
PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD,
SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW。

- (84) 指定国(除另有指明, 要求每一种可提供的地区
保护): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ,
NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚
(AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR,
HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, 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: 本申请关于一种数据分片处理方法、装置、设备、存储介质及程序产品, 涉及分布式存储技术领域。
该方法包括: 响应于对数据库中的第一数据分片的分裂指令, 创建第二数据分片; 控制第一数据分片中未提交
的事务暂停进入提交阶段; 响应于第一数据分片中已进入提交阶段的事务提交完毕, 控制第一数据分片中未读
写的事务暂停进入读写阶段; 将第一事务数据从第一数据分片转移到第二数据分片; 第一事务数据是第一事务
的数据中对应于分裂后的第二数据分片的数据; 响应于第一事务数据转移完成, 控制第一数据分片中的事务恢
复进入读写阶段和/或提交阶段。本申请能够在保证分布式事务的执行效率的同时, 降低阻塞事务的时间。