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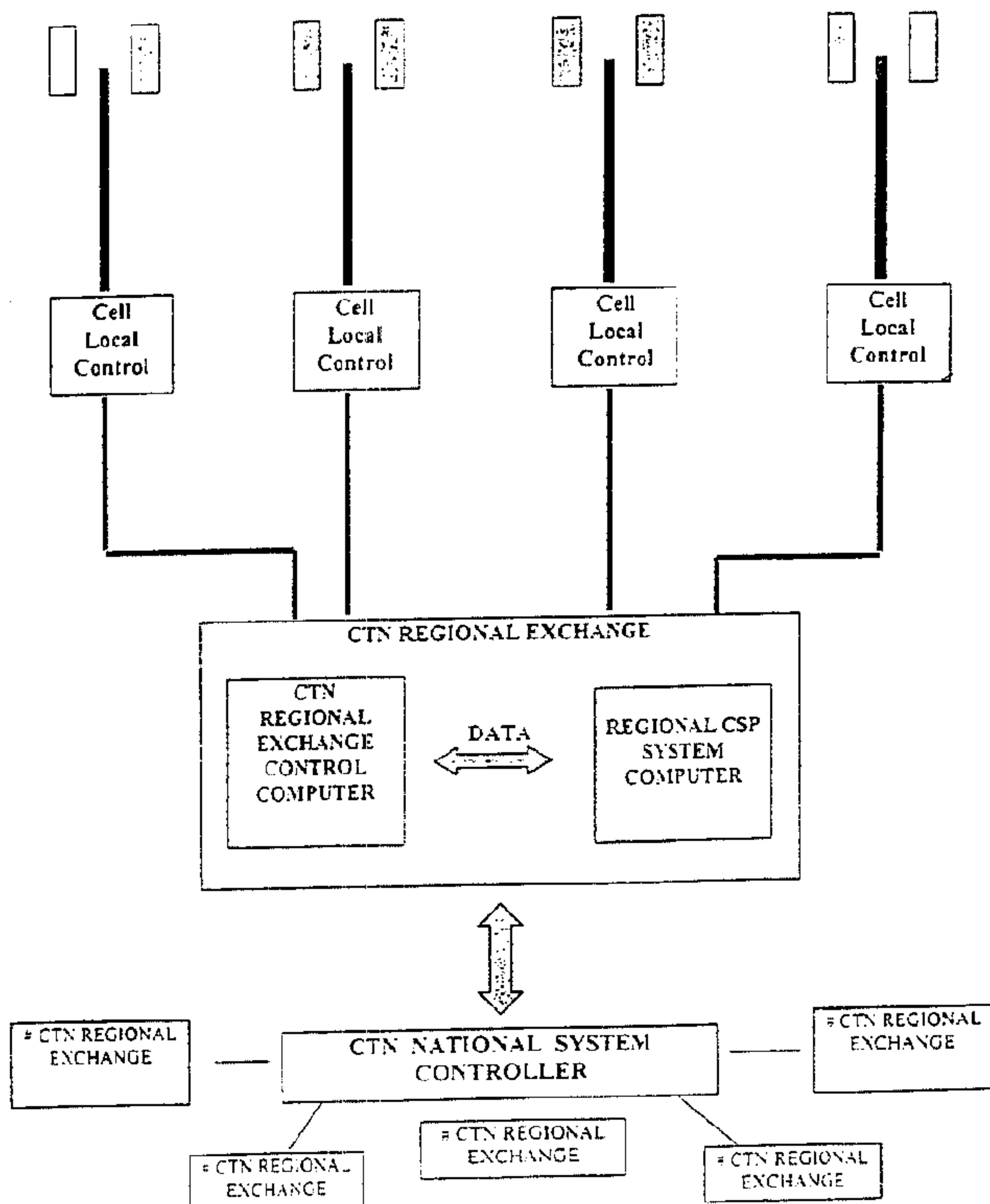
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(54) Titre : SYSTEME DE LOCALISATION DE PRESTATAIRES DE SERVICES PAR TELEPHONE CELLULAIRE
(54) Title: SERVICE PROVIDERS LOCALIZATION SYSTEM VIA CELLULAR TELEPHONE

