

nodes of the access layer, and they do not participate in the routing of the IP telephony. However, there are signalling connections from each level to various service platforms, such as a CAMEL Service Environment (CSE), billing centers and an IP telephony application server. The different layers and service platforms are not shown in **FIG. 1**.

[0014] In the example of **FIG. 1**, the system 1 comprises a core network CN and a UMTS terrestrial radio access network UTRAN. The UTRAN is formed of a group of radio network subsystems (not shown in **FIG. 1**) which are connected to the core network CN. A radio network subsystem can be based on the GPRS (General Packet Radio Service) of the GSM system, for example. The core network CN can be connected to external networks, such as IP networks IP. In the example of **FIG. 1**, the core network comprises a home subscriber server HSS, an interrogative call state control function I\_CSCF and a serving call state control function T\_CSCF, which serves the subscriber B registered in the network. The HSS and the I\_CSCF locate in the home network of the subscriber B whereas T\_CSCF is either in the home network or in a visited network.

[0015] The serving call state control function T\_CSCF is a network node in which IP telephony user equipment, and thus subscribers, are registered and via which the signalling associated with the IP telephony, such as SIP, is transferred. The T\_CSCF participates in controlling a call made by the user equipment and in supporting the establishment of calls terminating at the user equipment registered in the network, as well as in supporting the triggering of the services associated with these calls when the triggering conditions are fulfilled. In other words, the T\_CSCF controls call establishment and contains, among other things, a function corresponding to an intelligent network service switching function and the call state models of the-IP telephony, by which the call establishment is controlled together with other network nodes, such as a service control point, the CSE and IP telephony application servers (these are not shown in **FIG. 1**). The T\_CSCF is the network node through which the signalling of a mobile-terminating call is transferred from the actual IP network IP, for instance. The T\_CSCF usually contains a subscriber database which logically corresponds to the visitor location register of the GSM system. The T\_CSCF is also responsible for producing billing information. The serving call state function may also be called a terminating call state control function, an originating call state control function or a visited call state control function. The serving call state control function corresponds to the visited mobile switching center of the GSM system. The T\_CSCF operation according to the invention is explained in greater detail in connection with **FIG. 2**.

[0016] The interrogative call state control function I\_CSCF participates in controlling the establishment of a call made to a subscriber, and it determines how the mobile-terminating call is to be routed. In other words, it is authorized to route calls terminating at user equipment. Thus, the I\_CSCF functions as an entry point for a mobile-terminating call to the subscriber B and corresponds to a gateway mobile switching center (GMSC) of the GSM system. The I\_CSCF interrogates the subscriber B's HSS in order to detect routing information and routes the call on the basis of the address obtained from the HSS. The I\_CSCF may also produce billing information relating to the sub-

scriber B. The I\_CSCF operation according to the invention is explained in greater detail in connection with **FIG. 2**.

[0017] The functionality of various call state control functions, I\_CSCF and T\_CSCF, is not affected by the type of the access network. This means that the access network may be a wireless network, as in the example of **FIG. 1**, or a wired network.

[0018] The home subscriber server HSS logically corresponds to the home location register of the GSM system, and subscriber data for each subscriber of the home network are stored therein either permanently or semi-permanently such that the subscriber data are combined with a subscriber identifier, which in the GSM system, for example, is IMSI (International Mobile Subscriber Identity). When a subscriber registers into the network, the HSS transmits the subscriber's service information, which may comprise CAMEL subscriber information CSI, to the serving call state control function T\_CSCF. When there is no address of a serving call state control function for a subscriber, the HSS transmits the subscriber's service information as a routing instruction to the I\_CSCF.

[0019] Subscriber B's user equipment UE comprises the actual terminal and a detachably connected identification card USIM, also called a subscriber identity module. In this context, the user equipment UE generally means the entity formed by the subscriber identity module and the actual terminal. The actual terminal can be any equipment or a combination of various devices capable of communicating in a mobile communications system.

[0020] In addition to prior art means, the system implementing the functions of the present invention and the network nodes of this system comprise means for providing a call state control function at least the mandatory CAMEL-related information needed in the call state control function for CAMEL services. They may also comprise means for using the information when needed. More precisely, the network nodes comprise means for implementing the functionality described below. The current network nodes comprise processors and memory, which can be utilized in the functions according to the invention. All changes necessary for implementing the invention can be made as added or updated software routines, by means of application-specific integrated circuits (ASIC) and/or programmable circuits, such as EPLD, FPGA.

[0021] The mandatory CAMEL-related information for billing includes a CAMEL call reference number generated in the GSM network by the GMSC and the address of the GMSC (which corresponds to the I\_CSCF). The mandatory CAMEL-related information is needed when billing information of the called subscriber B is collected and Charging Data Records (CDRs) are generated in the T\_CSCF and/or I\_CSCF. The mandatory CAMEL-related information is added to each CDR and on the basis of the information the CDRs relating to a call are combined in the charging center. The same mandatory CAMEL-related information is needed also, when a CAMEL-based service is triggered in the T\_CSCF and/or I\_CSCF. In future some other CAMEL-related information may be needed. A network node may comprise a definition or definitions indicating which CAMEL-related information should be added, generated, used and/or in which context the CAMEL-related information should be used.