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United States Patent
Jenkins , et al.**9,870,597**
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Systems and methods allowing multi-family property owners to consolidate retail electric provider charges with landlord provided utilities and services

Abstract

Systems and methods for allowing landlords to combine information from a retail electric provider into landlord billed utilities and items, are described herein. In one aspect, residency information for a unit associated with a resident is received. Resource consumption or usage information associated with the unit is received from one retail electric provider. A consolidated data set is generated based on the resource consumption or usage information for the unit from both the retail electric provider and landlord provided services such as rent, water, trash and sewer. Under this process, a resident may choose to have the electric account remain in the landlord's name and then be billed for such retail electric charges on the same bill as the landlord provided utilities and services. In some implementations, the community will collect funds for the utility bills from each resident and will use such funds to pay the utility provider directly.

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Parent Case Text

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application No. 61/561,777, entitled "Systems and Methods Allowing Multi-Family Property Owners to Consolidate Retail Electric Provider Charges with Landlord Provided Utilities and Services," filed Nov. 18, 2011, which is incorporated by reference in its entirety.

Claims

What is claimed is:

1. A method of providing a digital record pertaining to multi-resident property via a computer network, the method comprising: storing, via a first device, an electronic residency records for units of the multi-resident property; monitoring, via a metering device, resource consumption or usage for the multi-resident property to obtain a resource consumption or usage electronic record for the multi-resident property, the resource consumption or usage electronic record including information indicative of one or more of electricity usage for the units of the multi-resident property over a period of time and pricing information of the electricity used for each unit over the period of time; detecting, by the first device, a consolidation triggering event indicating that resources are available for the first device to generate consolidated electronic data sets; in response to obtaining the resource consumption or usage electronic record from the metering device and detecting the consolidation triggering event, identifying, via the first device, specific information for a unit included in the resource consumption or usage electronic record including a first unit identifier corresponding to a second unit identifier included in an electronic residency record for the unit; and generating, via the first device, a consolidated electronic data set based on the specific information for the unit as monitored via the metering device, the consolidated electronic data set including: the second unit identifier; date information indicating the period of time to which the consolidated electronic data set relates, a first entry including an electricity charge for the unit for the period of time, the electricity charge generated using the electricity usage and pricing information received from the retail electric provider information, a second entry indicating resource consumption or usage information for a landlord provided

the resource used for each unit over the period of time; detect a consolidation triggering event indicating that resources are available to the apparatus for generating consolidated electronic data sets; in response to obtaining the resource consumption or usage electronic record from the metering device and detection of the consolidation triggering event, identify specific information for a unit included in the resource consumption or usage electronic record by comparing at least a portion of an electronic residency record for the unit with the information included in the resource consumption or usage electronic record; and generate a consolidated electronic data set based on the specific information for the unit as monitored via the metering device, the consolidated electronic data set including: date information indicating the period of time to which the consolidated electronic data set relates, a first entry including an electricity charge for the unit for the period of time, the electricity charge generated using the electricity usage and pricing information received from the retail electric provider information, a second entry indicating resource consumption or usage information for a service provided by another resource provider, and a total amount due for the unit for the time period, the total amount generated using the electricity charge and the resource consumption or usage information for the service; identify a random entry in the consolidated electronic data set; compare resource consumption or usage information for the random entry to a resource consumption or usage information record received from a provider of the resource consumption or usage information record; and generate an error detection result based on the comparison.

Description

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BACKGROUND

Field

The present application relates generally to property management, and more specifically to systems and methods for multi-family property owners (referred to herein also as landlords, which by reference also refers to owners, managers, leasing agents, etc.) to manage a utility expense pass through system for resident utility charges by specifically consolidating third party retail electric provider charges with traditional landlord billed utilities and services such as water, sewer, trash, pest, cable service, pet fees, and rent.

Background

Multi-family property owners maintain and control individual units. When a resident moves into a unit at a multi-family dwelling, that resident is in charge of obtaining electric service for their specific unit. Each time a resident moves in and out of a unit, there is an added expense to the property owner from a utility company for the transferring of service from one customer to another. Also, individual residents are unable to negotiate compellingly with utility companies for highly competitive rates, whereas multi-family property owners often have enough volume to demand better rates. Such negotiation is especially attractive in areas with deregulated utility services.

At block 420, files indicative of resource consumption or usage may be obtained using an electronic file sharing software, such as from a file transfer protocol (FTP) server by the usage data collection interface 210. In some implementations, the files may also include the cost information for the resources provided to each unit. For ease of explanation, the implementations described will use FTP for electronic file sharing, however other electronic file sharing formats or protocols may be used to obtain files indicative of resource consumption or usage. In some implementations, the transfer may be secured or encrypted. The usage data collection interface 210 may communicate through the network 104 and contact a provider from one or more of a plurality of service providers 102. For example, the usage data collection interface 210 may directly receive information indicative of resource consumption or usage information for properties, such as property 120, or units 110. In one aspect, the information indicative of resource consumption or usage may include information indicative of electricity usage of the property 120 or the unit 108. In other aspects, usage data collection interface 210 may contact one or more third parties that provide the resource consumption or usage information, such as electricity usage, for the property 120 or unit 108. Furthermore, the usage data collection interface 210 may receive information covering multiple properties or units as required by owners, managers, or other authorized individuals or groups. Although the usage data collection interface 210 has been described as contacting the third parties to obtain the resource consumption or usage information, in some implementations it may be desirable for the third parties to provide the resource consumption or usage information without being contacted. For example, a third party may provide the usage information according to a transfer schedule (e.g., weekly, monthly, quarterly, daily) to the usage data collection interface 210. Some implementations may include a scheduler as shown in FIG. 11 and described in further detail below.

