

**METHODS, SYSTEMS, APPARATUSES, AND DEVICES FOR FACILITATING
CONTROLLING AND MANAGING CLOUD USAGE COSTS FOR USING CLOUD
RESOURCES**

5

FIELD OF THE INVENTION

Generally, the present disclosure relates to the field of data processing. More
10 specifically, the present disclosure relates to methods, systems, apparatuses, and
devices for facilitating controlling and managing cloud usage costs incurred by cloud
accounts for using cloud resources of a cloud.

15

BACKGROUND OF THE INVENTION

The field of data processing is technologically important to several industries,
business organizations, and/or individuals.

Cloud Infrastructure has been a modern revolutionary ecosystem across
20 agencies and all sizes of industry. Agencies and many businesses migrate to Cloud
Infrastructure to reduce on-premises data center footprint, easy to use On Demand any
size compute and serverless resources, avoid maintenance nightmare and
management. It is easy to provision any size and/or oversized resources and/or spin
multiple stacks on the Cloud with no control over spending on the cloud resources
25 from Project or Product team, which makes it a financial nightmare to sustain the
funds allocated for that financial year or on fixed price budget projects or contracts on
the DevOps model.

Maintain budget control on 100's accounts or Projects or Products across
multiple clouds is an operational overhead and/or loss control. The need to track,
30 control, and manage the Cloud usage costs on each stage of the project or product
development and operation maintenance is crucial to meet cost on funded/allocated
and/or allocated Budget. Cloud budget control is a complicated process to manage
and maintain across multiple projects, accounts or subscriptions, and multiple cloud
vendors.

Therefore, there is a need for methods, systems, apparatuses, and devices for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud that may overcome one or more of the above-mentioned problems and/or limitations.

5

SUMMARY OF THE INVENTION

This summary is provided to introduce a selection of concepts in a simplified form, that are further described below in the Detailed Description. This summary is not intended to identify key features or essential features of the claimed subject matter. Nor is this summary intended to be used to limit the claimed subject matter's scope.

Disclosed herein is a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments. The method may include a step of receiving, using a communication device, one or more account information associated with one or more cloud account associated with the cloud from one or more device. Further, the method may include a step of analyzing, using a processing device, the one or more account information. Further, the method may include a step of determining, using the processing device, one or more cloud usage cost incurred by the one or more cloud account based on the analyzing. Further, the method may include a step of comparing, using the processing device, the one or more cloud usage cost with cloud usage cost criterion associated with the one or more cloud account based on the determining of the one or more cloud usage cost. Further, the method may include a step of generating, using the processing device, one or more cloud account controlling command for restricting a usage of the cloud resources by the one or more cloud account based on the comparing. Further, the method may include a step of transmitting, using the communication device, the one or more cloud account controlling command to one or more cloud service provider device associated with one or more cloud service provider. Further, the at least one service provider device restricts the usage of the cloud resources by the at least one cloud account based on the at least one cloud account controlling command. Further, the method may include a step of storing, using a storage device, the one or more account information.

Further disclosed herein is a system for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments. The system may include a communication device, a processing device, and a storage device. Further, the communication device
5 may be configured for performing a step of receiving one or more account information associated with one or more cloud account associated with the cloud from one or more device. Further, the communication device may be configured for performing a step of transmitting one or more cloud account controlling command to one or more cloud service provider device associated with one or more cloud service
10 provider. The processing device may be communicatively coupled with the communication device. Further, the processing device may be configured for performing a step of analyzing the one or more account information. Further, the processing device may be configured for performing a step of determining one or more cloud usage cost incurred by the one or more cloud account based on the
15 analyzing. Further, the processing device may be configured for performing a step of comparing the one or more cloud usage cost with one or more cloud usage cost criterion associated with the one or more cloud account based on the determining of the one or more cloud usage cost. Further, the processing device may be configured for performing a step of generating the one or more cloud account controlling
20 command for restricting a usage of the cloud resources by the one or more cloud account based on the comparing. The storage device may be communicatively coupled with the processing device. Further, the storage device may be configured for performing a step of storing the one or more account information.

Both the foregoing summary and the following detailed description provide
25 examples and are explanatory only. Accordingly, the foregoing summary and the following detailed description should not be considered to be restrictive. Further, features or variations may be provided in addition to those set forth herein. For example, embodiments may be directed to various feature combinations and sub-combinations described in the detailed description.

30

BRIEF DESCRIPTION OF DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of this disclosure, illustrate various embodiments of the present disclosure. The drawings contain representations of various trademarks and copyrights owned by the Applicants. In addition, the drawings may contain other marks owned by third parties and are being used for illustrative purposes only. All rights to various trademarks and copyrights represented herein, except those belonging to their respective owners, are vested in and the property of the applicants. The applicants retain and reserve all rights in their trademarks and copyrights included herein, and grant permission to reproduce the material only in connection with reproduction of the granted patent and for no other purpose.

Furthermore, the drawings may contain text or captions that may explain certain embodiments of the present disclosure. This text is included for illustrative, non-limiting, explanatory purposes of certain embodiments detailed in the present disclosure.

FIG. 1 is an illustration of an online platform consistent with various embodiments of the present disclosure.

FIG. 2 is a block diagram of a computing device for implementing the methods disclosed herein, in accordance with some embodiments.

FIG. 3 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments.

FIG. 4 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include determining a level of the one or more cloud usage cost in relation to one or more threshold level, in accordance with some embodiments.

