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(54) Title: METHOD FOR CONSTRUCTING NAME RESOLUTION SYSTEM OF DISTRIBUTED HIERARCHICAL DELAY PROVISION

(54) 发明名称: 一种分布式分级时延提供的名字解析系统构建方法

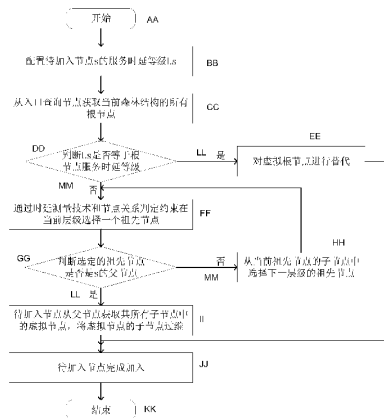


图 1

AA Start
BB Set a service delay level Ls of a node to be added
CC Obtain all root nodes of the current forest structure from an entry query node
DD Determine whether the service delay level Ls is equal to a service delay level of the root nodes
EE Replace a virtual root node
FF Select an ancestor node from the current level by means of a delay measurement technology and a node relationship judgment constraint
GG Determine whether the selected ancestor node is a parent node of the node to be added
HH Select an ancestor node of the next level from child nodes of the current ancestor node
II The node to be added obtains virtual nodes in all child nodes of the parent node from the parent node, and takes over child nodes of the virtual nodes
JJ Addition of the node to be added is completed
KK End
LL Yes
MM No

(57) Abstract: Disclosed in the present invention is a method for constructing a name resolution system of distributed hierarchical delay provision. The name resolution system of distributed hierarchical delay provision comprises a management system and a plurality of service provider nodes. The method comprises: taking a node distance between the service provider nodes obtained by means of actual round-trip delay measurement as a basis, and determining the position of each service provider node in a forest structure and a connection relationship with other service provider nodes by means of a nested relationship judgment condition; determining, by means of the process of finding an ancestor node, all branch nodes between a root node and a parent node at an addition position of a service provider node to be added; and adding, by means of the process of finding a child node, a node having a lower service delay level to the service provider node to be added, and adjusting a tree structure accordingly. Each tree represents a service area; the number of layers of nodes in a tree corresponds to a service delay level; the root node is a node having the largest service delay level; and nodes of the same level have the same service delay level.

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(84) 指定国(除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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: 本发明公开了一种分布式分级时延提供的名字解析系统构建方法, 分布式分级时延提供的名字解析系统包括管理系统和多个服务提供节点; 该方法包括: 以服务提供节点间实际往返时延测量获得的节点距离作为依据, 通过嵌套关系判定条件确定每个服务提供节点在森林结构中的位置及与其他服务提供节点的连接关系; 通过找祖先节点过程确定待加入服务提供节点从根节点到加入位置的父节点之间的所有分支节点; 通过找子节点过程将较低服务时延等级的节点加入到待加入服务提供节点下, 并随之调整树结构; 每一棵树代表一个服务区域, 一棵树包括的节点层数与服务时延等级对应, 根节点为具有最大服务时延等级的节点, 相同层级的节点具有相同的服务时延等级。