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(54) Title: COMPUTER IMPLEMENTED METHODS, APPARATUSES AND SOFTWARE FOR RANDOM NUMBER GENERATION BASED ON GENETIC INFORMATION

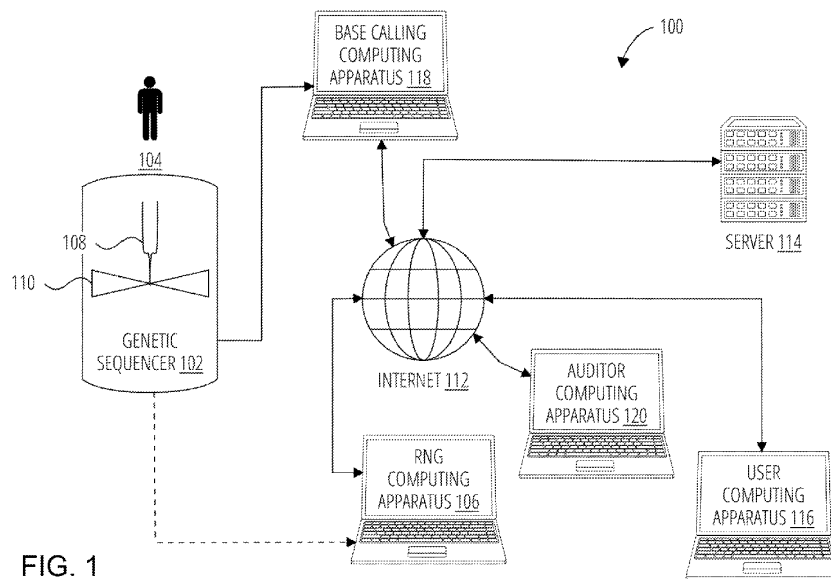


FIG. 1

(57) Abstract: The disclosure provides computer-implemented methods, computing apparatus and computer program products for generating a random number based on genetic information from a biological data source containing at least the genetic information sequenced from a biological organism. In response to receiving a request for a random number at the computing device, a seed value is obtained from an entropy source accessible by the computing device and used to initialise a pseudo random number generator. A sequence of values derived from genetic information for a biological organism is retrieved from a biological data source from which values are read in selected positions in the sequence of values derived from genetic information. The values are encoded to pairs of bits using an encoding scheme and assembled to provide a bit string as a random number. At least one of the selecting of the positions in the

[Continued on next page]

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sequence of values derived from genetic information and the selection of the encoding scheme is based on the pseudo random output.