FIG. 5 is a flow chart of the method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include transmitting the one or more alert to one or more devices associated with the one or more cloud account, in accordance with some embodiments.

FIG. 6 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include determining the level of the one or more cloud usage cost, in accordance with some embodiments.

FIG. 7 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include creating the one or more budget for the one or more cloud account, in accordance with some embodiments.

5 FIG. 8 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include determining the one or more threshold level of the one or more cloud account, in accordance with some embodiments.

10 FIG. 9 is a flow chart of a method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method may include analyzing the one or more estimated cloud usage cost, in accordance with some embodiments.

15 FIG. 10 is a block diagram of a system for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments.

FIG. 11 is a flowchart of a method for facilitating, controlling, and managing cloud usage costs incurred by cloud accounts of a cloud, in accordance with some embodiments.

20 FIG. 12 is a flowchart of a method for facilitating overriding the attainment of the at least one threshold cost by the at least one cloud usage cost, in accordance with some embodiments.

FIG. 13 is a flowchart of a method for estimating budgets for the cloud accounts of the cloud, in accordance with some embodiments.

25 FIG. 14 is a block diagram of a system for creating, manage and planning a budget for any given period or Fiscal year across all the accounts in the Cloud, in accordance with some embodiments.

FIG. 15 is a flowchart of methods for creating, managing, and controlling the budget, budget schedules, and budget planning for the cloud accounts across multiple cloud service providers, in accordance with some embodiments.

30

DETAILED DESCRIPTION OF THE INVENTION

As a preliminary matter, it will readily be understood by one having ordinary skill in the relevant art that the present disclosure has broad utility and application. As should be understood, any embodiment may incorporate only one or a plurality of the above-disclosed aspects of the disclosure and may further incorporate only one or a plurality of the above-disclosed features. Furthermore, any embodiment discussed and identified as being “preferred” is considered to be part of a best mode contemplated for carrying out the embodiments of the present disclosure. Other embodiments also may be discussed for additional illustrative purposes in providing a full and enabling disclosure. Moreover, many embodiments, such as adaptations, variations, modifications, and equivalent arrangements, will be implicitly disclosed by the embodiments described herein and fall within the scope of the present disclosure.

Accordingly, while embodiments are described herein in detail in relation to one or more embodiments, it is to be understood that this disclosure is illustrative and exemplary of the present disclosure, and are made merely for the purposes of providing a full and enabling disclosure. The detailed disclosure herein of one or more embodiments is not intended, nor is to be construed, to limit the scope of patent protection afforded in any claim of a patent issuing here from, which scope is to be defined by the claims and the equivalents thereof. It is not intended that the scope of patent protection be defined by reading into any claim limitation found herein and/or issuing here from that does not explicitly appear in the claim itself.

Thus, for example, any sequence(s) and/or temporal order of steps of various processes or methods that are described herein are illustrative and not restrictive. Accordingly, it should be understood that, although steps of various processes or methods may be shown and described as being in a sequence or temporal order, the steps of any such processes or methods are not limited to being carried out in any particular sequence or order, absent an indication otherwise. Indeed, the steps in such processes or methods generally may be carried out in various different sequences and orders while still falling within the scope of the present disclosure. Accordingly, it is intended that the scope of patent protection is to be defined by the issued claim(s) rather than the description set forth herein.

Additionally, it is important to note that each term used herein refers to that which an ordinary artisan would understand such term to mean based on the contextual use of such term herein. To the extent that the meaning of a term used herein—as understood by the ordinary artisan based on the contextual use of such

term—differs in any way from any particular dictionary definition of such term, it is intended that the meaning of the term as understood by the ordinary artisan should prevail.

Furthermore, it is important to note that, as used herein, “a” and “an” each
5 generally denotes “at least one,” but does not exclude a plurality unless the contextual use dictates otherwise. When used herein to join a list of items, “or” denotes “at least one of the items,” but does not exclude a plurality of items of the list. Finally, when used herein to join a list of items, “and” denotes “all of the items of the list.”

The following detailed description refers to the accompanying drawings.
10 Wherever possible, the same reference numbers are used in the drawings and the following description to refer to the same or similar elements. While many embodiments of the disclosure may be described, modifications, adaptations, and other implementations are possible. For example, substitutions, additions, or modifications may be made to the elements illustrated in the drawings, and the
15 methods described herein may be modified by substituting, reordering, or adding stages to the disclosed methods. Accordingly, the following detailed description does not limit the disclosure. Instead, the proper scope of the disclosure is defined by the claims found herein and/or issuing here from. The present disclosure contains headers. It should be understood that these headers are used as references and are not
20 to be construed as limiting upon the subjected matter disclosed under the header.

The present disclosure includes many aspects and features. Moreover, while many aspects and features relate to, and are described in the context of facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, embodiments of the present disclosure are not limited to
25 use only in this context.

