Short description of the invention

The present invention is defined by a method for continuous and optimal utilization of the capacity of a mobile network that is serving mobile phones covering a specific selected geographical area. The purpose is optimal handling of network traffic in a period with heavy network traffic to and/or from said area without overloading said mobile network. In one aspect, there is provided a~~The~~ method for optimal utilization of the capacity of a mobile network serving mobile phones located in a selected geographical area, and for handling of network traffic in a period with heavy network load exerted by network traffic to or from, or both to and from said geographical area for avoiding overloading of said mobile network, comprises the following steps:

a) establishing an overview of maximum network capacity of said mobile network serving said selected geographical area as well as adjacent areas;

b) establishing an overview of the identity of ~~relevant~~ mobile phones located within said selected geographical area as well as in adjacent areas served by said mobile network, and ~~for~~ determining possible maximum traffic load ~~on the mobile network~~that may be exerted by the identified mobile phones;

c) ~~performing~~ monitoring ~~of~~ current traffic load of the ~~mobile services on said~~ mobile network as well as traffic load of each of different mobile services requiring different bandwidth on the network;

d) determining~~selecting type of~~ if barring is to be set ~~of one or more mobile services to be performed~~ or removed for said different mobile services to or from, or both to and from the mobile phones identified in step b), and where this is ~~network traffic to and/or from selected relevant mobile phones~~ based on the~~said~~ established maximum network capacity, determined~~said~~ possible maximum traffic load, and ~~said~~ current monitored traffic load~~;, and~~

e) setting ~~performing continuous setting of selected type of~~ barring or removing ~~set~~ barring of one or more of said different~~selected~~ mobile services for the mobile phones identified in step b) for utilizing maximum network capacity of the network without overloading the network ~~served by said mobile network for utilizing maximum capacity of the network without overloading the network~~ during a period with heavy network load~~traffic~~, and without shutting down all mobile services for a particular mobile phone.;

f) repeating steps b) to e).

Further features of the method are described in the dependent claims.

The invention is also defined by a device and system for performing the method described above with features as defined in the claims.

In another aspect, there is provided a device for performing optimal utilization of the capacity of a mobile network serving mobile phones located in a selected geographical area, and for handling of network traffic in a period with heavy network load exerted by network traffic to or from, or both to and from said area for avoiding overloading of said mobile network, comprising:

a) input means for receiving information of a selected geographical area;

b) input means for receiving an overview of maximum network capacity of said mobile network serving said selected geographical area as well as adjacent areas;

c) input means for receiving an overview of the identity of mobile phones located within said selected geographical area as well as in adjacent areas served by said mobile network for determining maximum traffic load that may be exerted by identified mobile phones on the mobile network;

d) input means for receiving data regarding current traffic load of the mobile network as well as traffic load of each of different mobile services requiring different bandwidth on the network;

e) means for determining if barring is to be set or removed for said different mobile services to or from, or both to and from the mobile phones identified in step c), and where this is based on the established maximum network capacity, determined possible maximum traffic load, and current monitored traffic load, and

f) means for setting barring or removing barring of one or more of said different mobile services for the mobile phones identified in step c) for utilizing maximum network capacity of the network without overloading the network during a period with heavy network load, and without shutting down all mobile services for a particular mobile phone.

In another aspect, there is provided a system for performing optimal utilization of the capacity of a mobile network serving mobile phones located in a selected geographical area, and for handling of network traffic in a period with heavy network load exerted by network traffic to or from, or both to and from said area for avoiding overloading of said mobile network, comprising:

a) means for selecting said geographical area;

b) means for establishing an overview of maximum network capacity of said mobile network serving said selected geographical area as well as adjacent areas;

c) means for establishing an overview of the identity of mobile phones located within said selected geographical area as well as in adjacent areas served by said mobile network for determining maximum traffic load that may be exerted by mobile phones on the mobile network;

d) means for establishing an overview of the current traffic load of the mobile network as well as traffic load of each of different mobile services requiring different bandwidth on the network;

e) a location based barring device for determining if barring is to be set or removed for said different mobile services to or from, or both to and from the mobile phones identified in step c), and where this is based on the established maximum network capacity, determined possible maximum traffic load, and current monitored traffic load;

f) a mobile switching centre for setting barring or removing barring of one or more of said different mobile services for the mobile phones identified in step c), said switching centre having input means for receiving the identity of mobile phones where barring and type of barring is to be set or removed, determined by said location based barring device.

Detailed description of the invention

The invention will now be described in details with reference to the drawings where:

Figure 1 shows an overview of the method steps;

Figure 2 shows details of the barring process for selecting type of barring, and

Figure 3 illustrate how the inventive method will work when implemented in a 2G/3G network.