CTN + CSP SYSTEM PRINCIPAL BLOCK DIAGRAM



(57) Abrégé/Abstract:

A method for automatic localization of pre-defined service providers via a cellular mobile telephone system. The service providers are subscribers to a Controlling Service Provider (Regional CSP system). The method includes providing quick dialing program which is received by a current cellular telephone network (CTN) from a caller. This call is then identified and transferred to the Controlling Service Provider (Regional CSP system). The information transferred includes the particular cell in which the call has originated. The Controlling Service Provider (Regional CSP system) then invokes a cross localization program to identify another mobile subscriber from the same cell, and the call is routed to that identified mobile subscriber.

Abstract

A method for automatic localization of pre-defined service providers via a cellular mobile telephone system. The service providers are subscribers to a Controlling Service Provider (Regional CSP system). The method includes providing quick dialing program which is received by a current cellular telephone network (CTN) from a caller. This call is then identified and transferred to the Controlling Service Provider (Regional CSP system). The information transferred includes the particular cell in which the call has originated. The Controlling Service Provider (Regional CSP system) then invokes a cross localization program to identify another mobile subscriber from the same cell, and the call is routed to that identified mobile subscriber.

**Service Providers Localization System
via Cellular Telephone**

5 Field of Invention

The invention disclosed hereafter is a localization bridging system via cellular telephone, between a service provider and a person who needs a service, based on the local position of both parties in defined cellular cells at a given time.

10 Background of Invention:

People who need urgent services, like car repair service or just a cab, have to spend a great deal of time trying to locate an available service provider, using directories, or random service providers. Even if both parties are geographically close to each other, unless eye contact, they remain ignorant to each others' existence. Even when a 15 service provider is located, he is not always available and the search starts all over again and might repeat itself several times.

To avoid all this, the Controlling Service Provider (CSP) gives a quick and efficient response to the above described need, if both parties are at the same time in the region of the CSP .

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Summary of the Invention

The new invention introduces a new method in the field of services provided via cellular telephone. The new services are operated by a subscriber's program that elaborates and combines digital data which is constantly received from a Cellular 25 Telephone Network (CTN) with the activity of the CSP system. When a quick dialing programmed code call is received by CTN it is identified and transferred to CSP. The

identified data received by CSP includes data concerning the cellular cell from which the call was received. This data starts the cross localization program of CSP for locating a suitable subscriber who, according to the last data flow received from CTN, is located in the same cellular cell from which the call arrived. When the cross 5 localization process is complete, the call is routed to the suitable Subscriber.

Detailed Description of the Invention

By clicking a pre-programmed code in the cellular telephone of a user of the cellular telephone, (hereafter referred to as "User"). Once the call is identified by CTN as a 10 quick dialing programmed call to CSP, the call and all digital identification of the User, including identification of the particular cellular cell from which the call was received, are transferred by the regional CTN to CSP. CSP identifies the needed service through an automatic reply voice list which was operated by the User. The CSP then starts a cross search of the data of all defined operative service providers who are 15 subscribers to CSP, (hereafter referred to as "Subscribers"), and the updated data, received from CTN, of the cellular cells from which the last signal of above Subscribers was received. Once there is a match between the cellular cells, where User and above Subscribers are located, the CSP dials a Subscriber's number via CTN. CTN receives a dial request. If Subscriber answers the call, a connection between User and 20 Subscriber is obtained. In cases where no reply is received from Subscriber, or by User's request, the call is automatically transferred to the next Subscriber on the list of matching Subscribers.

Brief Description of Drawings

25 **Drawing 1**

Diagram of the National Cellular Telephone Network, (CTN) general overview.