In general, the method disclosed herein may be performed by one or more computing devices. For example, in some embodiments, the method may be performed by a server computer in communication with one or more client devices over a communication network such as, for example, the Internet. In some other
30 embodiments, the method may be performed by one or more of at least one server computer, at least one client device, at least one network device, at least one sensor, and at least one actuator. Examples of the one or more client devices and/or the server computer may include, a desktop computer, a laptop computer, a tablet computer, a personal digital assistant, a portable electronic device, a wearable computer, a smart

phone, an Internet of Things (IoT) device, a smart electrical appliance, a video game console, a rack server, a super-computer, a mainframe computer, mini-computer, micro-computer, a storage server, an application server (e.g. a mail server, a web server, a real-time communication server, an FTP server, a virtual server, a proxy server, a DNS server, etc.), a quantum computer, and so on. Further, one or more client devices and/or the server computer may be configured for executing a software application such as, for example, but not limited to, an operating system (e.g. Windows, Mac OS, Unix, Linux, Android, etc.) in order to provide a user interface (e.g. GUI, touch-screen based interface, voice based interface, gesture-based interface, etc.) for use by the one or more users and/or a network interface for communicating with other devices over a communication network. Accordingly, the server computer may include a processing device configured for performing data processing tasks such as, for example, but not limited to, analyzing, identifying, determining, generating, transforming, calculating, computing, compressing, decompressing, encrypting, decrypting, scrambling, splitting, merging, interpolating, extrapolating, redacting, anonymizing, encoding and decoding. Further, the server computer may include a communication device configured for communicating with one or more external devices. The one or more external devices may include, for example, but are not limited to, a client device, a third party database, a public database, a private database, and so on. Further, the communication device may be configured for communicating with the one or more external devices over one or more communication channels. Further, the one or more communication channels may include a wireless communication channel and/or a wired communication channel. Accordingly, the communication device may be configured for performing one or more of transmitting and receiving of information in electronic form. Further, the server computer may include a storage device configured for performing data storage and/or data retrieval operations. In general, the storage device may be configured for providing reliable storage of digital information. Accordingly, in some embodiments, the storage device may be based on technologies such as, but not limited to, data compression, data backup, data redundancy, deduplication, error correction, data finger-printing, role based access control, and so on.

Further, one or more steps of the method disclosed herein may be initiated, maintained, controlled, and/or terminated based on a control input received from one or more devices operated by one or more users such as, for example, but not limited

to, an end user, an admin, a service provider, a service consumer, an agent, a broker and a representative thereof. Further, the user as defined herein may refer to a human, an animal, or an artificially intelligent being in any state of existence, unless stated otherwise, elsewhere in the present disclosure. Further, in some embodiments, the one or more users may be required to successfully perform authentication in order for the control input to be effective. In general, a user of the one or more users may perform authentication based on the possession of a secret human readable secret data (e.g. username, password, passphrase, PIN, secret question, secret answer, etc.) and/or possession of a machine readable secret data (e.g. encryption key, decryption key, bar codes, etc.) and/or possession of one or more embodied characteristics unique to the user (e.g. biometric variables such as, but not limited to, fingerprint, palm-print, voice characteristics, behavioral characteristics, facial features, iris pattern, heart rate variability, evoked potentials, brain waves, and so on) and/or possession of a unique device (e.g. a device with a unique physical and/or chemical and/or biological characteristic, a hardware device with a unique serial number, a network device with a unique IP/MAC address, a telephone with a unique phone number, a smartcard with an authentication token stored thereupon, etc.). Accordingly, the one or more steps of the method may include communicating (e.g. transmitting and/or receiving) with one or more sensor devices and/or one or more actuators in order to perform authentication. For example, the one or more steps may include receiving, using the communication device, the secret human readable data from an input device such as, for example, a keyboard, a keypad, a touch-screen, a microphone, a camera, and so on. Likewise, the one or more steps may include receiving, using the communication device, the one or more embodied characteristics from one or more biometric sensors.

Further, one or more steps of the method may be automatically initiated, maintained, and/or terminated based on one or more predefined conditions. In an instance, the one or more predefined conditions may be based on one or more contextual variables. In general, the one or more contextual variables may represent a condition relevant to the performance of the one or more steps of the method. The one or more contextual variables may include, for example, but are not limited to, location, time, identity of a user associated with a device (e.g. the server computer, a client device, etc.) corresponding to the performance of the one or more steps, and/or semantic content of data associated with the one or more users. Accordingly, the one or more steps may include communicating with one or more sensors and/or one or

more actuators associated with the one or more contextual variables. For example, the one or more sensors may include, but are not limited to, a timing device (e.g. a real-time clock), a location sensor (e.g. a GPS receiver, a GLONASS receiver, an indoor location sensor, etc.), a biometric sensor (e.g. a fingerprint sensor), and a device state
5 sensor (e.g. a power sensor, a voltage/current sensor, a switch-state sensor, a usage sensor, etc. associated with the device corresponding to performance of the one or more steps).

Further, the one or more steps of the method may be performed one or more number of times. Additionally, the one or more steps may be performed in any order
10 other than as exemplarily disclosed herein, unless explicitly stated otherwise, elsewhere in the present disclosure. Further, two or more steps of the one or more steps may, in some embodiments, be simultaneously performed, at least in part. Further, in some embodiments, there may be one or more time gaps between performance of any two steps of the one or more steps.

Further, in some embodiments, the one or more predefined conditions may be specified by the one or more users. Accordingly, the one or more steps may include receiving, using the communication device, the one or more predefined conditions from one or more devices operated by the one or more users. Further, the one or more predefined conditions may be stored in the storage device. Alternatively, and/or
20 additionally, in some embodiments, the one or more predefined conditions may be automatically determined, using the processing device, based on historical data corresponding to performance of the one or more steps. For example, the historical data may be collected, using the storage device, from a plurality of instances of performance of the method. Such historical data may include performance actions
25 (e.g. initiating, maintaining, interrupting, terminating, etc.) of the one or more steps and/or the one or more contextual variables associated therewith. Further, machine learning may be performed on the historical data in order to determine the one or more predefined conditions. For instance, machine learning on the historical data may determine a correlation between one or more contextual variables and performance of
30 the one or more steps of the method. Accordingly, the one or more predefined conditions may be generated, using the processing device, based on the correlation.

