

store player interactions, player interaction information, and other instructions related to steps described herein, instructions for one or more games played on the gaming machine, etc.

**[0085]** Because such information and program instructions may be employed to implement the systems/methods described herein, the present invention relates to machine-readable media that include program instructions, state information, etc. for performing various operations described herein. Examples of machine-readable media include, but are not limited to, magnetic media such as hard disks, floppy disks, and magnetic tape; optical media such as CD-ROM disks; magneto-optical media such as optical disks; and hardware devices that are specially configured to store and perform program instructions, such as ROM and RAM. The invention may also be embodied in a carrier wave traveling over an appropriate medium such as airwaves, optical lines, electric lines, etc. Examples of program instructions include both machine code, such as produced by a compiler, and files containing higher-level code that may be executed by the computer using an interpreter.

**[0086]** The processing system may offer any type of primary game, bonus round game or other game. In one embodiment, a gaming machine permits a player to play two or more games on two or more display screens at the same time or at different times. For example, a player can play two related games on two of the display screens simultaneously. In another example, once a player deposits currency to initiate the gaming device, the gaming machine allows a person to choose from one or more games to play on different display screens. In yet another example, the gaming device can include a multi-level bonus scheme that allows a player to advance to different bonus rounds that are displayed and played on different display screens.

**[0087]** FIG. 8 illustrates an exemplary network topology. Those of skill in the art will realize that this exemplary architecture and the related functionality are merely examples and that the present invention encompasses many other such embodiments and methods. Here, for example, a single gaming establishment 1205 is illustrated, which is a casino in this example. However, it should be understood that some implementations of the present invention involve multiple gaming establishments.

**[0088]** Gaming establishment 1205 includes 16 gaming machines 2, each of which is part of a bank 1210 of gaming machines 2. In this example, gaming establishment 1205 also includes a bank of networked gaming tables 1100. It will be appreciated that many gaming establishments include hundreds or even thousands of gaming machines 2 and/or gaming tables 1100, not all of which are included in a bank. However, the present invention may be implemented in gaming establishments having any number of gaming machines, gaming tables, etc.

**[0089]** Various alternative network topologies can be used to implement different aspects of the invention and/or to accommodate varying numbers of networked devices. For example, gaming establishments with very large numbers of gaming machines 2 may require multiple instances of some network devices (e.g., of main network device 1225, which combines switching and routing functionality in this example) and/or the inclusion of other network devices not shown in FIG. 8. For example, some implementations of the invention include one or more middleware servers disposed between gaming machines 2 and server 1230. Such middle-

ware servers can provide various useful functions, including but not limited to the filtering and/or aggregation of data received from bank switches 1215, from individual gaming machines and from other player terminals. Some implementations of the invention include load balancing methods and devices for managing network traffic.

**[0090]** Each bank 1210 has a corresponding bank switch 1215, which may be a conventional bank switch. Each bank switch is connected to server-based gaming (“SBG”) server 1230 via main network device 1225, which combines switching and routing functionality in this example. Although various floor communication protocols may be used, some preferred implementations use IGT’s open, Ethernet-based SuperSAS® protocol, which IGT makes available for downloading without charge. However, other protocols such as Best of Breed (“BOB”) may be used to implement various aspects of SBG. IGT has also developed a gaming-industry-specific transport layer called CASH that rides on top of TCP/IP and offers additional functionality and security.

**[0091]** SBG server 1230, License Manager 1231, Arbitrator 133, servers 1232, 1234, 1236 and 1238, and main network device 1225 are disposed within computer room 1220 of gaming establishment 1205. In practice, more or fewer servers may be used. Some of these servers may be configured to perform tasks relating to player tracking, bonus/progressive, etc. Some servers may be configured to perform tasks specific to the present invention. License Manager 1231 may also be implemented, at least in part, via a server or a similar device. Some exemplary operations of License Manager 1231 are described in detail in U.S. patent application Ser. No. 11/225,408, entitled “Methods And Devices For Authentication And Licensing In A Gaming Network” by Kinsley et al., which is hereby incorporated by reference.

**[0092]** SBG server 1230 can also be configured to implement, at least in part, various aspects of the present invention. Some preferred embodiments of SBG server 1230 and the other servers shown in FIG. 8 include (or are at least in communication with) clustered CPUs, redundant storage devices, including backup storage devices, switches, etc. Such storage devices may include a redundant array of inexpensive disks (“RAID”), back-up hard drives and/or tape drives, etc. Preferably, a Radius and a DHCP server are also configured for communication with the gaming network. Some implementations of the invention provide one or more of these servers in the form of blade servers.

**[0093]** In some implementations of the invention, many of these devices (including but not limited to License Manager 1231, servers 1232, 1234, 1236 and 1238, and main network device 1225) are mounted in a single rack with SBG server 1230. Accordingly, many or all such devices will sometimes be referenced in the aggregate as an “SBG server.” However, in alternative implementations, one or more of these devices is in communication with SBG server 1230 and/or other devices of the network but located elsewhere. For example, some of the devices could be mounted in separate racks within computer room 1220 or located elsewhere on the network. For example, it can be advantageous to store large volumes of data elsewhere via a storage area network (“SAN”).

**[0094]** In some embodiments, these components are SBG server 1230 preferably has an uninterruptible power supply (“UPS”). The UPS may be, for example, a rack-mounted UPS module.