Drawing 2

Diagram of the integration between CTN and the Controlling Service Provider (CSP) System, described in the invention.

Claims:

I claim:

1. A method of controlling the operation of a defined communication between service providers, who are Subscribers to CSP, and Users, via cellular telephones. The method is based on a system of localization of cellular cells within a regional division of a CTN system from where operative signals, of both, the service provider and the User, are received in a given time, comprising the steps of:
 - executing different operating, updating, localization and Subscribers managing programs specific for managing the localization of Subscribers, according to specific parameters, in a given time and specific cellular cells, and connecting Users to desired Subscriber. Said programs containing instructions for receiving, storing updating and processing incoming data from a regional CTN system, according to specific parameters and processing commands according to the specific parameters, and
 - 15 • processing a coded call received from User in accordance with updated data of localization and availability of matching coded Subscriber.
2. The invention of claim 1 further comprising an Operating Program receiving from CTN, in predetermined intervals, data concerning location of operative Subscribers according to cellular cells from which signals are received.
- 20 3. The invention of claim 1 further comprising an Operating Program responsive to the receipt of coded call from User. By cross processing Subscribers' identification list of coded service categories requested by Users and subscribers' cellular cells location in the time when the calls came in, the Operating Program executes a connection between User and Subscriber .
- 25 4. The invention of claim 3 wherein each independent capability of the Operating Program is selected from the following list of process steps:

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- an answering program with voice interface for User use.
- a communication program, including: communication protocols for communication with CTN computer and communication protocol with an updating program.
- Subscribers' managing program.

5 • statistic program.

- localization program, including: search system based on codes operated by User, and a cross localization program for locating requested Subscribers at defined cellular cells.
- updating program including: a system for receiving and storing on-line updated data.

10 • a system for processing the results of the cross localization program and preparing a Subscribers' priority calling list based on parameters stored in Subscribers' data base.

- unauthorized operating use protection program.

15 5. The invention of claim 1 further comprising an Updating Control Program wherein each independent capability is selected from the following list of process steps:

- identification access code and menu.
- communication program: protocol for communication with remote Operating Program.

20 • Subscribers program.

- statistic program.
- updating program.

- unauthorized operating use protection program.

6. The invention of claim 4 wherein a decision instruction comprises an indication of a coded call operated by User to be evaluated by CTN, and the method further comprises the steps of:

5 • CTN referring the coded call to CSP, operating a search program with vocal interface for User to choose the desired service from a plurality of possible codes of available services.

 • executing an instruction chosen from the voice answering program menu.

 • in response to the encountering of a decision coded instruction, evaluating the call 10 parameter indicated by User, and

 • directing the flow through Subscriber's managing program to an instruction list of Subscribers answering the decision instruction parameters, and

 • executing the instruction list to be evaluated by localization program.

7. The invention of claim 6 wherein a first list of available Subscribers is selected by 15 localization program forming the following list of parameters:

 • the identification of cellular cells from which last updating signal of Subscribers on the list was received; and

 • the calls priority parameters of Subscribers from Subscribers data base.

8. The invention of claim 7 wherein a second list of available Subscribers is selected 20 by localization program comprising the following steps:

 • processing the first list with parameters (a) and parameters (b), and

 • forming the second list only with matching parameters of priority Subscribers located in particular cellular cell, from which User's call was received.