Further, one or more steps of the method may be performed at one or more spatial locations. For instance, the method may be performed by a plurality of devices interconnected through a communication network. Accordingly, in an example, one or

more steps of the method may be performed by a server computer. Similarly, one or more steps of the method may be performed by a client computer. Likewise, one or more steps of the method may be performed by an intermediate entity such as, for example, a proxy server. For instance, one or more steps of the method may be performed in a distributed fashion across the plurality of devices in order to meet one or more objectives. For example, one objective may be to provide load balancing between two or more devices. Another objective may be to restrict a location of one or more of an input data, an output data, and any intermediate data therebetween corresponding to one or more steps of the method. For example, in a client-server environment, sensitive data corresponding to a user may not be allowed to be transmitted to the server computer. Accordingly, one or more steps of the method operating on the sensitive data and/or a derivative thereof may be performed at the client device.

15 Overview

The present disclosure describes methods, systems, apparatuses, and devices for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud.

Further, the disclosed system may include a centralized cloud usage-cost control management system of setting up cloud account(s) budget, controlling and monitoring the usage cost, limiting resource usage by a given threshold, and generates IT Cloud budget planning.

Further, the disclosed system may be configured to control multiple Cloud Account budgets across multiple cloud providers interactively over the defined period from a centralized interface. Further, the disclosed system may be configured to set up the allocated Budget for the account(s) for a given period or financial year set by the enterprise budget team. The System monitors the Budget and controls the cloud usage cost to help the Organization manage Cloud usage costs on the allocated Budget for the given period or execute fixed price cloud usage-cost projects. The System monitors monthly usage costs and sends alerts to the administrator and/or product owner if it exceeds threshold sets on the cloud usage cost. Further, the disclosed system may be configured to control the cloud usage cost not to initiate cloud resources unless account usage cost is brought back to below threshold levels or overriding set thresholds by adding funds or exceptions. Further, the disclosed system

may be configured to provide AI/ML-based budget estimation for any given period or Fiscal-year based on similar workloads and/or enterprise historical usage-cost data. This estimation is used for IT Cloud Budget planning, forecast cloud usage costs, and Cloud cost and budget management across cloud accounts. Further, the disclosed
5 system may be configured to generate various reports on the show back or/and chargeback, IT cloud budget planning, budget planner, AI-Based Multi-Cloud Cost savings recommendation, etc.

Further, the disclosed system may be associated with a centralized Cloud budget planner. Further, the disclosed system may be configured to control usage
10 costs. Further, the disclosed system may be associated with a unified management console to plan, manage and control cloud usage cost spending of Product or Cloud Applications from Development to Operation and Maintenance (O&M). The disclosed system is configurable to set up multi-level budget thresholds and alerts
15 across all the cloud accounts to notify if the set budget cost reached its threshold on any given period. Suppose the set budget reached its Critical threshold, in that case, the System restricts to spin more cloud resources in that cloud account or subscription unless terminating the existing resources, which are already influencing usage cost to bring below the set Critical threshold level for that period.

Cloud usage costs may surge beyond the allocated budget threshold for
20 various reasons. Developers or Application teams run multiple environments without shutting down unwanted environments or run numerous test resources or spin oversized resources, or maybe forgotten resources. These unwanted resources may ramp up the usage cost, which we can't recover the metered cost, which impacts project execution, deliverables and creates funding chaos.

25 Further, the disclosed system may be configured to allow overriding the budget amount during any given period due to changes in application design or requirements or funding or any negations to override the Critical threshold point, allowing the reset to new threshold levels. If a project or product requires restructuring the whole Budget based on the application design changes, the System
30 may reconfigure the Budget at any time.

Further, the disclosed system may be configured to plan, manage and control the allocated Budget for the project or product Cloud accounts and maintain the applications over the multi-Cloud infrastructure ecosystem. Further, the disclosed system may be configured to collect all the organization's cloud accounts from the

different Cloud provider's Master/Payer account, classifies the organizational accounts based on the Cloud Service Providers (CSP), and associates the Product or Project information with the accounts, and maps the associated charge code. Through Unified Console, the disclosed system may be configured to create Budget Plan for an account, manage a budget plan and create New budget Plan for the entire portfolio of cloud accounts for a given period or Fiscal year.

Budget and Cost control systems can be implemented on any virtual machine or Server or provided as Software as a Service from remote Server as managed service. The System has a unified interface to log in and manage the entire enterprise multi-cloud accounts, cost control, and budget planning system. The unified interface console can be accessed through an Internet web browser from a computer device, mobile phone, tablet, or any device with a compatible internet web browser.

Before access to the System, a user may log in to the System through a unified interface. As discussed before, Admin users, finance users, Cloud infrastructure users, Project /Product/Application users, or any stakeholder users can access this System. By default, one admin user exists for the initial system setup and configuration. The System allows a different type of user access to create based on their duties as per information technology data security industry standard requirements. The System allows categorizing the users by Admin, technical, and viewer, based on the access type with individual access policies are attached to it. Admin users can access and set all the system-level configurations, page default, field default values, drop-down lists, data feed, Cloud cross-account access, configure budget data, create users, and reset user passwords. Admin user also has all other user's permissions by default. Technical users can add, edit, updated Cloud accounts, set up a budget for an account, data feed, budget planner for the given period or fiscal year, report, and Dashboard. The viewer can view the shared Dashboard, generate the reports, search and view cloud-account information and budget information.

