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(54) PROCÉDE ET SYSTÈME POUR COMMANDER L'UTILISATION DE LA CAPACITÉ DE TRANSMISSION DE SATELLITES DANS DES RESEAUX TERRESTRES

(54) METHOD AND SYSTEM FOR CONTROLLING THE USE OF SATELLITE TRANSMISSION CAPACITY IN TERRESTRIAL NETWORKS

(57)

The invention relates to a circuit and a method, characterized in that an independent, local control unit (7) which monitors a back-up terminal cooperates to a limited extent with the data transmission apparatus of the user and from the analysis of a data control signal recognizes the presence of a case of substitution switching. Via lines (10 to 14) and modems (15) said control unit (7) switches on the transmission carrier (19) of the satellite modem (15) affected, which is connected to a satellite antenna (18). The satellite antennae (18) are connected to the satellite (20) via the transmission carrier (19). All other terminals in the network which are not affected also receive the transmission carrier (19) of the satellite modem (15) concerned. In this way the transmission capacity of the asynchronous overhead of the satellite modem (15) is used for the transmission of target addresses. A hub (4) is connected to the terrestrial network (1) via an interface card or a modem (5), which network in turn is connected to routers (6) by means of lines (2 or 3). Customer installations (8) or terminals (9) are connected to the routers (6) by means of lines (10).



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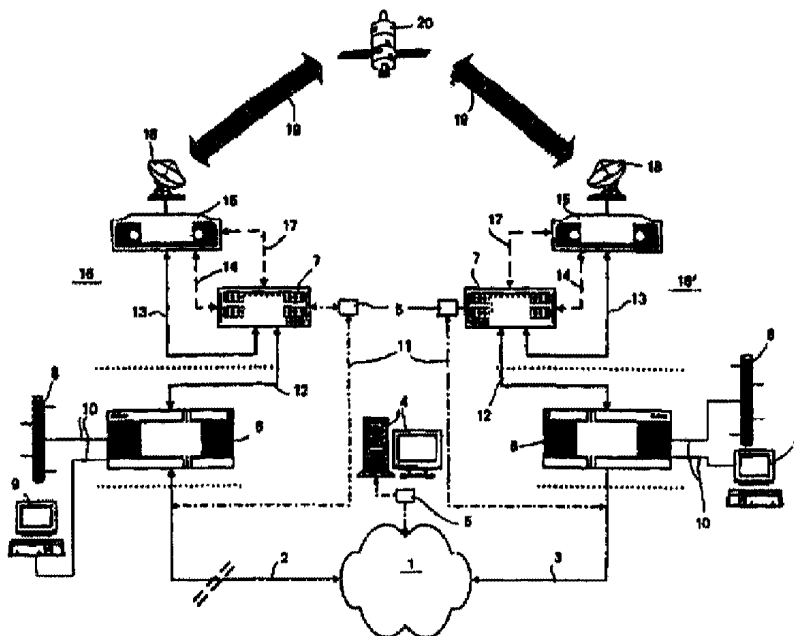
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(54) **PROCEDE ET SYSTEME POUR COMMANDER**

**L'UTILISATION DE LA CAPACITE DE TRANSMISSION DE
SATELLITES DANS DES RESEAUX TERRESTRES**

(54) **METHOD AND SYSTEM FOR CONTROLLING THE USE OF
SATELLITE TRANSMISSION CAPACITY IN TERRESTRIAL
NETWORKS**



(57) L'invention concerne un circuit et un procédé caractérisés en ce qu'une unité de commande locale indépendante (7), qui contrôle un terminal de sauvegarde, coopère de façon limitée avec le dispositif de transmission de données de l'utilisateur et détecte la présence d'un cas de commutation sur secours, à partir de l'analyse d'un signal de commande de données. Cette unité de commande (7) génère, par l'intermédiaire de lignes (10 à 14) et de modems (15), la porteuse d'émission (19) du modem de satellite (15) concerné qui est raccordé à une antenne de satellite (18). Les antennes de satellite sont reliées au satellite (20) par

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l'intermédiaire de la porteuse d'émission (19). Tous les autres terminaux non concernés dans le réseau reçoivent la porteuse d'émission (19) du modem de satellite concerné (15). La capacité de transmission du surdébit asynchrone du modem de satellite (15) est utilisée pour la transmission d'adresses cibles. Un concentrateur (4) est raccordé par l'intermédiaire d'une carte interface ou d'un modem (5) à un réseau terrestre (1) lui-même raccordé à des routeurs (6) par l'intermédiaire de lignes (2 ou 3). Les installations client (8) ou les terminaux (9) sont raccordés aux routeurs (6) par l'intermédiaire de lignes (10).

affected also receive the transmission carrier (19) of the satellite modem (15) concerned. In this way the transmission capacity of the asynchronous overhead of the satellite modem (15) is used for the transmission of target addresses. A hub (4) is connected to the terrestrial network (1) via an interface card or a modem (5), which network in turn is connected to routers (6) by means of lines (2 or 3). Customer installations (8) or terminals (9) are connected to the routers (6) by means of lines (10).