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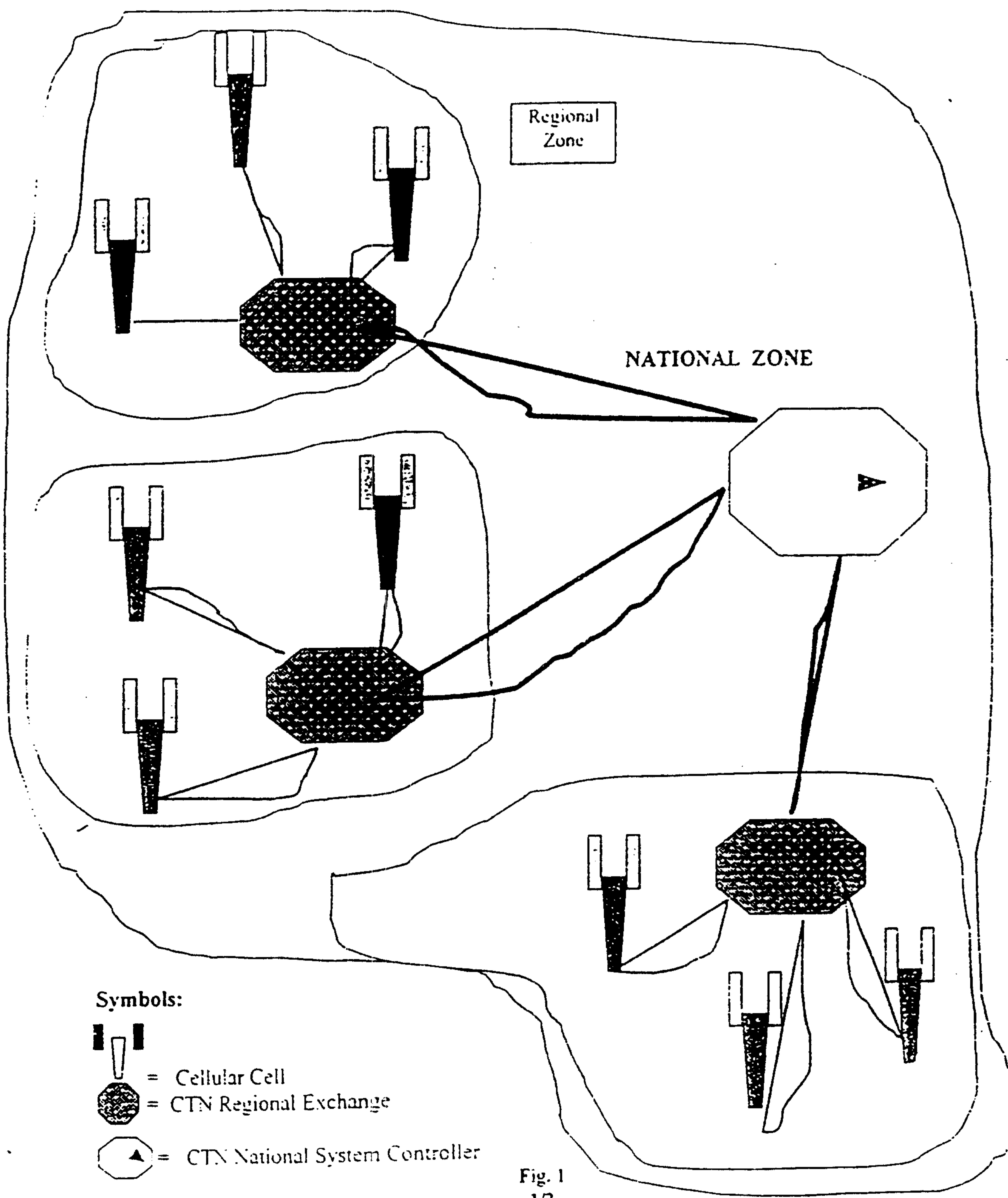
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9. The invention of claim 7 wherein a third list of available Subscribers is selected by localization program comprising the following steps:

- preparing a call priority list of Subscribers from parameters comprised in Subscribers' managing program and second list of claim 8; and
- 5 • executing communication instructions to CTN for performing connection between User and first Subscriber on third list.