To set up a budget and/or budget planning or cost control for a cloud account, at least one cloud account, related business product/project information, and Cloud vendor or reseller information should exist. First, we need to create Cloud Service Provider Vendor or Reseller information before importing respective Cloud-Accounts and enterprise Product information.

The System allows capturing Cloud service provider Vendor or Reseller information. The required vendor information is captured, including but not limited to

Vendor-name, Contract period, contract number, service provider, task, scope, markup, admin fees, discount, credits, and status. This Vendor information is automatically mapped to the Vendor name associated with the Cloud accounts. If captured Vendor details from the Cloud account do not have the correct information, the System enables a manual mapping of the Vendor information. This manual mapping takes precedence over automapping.

Cloud Account information may be captured by manually entering each account information through the Cloud account information entry page or by bulk import interface. Required cloud-account information is captured, including but not limited to account number, account-name, account-status, Cloud Service provider, Vendor/Reseller-name, created date, organization-group, and join-method. For bulk account information, import can be uploaded through comma-separated values (CSV) format file. This bulk account information is retrieved and exported from resellers' master or payer accounts or/and can be created manually in a CSV format. If an account is already present during bulk account import, those accounts are not imported, and it will be marked, and the System creates a rejected duplicate list for further review.

Most organizations have a broader Business Product Components classification to view the Budget and IT spending by business area, components, Portfolio, Product, Product line, Cyber ID, etc. The System also allows to input organization-specific bulk Product information import via CSV format. The System captures Enterprise-specific Business Product information through the Product information entry page. The required Product/Project information is captured, including but not limited to Project-id, Project, Business-area, business-unit, Portfolio, Product-line, Product-owner, master-system technical-lead, cost center, etc. These System field names are dynamically configurable to align with enterprise or agency-specific business field names or naming standards through admin login. Once the accounts and business product information are captured in the System, the System automatically maps the product name associated with the Cloud account using account-name. Suppose if the cloud account name is not aligned with the Business product name or any changes in the business-naming conventions; in those cases, the System allows manually map the product name to account id. Manual mapping overrides auto mapping to avoid ambiguity.

The System allows input of any Vendor's markups, administration fee, discounts, and credits associate and/or negotiated from the Vendor or reseller or Cloud service provider like AWS, Azure, GCP, etc. These fees, discounts, and credits will be part of budget formulation on top of Cloud Service provider usage costs. To accurately forecast budget planning and monitoring budget burndown rate, the System allows vendor fees and discounts to include in part of budget planning and cost control on cloud accounts. By enabling markup, discounts, and credits as part of the budget formulation, the System accurately tracks the Organization's Cloud IT spending.

The System has the feature to normalize the Billing and utilization data to remove duplicate tags, misspelled tags, assign missing tags to categorize, resources grouping, resource automation, security management, resource triggers, alerts, group products, and map the resources to product or project it belongs. This feature aligns with Organization resource tag classification if there are any misaligned or untagged tags resources to track accurate Budget and cost tracking. Further, the disclosed system may be configured to allow adding additional tags to track by environment, vendor, external/internal, etc. This helps to track budget spending by the environment, vendor, external/internal, etc.

Further, the disclosed system may be configured to allow to enter tag-mapping manually or bulk upload through to Tag and mapping interface.

Advanced Charge code mapping allows tracking the Budget and burns rate of the Product or Project by the Project, Environment, Phases, and releases by weekly, monthly, yearly, and even by Agile Sprints level. These financial reports are also be used for the show back or chargeback. Further, the disclosed system may be configured to allow entering the Organization specific Charge Code through the Chargeback interface. The required Charge Code information is captured, including but not limited to Project Name, Program-Name, Account, Start-date, End-Date, etc.

After capturing Cloud accounts, Vendor information, and Product information, the System is ready to create a budget for the cloud accounts and/or generate a Budget plan for any given period. The System allows us to create a Budget for an account for a given period and/or create a budget plan for a given period or Fiscal year.

To create a budget for an account, pick an account from the existing account list and enter budget details including but not limited to start date, end date, allocated or computed budget amount for the period, Warning-threshold and Critical-threshold.

Once all required budget information is entered, the System may generate a monthly budget plan for the account before pushing the budget information relevant cloud the Cloud Service provider account. Validate and submit the Budget to enforce the budget governance on that Cloud account. Once the Budget is submitted, the System may

5 generate a schedule via the budget scheduler module to push the budget schedule to the respective Cloud account. On the Cloud account side, once it receives new or changes in the budget schedule, the serverless budget governance agent may execute the budget schedule and set all required budget parameters to that cloud account.

After successful budget governance is set to the account, the agent validates and sends

10 the budget status back to the Budget and cost control system to make sure the budget values set at the cloud account should align with the budget values set on the System. After receiving the status at System, the budget scheduler validates the feedback received from the Cloud-account versus the budget schedule in the System. If there is any misalignment from the Budget set at the cloud account, the budget scheduler

15 engine pushes the schedule again. The schedule engine tries several times before raising the deviation or error notice at the panel or in the Schedule status report. If the budget-scheduler engine didn't receive feedback from the cloud account, it tries multiple times before raising an alert or notice at the interface panel and marks that Budget failed to set.