The path flow for the files may split between block 430 and block 450. At block 430, the files from the FTP server 420 may be saved in a structured format such as extensible markup language (XML) format, or a similar spreadsheet, table, or uploadable file format to the multi-unit bill distribution system 110. For ease of explanation, reference will be made to XML, however, other uploadable types of documents may be supported without departing from the scope of the disclosure. In some aspects, the files may be saved to the storage 204 without further modification. In other aspects, as illustrated in block 440, the files may be parsed by the processor 202 and then saved to the storage 204.

At block 450, the files from the FTP server 420 may be saved in a structured document type, such as a portable document format (PDF). For ease of explanation, reference will be made to PDF as the standard document type, however, other standard document types may be supported without departing from the scope of the disclosure. In some aspects, the files may be saved to the storage 204 without further modification. In other aspects, as illustrated in block 460, the files may be split into individual bills or files by the processor 202 and then saved to the storage 204.

FIGS. 5A and 5B illustrate example reports based on exemplary aspects. The reports illustrate how a multi-family dwelling 106 may review resource consumption or usage information of numerous units 110 within the property 120 managed by the multi-family dwelling 106.

FIG. 5A shows an interface presenting resident account information and utility charges incurred by each unit. The information shown in FIG. 5A is presented in a table or a spreadsheet view. Other presentation formats may be used to display the information (e.g., graphical, charts, drill-down).

As shown, the first seven columns (#, Resident, Account #, Unit, Move In, Mult, and Bedrooms) provide residency information about a unit, an associated resident, a rental contract, and account information. The remaining columns (E1 Electric Supply Charges, E4 Advanced Metering Fee, E5 Electric Tax Charges, Electricity Service Fee, Sewer, Sewer Base, Trash, Water, Water Base Charge, and Current Balance) may provide details on resource consumption, usage charges, taxes, etc. incurred by the unit and the associated resident. As shown, the remaining columns may be stated in terms of dollars owed or paid by a unit or resident. In other aspects, the remaining columns may provide data indicative of resource consumption or usage. In some implementations, other information may be included such as historical data, links to other documents (e.g., hyperlinks), and the like.

generally in terms of their functionality. Whether such functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Skilled artisans may implement the described functionality in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the scope of the present disclosure.

The various illustrative logical blocks, modules, and circuits described in connection with the aspects disclosed herein and in connection with FIGS. 1-11 may be implemented within or performed by an integrated circuit (IC), an access terminal, or an access point. The IC may include a general purpose processor, a digital signal processor (DSP), an application specific integrated circuit (ASIC), a field programmable gate array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, electrical components, optical components, mechanical components, or any combination thereof designed to perform the functions described herein, and may execute codes or instructions that reside within the IC, outside of the IC, or both. The logical blocks, modules, and circuits may include antennas and/or transceivers to communicate with various components within the network or within the device. A general purpose processor may be a microprocessor, but in the alternative, the processor may be any conventional processor, controller, microcontroller, or state machine. A processor may also be implemented as a combination of computing devices, e.g., a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration. The functionality of the modules may be implemented in some other manner as taught herein. The functionality described herein (e.g., with regard to one or more of the accompanying figures) may correspond in some aspects to similarly designated "means for" functionality in the appended claims.

If implemented in software, the functions may be stored on or transmitted over as one or more instructions or code on a computer-readable medium. The steps of a method or algorithm disclosed herein may be implemented in a processor-executable software module which may reside on a computer-readable medium. Computer-readable media includes both computer storage media and communication media including any medium that can be enabled to transfer a computer program from one place to another. A storage media may be any available media that may be accessed by a computer. A storage media may be a non-transitory storage media. By way of example, and not limitation, such computer-readable media may include RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that may be used to store desired program code in the form of instructions or data structures and that may be accessed by a computer. Also, any connection can be properly termed a computer-readable medium. Disk and disc, as used herein, includes compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk, and blu-ray disc where disks usually reproduce data magnetically, while discs reproduce data optically with lasers. Combinations of the above should also be included within the scope of computer-readable media. Additionally, the operations of a method or algorithm may reside as one or any combination or set of codes and instructions on a machine readable medium and computer-readable medium, which may be incorporated into a computer program product.

It is understood that any specific order or hierarchy of steps in any disclosed process is an example of a sample approach. Based upon design preferences, it is understood that the specific order or hierarchy of steps in the processes may be rearranged while remaining within the scope of the present disclosure. The accompanying method claims present elements of the various steps in a sample order, and are not meant to be limited to the specific order or hierarchy presented.

Various modifications to the implementations described in this disclosure may be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other implementations without departing from the spirit or scope of this disclosure. Thus, the disclosure is not intended to be limited to the implementations shown herein, but is to be accorded the widest scope consistent with the claims, the principles and the novel features disclosed herein. The word "exemplary" is used exclusively herein to mean "serving as an example, instance, or illustration." Any implementation described herein as "exemplary" is not necessarily to be construed as preferred or advantageous over other implementations.