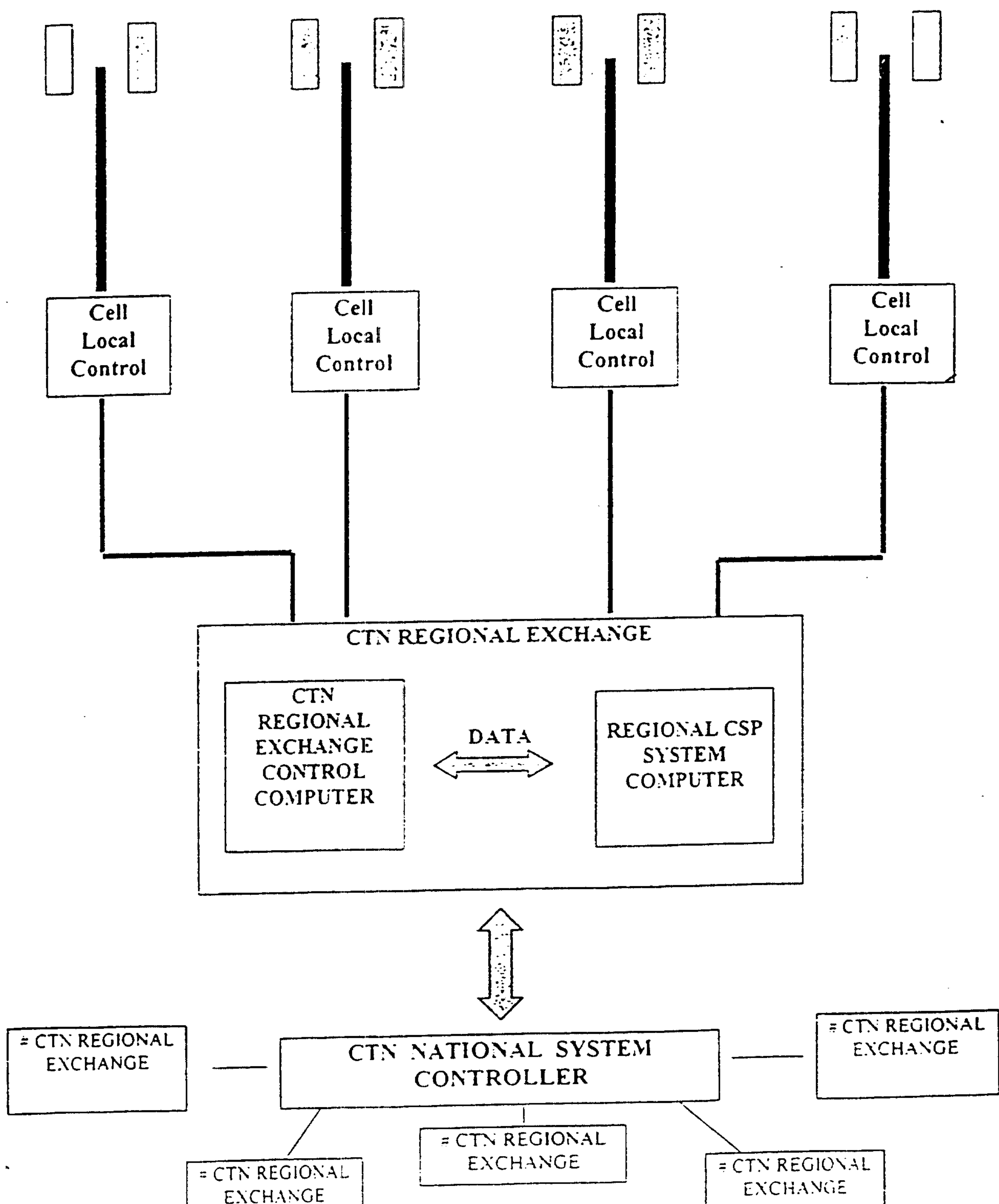
10. The invention of claim 9 further comprises calling instruction to CTN for alternative calls according to third Subscriber's list, if there is no reply from any Subscriber on the list, or Users' command.