20 Once the Budget is set, the scheduler engine periodically pulls the budget information from all the cloud accounts to make sure it aligns with the Budget set in the System. If any deviation is found, the budget scheduler pushes the schedule to that account to align with a set value. If there is any budget information access issue from the cloud account, System will send alerts and generate an error report for validation

25 and auditing purposes. This validation process helps to identify any changes in the Cloud Component, network-related issues, any deviation or manipulated budget at an account level, compromised account, policy changes that caused budget and cost control to break. Component or service may break due to the dynamic nature of the Cloud Service provider's managed resources and services and/or any changes that

30 occurred at the infrastructure level. Deviation from the budget set at the System compared to account-level budget due to manipulation or compromised Cloud account.

The budget and cost control system allows configuring 2 levels of thresholds based on control preference. For example, the Warning threshold can be set to send

Warning alerts on the budget amount spent. The Critical threshold can be set to send a Critical alert on the budget amount spent.

5 An add-on feature on the Critical threshold setting restricts to spin of more resources to control the cost until the usage cost consumption goes below the Critical set threshold value. This feature is more beneficial for the Development environment to keep cost control on the projected budget burn rate on the allocated funds.

For example, if a Warning threshold is set at 70% on the allocated account Budget, System will send the warning alert to the respective team when the usage hits 70%. And if a Critical threshold is set at 90% on the allocated account Budget, a
10 Critical alert will be sent when the usage hits 90%. Suppose the Critical threshold, along with the Resource Restrict feature is enabled. In that case, System will send a Critical alert and stop spinning more resources on that account to control the cost until the usage cost consumption goes below the Critical set threshold value.

The System allows changing the Budget which has been already created or in
15 place for any changes in the project funding, budget schedules, and architectural changes that affect the usage cost and override the Critical threshold for the given period. If there are any changes in the project funding or Budget, the System allows updating the new amount on the existing Budget. If there is a change in the schedule and the amount, the System enables makes those changes, and those updated budget
20 schedules are pushed to the appropriate account.

One of the System's main features is to enter override amount on the Critical threshold that has been triggered. Say, Critical alert triggered when budget burn-rate reached 90% of the monthly set budget, restricting the cloud account from spinning more resources. In this scenario, the System allows overriding the budget amount by
25 adding the budget amount for that month. This feature avoids a deadlock scenario on the Cloud account to override resource spin restriction.

There are several common scenarios in the Development environment to spin more resources than required which are not anticipated during the project planning and design phase. Here are a few scenarios that burn up the allocated monthly Budget:
30 1. underestimating resource or capacity needed during the design phase. 2. Forgotten resources that are not noticed, which are being charged, consuming the allocated Budget. 3. Spin oversized resources than required for testing purposes. 4. Too many test resources and/or resource stacks created but not shut down which are not required.

Further, the disclosed system may be configured to allow the creation of a Budget planner for the Fiscal year or any given period. This Budget Planner monitors budget burndown cost, sends threshold alerts, controls Cloud usage cost, and also restricts the cloud account not to allow more resource bring up to avoid usage cost beyond the allocated budget. In the System, Budget planning is created in 3 methods, namely, 1. Create a budget for an individual account through a budget planning interface. 2. Create a new budget plan from the previously existing Budget year/period plan. 3. Through a bulk upload through CSV format for the entire or part of all the cloud accounts.

Further, a first method of the three methods may include creating a budget for an individual account through a budget Planner interface page. This process is explained earlier.

Further, a second method of the three methods may include creating a new budget plan from the previously existing Budget year/period plan through the Budget Planner interface page. Enter the new Start and end dates for all accounts or/and also, the System allows selectively to change dates and other values like threshold, the budget amount so on for individual accounts. Once we update the new Budget plan System will enable us to save and/or Save and publish. The new Budgeting will be active based on the Start and end dates mentioned in the plan.

Further, a third method of the three methods may include creating a new AI-based Forecasted budget estimation plan based on historical or last year's cost consumption through the Budget Planner interface page. Enter the new Start and End dates for all accounts or/and also the System allows selectively to change dates and other values like threshold, the budget amount so on for individual accounts. Once we update the new AI-based Forecasted budget plan, the System will enable us to save and/or save and publish. The new Budgeting will be active based on the Start and end dates mentioned in the plan.

Further, in an embodiment, the disclosed system may be configured to upload the bulk budget plan through CSV format for the entire or part of all the cloud accounts. Export the existing Budget for all Cloud accounts in CSV format. Open the exported file, edit the new Start and End dates, threshold percentage, the budget amount, and other values for the cloud accounts. Import the updated budget file into the System. Open recently uploaded Budget plan and publish the Budget.

Further, in an embodiment, the disclosed system may be configured to create a budget plan in the comma-separated file for the Cloud accounts that needs to control Budget and usage costs. To create a bulk budget plan for the Cloud accounts, enter the cloud-account numbers and enter budget details including but not limited to start date, end date, allocated budget amount for the period, Warning-threshold in percentage, and Critical-threshold in percentage. Upload the newly created CSV file to the System and save the Budget plan. Open recently uploaded Budget plan and publish the Budget.

The System generates various Finance, show back and/or chargeback, and IT budget plan reports, which plays a crucial role in IT planning, Cloud IT cost distribution, Cloud Infrastructure cost of ownership, and Auditing. The System uses a machine-learning algorithm to generate Artificial intelligence (AI) based Budget estimate for the next Budget based on the usage cost consumption year.

