

practiced without these specific details. In other instances, well-known circuits, structures and techniques have not been shown in detail in order not to obscure the invention.

[0023] The general form of the Home Network System is shown in Figure 1. Home Network Server 101 is of conventional design and includes a CPU, memory, mass storage (typically a hard disk drive for operations and a CD-ROM or DVD-ROM Drive for software installation), video display capabilities, and a keyboard. Because video from Home Network Server 101 is used mostly for system installation and monitoring, a standard low-cost video system and monitor may be used. A recordable/rewritable version of the CD-ROM or DVD-ROM drive may be used to provide system and network backup capabilities. An alternative form of system and network backup such as one using magnetic tape may also be used. In addition, Home Network Server 101 may provide sound capabilities for the purpose of providing audible warnings and alarms.

[0024] Home Network Server 101 uses Modem 103 to connect to the Internet. Preferably, Modem 103 provides an always-on connection using DSL, a cable modem, or equivalent. However, as an alternative, Modem 103 may provide a dial-up connection to the Internet.

[0025] Home Network Server 101 connects to Router, Switch, or Hub 102. Although a Router is preferable, a Switch or a Hub may also be used.

[0026] Router, Switch, or Hub 102 connects to one or more clients such as PC\_1 104 or Sensor/Actuator\_1 106. More than one client PC may be used, such as PC\_n 105, and more than one Sensor/Actuator may be used, such as Sensor/Actuator\_n 107. Sensor/Actuators are used to control and/or monitor the home's systems such as HVAC and Security and appliances such as refrigerators, washers, and dryers.

[0027] As shown in Figure 2, software Firewall 202 protects Home Network 203 from unwanted intrusions coming from Internet 201. Firewall 204 protects Distributed Computing