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<p>(21) Internationales Aktenzeichen: PCT/EP98/03747 (22) Internationales Anmeldedatum: 19. Juni 1998 (19.06.98) (30) Prioritätsdaten: 197 28 061.7 1. Juli 1997 (01.07.97) DE (71) Anmelder (für alle Bestimmungsstaaten ausser US): DEUTSCHE TELEKOM AG [DE/DE]; Friedrich-Ebert-Allee 140, D-53113 Bonn (DE). (72) Erfinder; und (75) Erfinder/Anmelder (nur für US): HENKEL, Hans-Jürgen [DE/DE]; Robert-Koch-Strasse 5c, D-64380 Roßdorf (DE).</p>	<p>(81) Bestimmungsstaaten: CA, CZ, HU, ID, JP, KR, PL, US, europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Veröffentlicht Mit internationalem Recherchenbericht. Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist. Veröffentlichung wird wiederholt falls Änderungen eintreffen. (88) Veröffentlichungsdatum des internationalen Recherchenbe- richts: 27. Mai 1999 (27.05.99)</p>	
<p>(54) Title: METHOD AND SYSTEM FOR CONTROLLING THE USE OF SATELLITE TRANSMISSION CAPACITY IN TERRESTRIAL NETWORKS (54) Bezeichnung: VERFAHREN UND SYSTEM ZUR STEUERUNG DER NUTZUNG VON SATELLITEN-ÜBERTRAGUNGSKAPAZITÄT IN TERRESTRISCHEN NETZEN (57) Abstract The invention relates to a circuit and a method, characterized in that an independent, local control unit (7) which monitors a back-up terminal cooperates to a limited extent with the data transmission apparatus of the user and from the analysis of a data control signal recognizes the presence of a case of substitution switching. Via lines (10 to 14) and modems (15) said control unit (7) switches on the transmission carrier (19) of the satellite modem (15) affected, which is connected to a satellite antenna (18). The satellite antennae (18) are connected to the satellite (20) via the transmission carrier (19). All other terminals in the network which are not affected also receive the transmission carrier (19) of the satellite modem (15) concerned. In this way the transmission capacity of the asynchronous overhead of the satellite modem (15) is used for the transmission of target addresses. A hub (4) is connected to the terrestrial network (1) via an interface card or a modem (5), which network in turn is connected to routers (6) by means of lines (2 or 3). Customer installations (8) or terminals (9) are connected to the routers (6) by means of lines (10).</p>		

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TEXT TRANSLATION

DESCRIPTION

PROCESS AND SYSTEM FOR CONTROLLING THE USE OF SATELLITE TRANSMISSION CAPACITY IN TERRESTRIAL NETWORKS

The invention relates to a process and circuit arrangement for controlling the use of satellite transmission capacity for the substitution of out-of-order data lines in terrestrial networks according to the preambles of claim 1 and claim 7, respectively.

Switched trunk groups in voice and data networks are generally operated two-way alternately between computer-controlled exchanges. With this mode of operation, both exchanges are able, independently of each other, to access and occupy unoccupied trunks of the group. If certain data lines go down completely, this also permits automatic alternative routing to an unoccupied and operable data line of a terrestrial network.

The known traffic management processes are summarized and outlined in CCITT Recommendation E.412: "Network Management Controls" (10/92). However, it is also known to remedy out-of-order data lines in terrestrial networks by using spare satellite transmission capacity. Particularly with regard to the access lines, alternative routing via satellite requires a manual initiation after a transmission capacity request has been sent to a central station. Used for this purpose is a backward channel which is carried via terrestrial lines or via satellite.

~~The manual initiation of alternative routing according to the prior art is time-intensive. It may be necessary for call configurations to be transmitted to the locations involved and a backward channel must be reliably available in the case of an alternative routing request. This may - particularly in the case of a terrestrial backward channel, for example if backward channel and user information channel are carried in one access line - lead to problems, because no backward channel is directly available.~~

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