When it comes to Cloud IT budget Planning, Analysts and managers have to reach out to various teams to pull the historical Cloud usage-cost data for Total Cost of Ownership (TCO) analysis for the Cloud IT planning. They need to do the capacity and forecast estimation of the application or project to compute accurate IT budget formulation. Further, the disclosed system may be configured to eliminate all these manual processes, provides Artificial intelligence (AI) based Budget estimate recommendations. The System also provides the provision to include markups, discounts, and credits from Vendors and/or Cloud Resellers. This allows the System to provide the exact Budget estimation recommendation required for the given period. Artificial intelligence (AI) based Budget estimate recommendation engine automatically generates cloud account budget estimation, forecasting, and planning for the next budget period or fiscal year generated by applying artificial intelligence.

The budget estimate recommendation engine is an artificial intelligence-based (AI) usage-cost forecasting and estimation built using commercially available FedRAMP compliant fully managed service offered by Cloud Service Providers or 3rd party vendors. AI estimation service utilizes one or more of machine learning, deep learning, predictive analytics, natural language processing, and intelligent data discovery to generate usage cost forecasting based on models learned and tuned from historical usage-cost data captured by our System on the cloud accounts. The System computes the data generated by the AI estimation service to provide budget estimation forecast recommendations for the given period or next budget cycle.

Further, the disclosed system may be configured to generate several reports using the Report and Analytical engine. Using an analytical engine, we can create and interact with visuals and tell data-driven stories. Some data points represent a significant event, and others represent a random occurrence. The analysis uncovers
5 which data is worth investigating, based on what driving factors (key drivers) contributed to the event.

The System has several Cloud Cost control features to control the Cloud usage cost within the allocated fixed Budget that we can set through a unified Cost control interface. This feature enables the enterprise or the agency to control the cost of Fixed
10 budget Projects and Applications or Services within their allocated funds. This Cost management feature enables control of Cloud usage costs within the allocated or available Budget or funds and shut down the Cloud resources when they do not require them.

This unified point of interface avoids the tedious job of logging into individual
15 accounts (saves tons of time if we have 100+ accounts) and manually shutdown resources across multiple clouds to stop cloud resources to save on usage-cost. Using this unified interface, we can set or change the Budget, budgeting period for the project and/or application, dynamically change the Startup, and shut down the Cloud resources (all or selectively) based on the enterprise working hours and/or Service
20 Level requirements (SLAs) or Stop the resources whenever they require.

The main feature of this budget management is to remotely control usage costs by throttling endpoints on how much the enterprise wants to spend the funds or Budget on a given period to provide their service. This feature enables the enterprise how much customers can utilize the enterprise contents and/or service not hogging
25 their application bandwidth without interrupting other customers who want to use the same service and not to bring down the entire application. This handy feature for the enterprise and/or the Govt. agency is to control their funds and throttle the data miners on publicly disseminated information like Historical labor statistics data, Census data, Research and National archives Data, Patent and Trademark Data, media content
30 delivery, bulk download contents, etc.

The System also has an integrated Dashboard. The visualization dashboard is a graphical representation of data. A dashboard is a read-only snapshot of an analysis to share with other users for reporting purposes. A dashboard preserves the analysis configuration at the time of publishing, including filtering, parameters, controls, and

sort order. The data used for the analysis is dynamic, and Dashboard visualization reflects the current data in the data sets used by the analysis.

- The System Dashboard consists of several visualization pages with associated reports. Some of the reports but not limited to track the Budget and usage-cost are 1.
- 5 Billing Summary: Summary of consolidated Cloud usage-cost in an Organization level, we can drill down by accounts and period. This shows Usage-Cost by Account, Associated Project and Product, Chargeback over the selected period 2. Tagged and Untagged Services Usage cost: Shows the usage of the different environments by Accounts by Services with Tags and/or Untagged Cloud resources (System,
- 10 Environment, Business Area, etc.), 3. Budget Monitoring: High-level view of monitoring accounts usage by comparing with monthly Budget allocated per account. The visuals show the comparison between the actual usage cost of an Account versus the budget amount allocated to the account monthly. 4. AI-based Anomaly Detection: Describes the outliers, spikes, or deviations in the usage cost or Budget that falls
- 15 outside a distribution pattern. Anomaly detection identifies the causations and correlations to enable you to make data-driven decisions. 5. AI-based Forecast: This shows forecasted key business metric that is the cost for a forward period, which can be configured as per the requirement. For example, if we want to forecast Budget or Usage Cost or burndown rate to see if we are going beyond our allocated fund for the
- 20 fiscal year or fixed price project or funds. Suppose we expect a huge spike in production or development account usage because of the deployments or level of efforts done for testing purposes in the coming two weeks, and we want to know how it will affect our overall forecast. Analytics Insight is quick data interpretation that gives a high-level takeaway from the visuals the System creates. These insights
- 25 enable us to create any computation, using customized wordings to provide context to the fields. 6. AI-Based Multi-Cloud Multi-Account Savings Plan Recommendation - The System generates the most frequently used instance utilization types across all the cloud accounts breakdown by product/portfolio using an AI-based recommendation engine. These stats help the Organization to generate purchase saving plan/reserved
- 30 instance recommendations for targeted cloud resources like instances and RDS. This helps in potential savings on on-demand multi-cloud resources cost (AWS, Azure, GCP, etc.), which are 30% – 70 % higher than those of Reserved Instance purchases. Using these explorative analytics, we can perform deep-dive analysis by drilling down to specific cloud resources, pricing, and other specifications. This offers the ability to

monitor budget control, cost savings, and optimization. Also provides the flexibility in cost comparison between multi-clouds for long term investments and savings plan.

Further, the disclosed system may be integrated with Enterprise Active Directory and set up email notification. Further, the disclosed system may be
5 configured to send email notifications and alerts to various users and teams like sending the budget summary alert, soft and hard cap threshold alerts, burn-rate alerts, monthly finance reports, executive reports, etc.

