CLAIMS:

~~1. A method for ensuring that handoff call~~ requests take priority over new call requests to engage voice channels assigned to at least one geographical target cell in a cellular mobile radiotelephone communications system, comprising:

determining whether any voice channels are available for assignment to call requests for said target cell;

storing said handoff call requests to said target cell in a queue for a predetermined period of time if no voice channels are available;

examining said queue for queued handoff requests when one or more voice channels becomes available in said target cell;

assigning queued handoff requests to voice channels that become available in said target cell during said time period; and

assigning new call requests to said available voice channels in said target cell when said queue is empty.

2. The method according to claim 1, wherein for plural target cells, each target cell has a corresponding queue for storing handoff requests to that target cell.

3. The method according to claim 1, further comprising:

removing handoff requests that have been stored in said queue longer than said predetermined time.

4. The method according to claim 1, further comprising:

reserving a specified number of voice channels ~~in said target cell solely for handoff requests;~~

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~~assigning handoff requests to both reserved and~~ unreserved voice channels; and

assigning new call requests only to unreserved voice channels.

5. In a cellular mobile radiotelephone communications system having plural geographically-separated radio base stations serving corresponding plural geographical cells, a method for prioritizing new call and handoff requests to engage voice channels assigned to at least one target geographical cell, comprising:

(a) reserving at said target cell a predetermined number of reserved voice channels for servicing only handoff requests;

(b) queuing handoff requests to said target cell when no reserved or unreserved voice channels are available in said target cell;

(c) assigning said queued handoff requests to voice channels that become available in said target cell; and

(d) assigning new call requests to unreserved voice channels that become available in said target cell when no handoff requests are queued in said queuing step.

6. The method according to claim 5, wherein said queuing step includes prioritizing said queued handoff requests and said handoff request assigning step includes assigning said queued handoff requests in order from highest to lowest priority.

7. The method according to claim 5, wherein said step of queuing handoff requests further includes:

monitoring a period of time said queued handoff requests remain queued, and

removing queued handoff requests when said time ~~period exceeds a predetermined value.~~

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~~8. The method according to claim 5, further~~ comprising:

repeating steps (a)-(d) for plural target cells.

9. A cellular mobile radiotelephone communications system for ensuring that handoff requests take priority over new call requests to occupy voice channels assigned to at least one geographical target cell, comprising:

means for preventing a new call request from seizing an available voice channel in said target cell if the number of available voice channels is less than a preset number;

means for allowing only a handoff request to seize an available voice channel in said target cell if the number of available voice channels is less than said preset number;

means for queuing handoff requests for said target cell if no voice channels in said target cell are available;

means for assigning queued handoff requests to the next available voice channel in said target cell; and

means for allowing new call requests to seize available voice channels in said target cell if no handoff requests are queued and if the number of available voice channels exceeds said preset number.

10. The system according to claim 9, wherein said queuing means includes a plurality of queues, each queue corresponding to one of plurality of target cells and storing handoff requests to said corresponding queue and wherein said handoff requests are stored in said corresponding queue in order of receipt.

11. The system according to claim 10, further ~~comprising:~~

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~~means for timing the amount of time each~~ handoff request resides in said corresponding queue;

means for comparing the elapsed time amount of each handoff request to a predetermined time; and

means for removing from said corresponding queue handoff requests whose elapsed exceeds said predetermined time.

12. The system according to claim 10, wherein each target cell has a corresponding queue and handoff requests to a target cell are stored in said ~~corresponding queue in order of greatest priority.~~

INSERT NEW CLAIMS

PRIORIZATION BETWEEN HANDOFF AND NEW CALL REQUESTS IN A CELLULAR COMMUNICATIONS SYSTEM

ABSTRACT

A method and system for ensuring that handoff requests take priority over new cell requests to engage voice channels assigned to a particular target cell are provided. A certain number of channels are reserved for handoff requests. However, if no channels, reserved or unreserved, are available, handoff requests to a particular target cell are stored in a corresponding queue for a predetermined period of time. Thus, when voice channels become available, they are seized in order to satisfy the handoff requests stored in that queue. If the handoff queue is empty, new call requests to a target cell may be assigned to available voice channels.

(No suitable figure)