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NATIONAL CTN PRINCIPAL GENERAL BLOCK DIAGRAM

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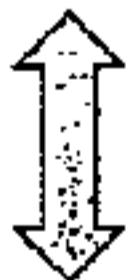
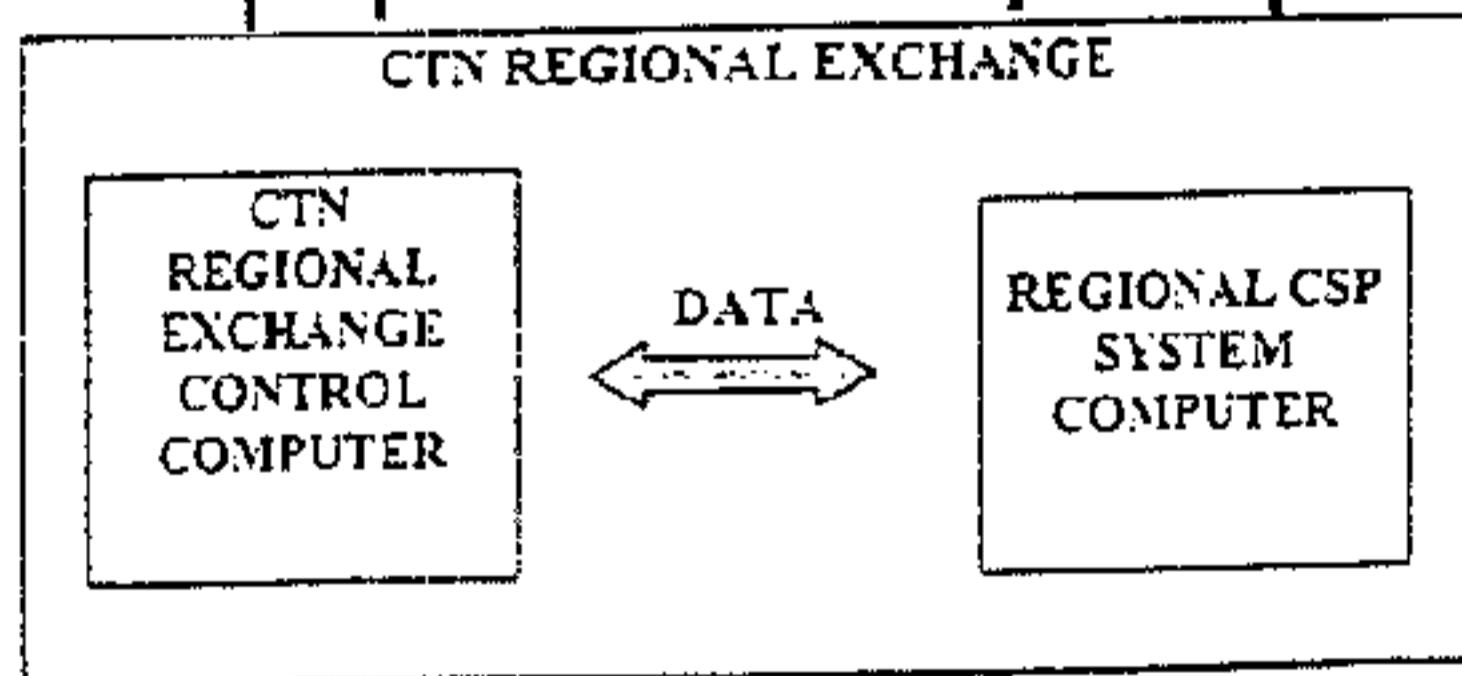
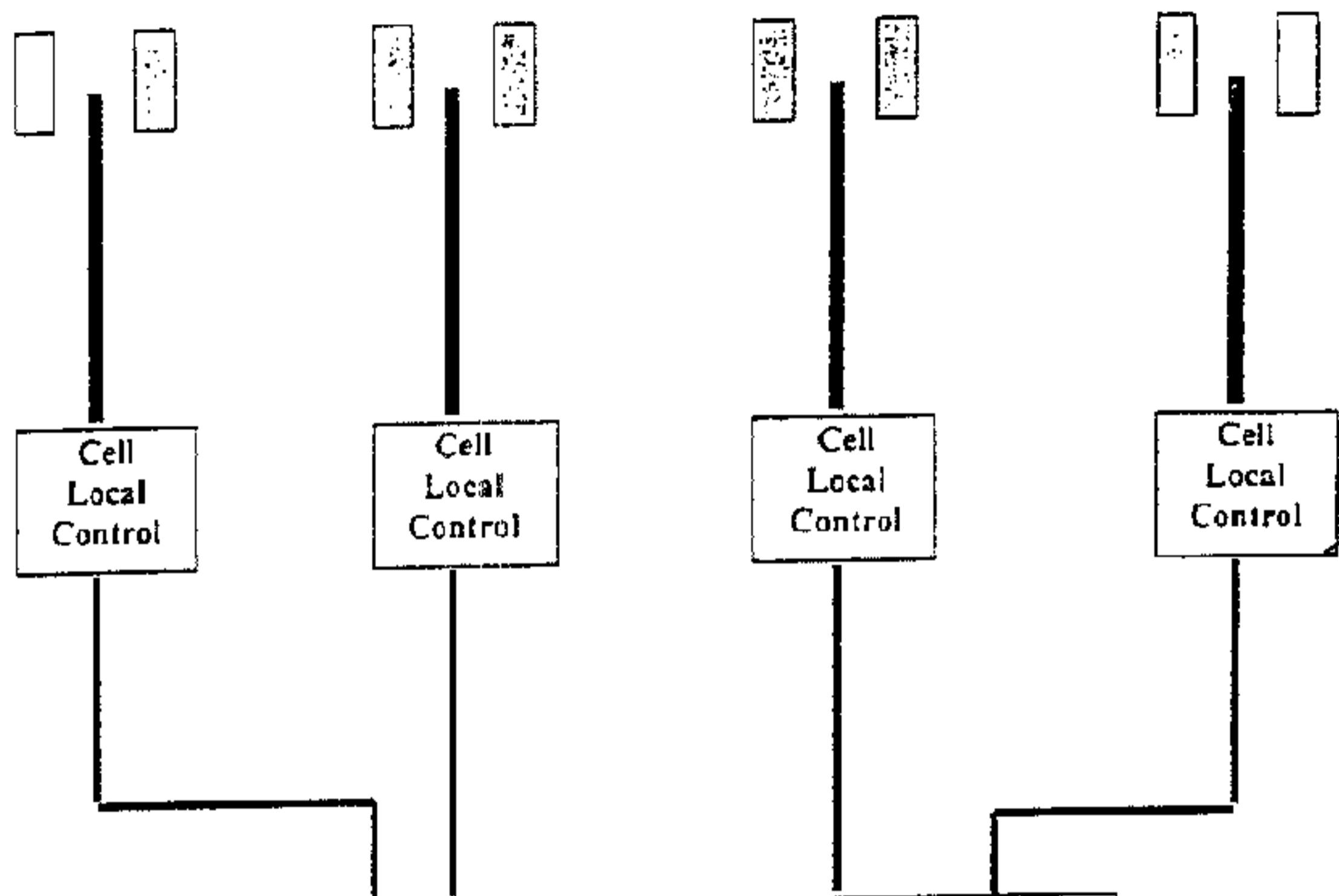
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CTN + CSP SYSTEM PRINCIPAL BLOCK DIAGRAMFig. 2
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CTN + CSP SYSTEM PRINCIPAL BLOCK DIAGRAM



**CTN NATIONAL SYSTEM
CONTROLLER**

* CTN REGIONAL
EXCHANGE

* CTN REGIONAL
EXCHANGE

* CTN REGIONAL
EXCHANGE

* CTN REGIONAL
EXCHANGE