Further, the disclosed system may include a system for Cloud Cost control. Further, the system has several Cloud Cost control features to control the Cloud usage
10 cost within the allocated fixed Budget that the user may set through a unified Cost control interface. This feature enables the enterprise or the agency to control the cost of Fixed budget Projects and Applications or Services within their allocated funds. This Cost management feature enables control of Cloud usage costs within the allocated or available Budget or funds and shut down the Cloud resources when they
15 do not require them. This unified point of interface avoids the tedious job of logging into individual accounts (saves tons of time if we have 100+ accounts) and manually shutdown resources across multiple clouds to stop cloud resources to save on usage-cost. Using this unified interface, we can set or change the Budget, budgeting period for the project and/or application, dynamically change the Startup, and shut down the
20 Cloud resources (all or selectively) based on the enterprise working hours and/or Service Level requirements (SLAs) or Stop the resources whenever they require.

Further, the disclosed system may be configured for facilitating Multi-Cloud Multi-Account Budget Planning and dynamic Cost Control management.

Further, the disclosed system may be configured to control the cloud usage
25 cost not to initiate cloud resources unless account usage cost is brought back to below threshold levels or overriding set thresholds by adding funds or exceptions

Further, the disclosed system may be configured to provide AI/ML-based budget estimation for any given period or Fiscal-year based on similar workloads and/or enterprise historical usage-cost data.

30 FIG. 1 is an illustration of an online platform 100 consistent with various embodiments of the present disclosure. By way of non-limiting example, the online platform 100 to enable facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud may be hosted on a centralized server 102, such as, for example, a cloud computing service. The

centralized server 102 may communicate with other network entities, such as, for example, a mobile device 106 (such as a smartphone, a laptop, a tablet computer, etc.), other electronic devices 110 (such as desktop computers, server computers, etc.), databases 114, and sensors 116 over a communication network 104, such as, but not limited to, the Internet. Further, users of the online platform 100 may include relevant parties such as, but not limited to, end-users, administrators, service providers, service consumers, and so on. Accordingly, in some instances, electronic devices operated by the one or more relevant parties may be in communication with the platform.

10 A user 112, such as the one or more relevant parties, may access online platform 100 through a web based software application or browser. The web based software application may be embodied as, for example, but not be limited to, a website, a web application, a desktop application, and a mobile application compatible with a computing device 200.

15 With reference to FIG. 2, a system consistent with an embodiment of the disclosure may include a computing device or cloud service, such as computing device 200. In a basic configuration, computing device 200 may include at least one processing unit 202 and a system memory 204. Depending on the configuration and type of computing device, system memory 204 may comprise, but is not limited to, volatile (e.g. random-access memory (RAM)), non-volatile (e.g. read-only memory (ROM)), flash memory, or any combination. System memory 204 may include operating system 205, one or more programming modules 206, and may include a program data 207. Operating system 205, for example, may be suitable for controlling computing device 200's operation. In one embodiment, programming modules 206 may include image-processing module, machine learning module. Furthermore, 20 embodiments of the disclosure may be practiced in conjunction with a graphics library, other operating systems, or any other application program and is not limited to any particular application or system. This basic configuration is illustrated in FIG. 2 by those components within a dashed line 208.

30 Computing device 200 may have additional features or functionality. For example, computing device 200 may also include additional data storage devices (removable and/or non-removable) such as, for example, magnetic disks, optical disks, or tape. Such additional storage is illustrated in FIG. 2 by a removable storage 209 and a non-removable storage 210. Computer storage media may include volatile

and non-volatile, removable and non-removable media implemented in any method or technology for storage of information, such as computer-readable instructions, data structures, program modules, or other data. System memory 204, removable storage 209, and non-removable storage 210 are all computer storage media examples (i.e.,
5 memory storage.) Computer storage media may include, but is not limited to, RAM, ROM, electrically erasable read-only memory (EEPROM), flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store information and which can
10 be accessed by computing device 200. Any such computer storage media may be part of device 200. Computing device 200 may also have input device(s) 212 such as a keyboard, a mouse, a pen, a sound input device, a touch input device, a location sensor, a camera, a biometric sensor, etc. Output device(s) 214 such as a display, speakers, a printer, etc. may also be included. The aforementioned devices are
15 examples and others may be used.

Computing device 200 may also contain a communication connection 216 that may allow device 200 to communicate with other computing devices 218, such as over a network in a distributed computing environment, for example, an intranet or the Internet. Communication connection 216 is one example of communication
20 media. Communication media may typically be embodied by computer readable instructions, data structures, program modules, or other data in a modulated data signal, such as a carrier wave or other transport mechanism, and includes any information delivery media. The term “modulated data signal” may describe a signal that has one or more characteristics set or changed in such a manner as to encode
25 information in the signal. By way of example, and not limitation, communication media may include wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, radio frequency (RF), infrared, and other wireless media. The term computer readable media as used herein may include both storage media and communication media.

30 As stated above, a number of program modules and data files may be stored in system memory 204, including operating system 205. While executing on processing unit 202, programming modules 206 (e.g., application 220 such as a media player) may perform processes including, for example, one or more stages of methods, algorithms, systems, applications, servers, databases as described above. The

aforementioned process is an example, and processing unit 202 may perform other processes. Other programming modules that may be used in accordance with embodiments of the present disclosure may include machine learning applications.

Generally, consistent with embodiments of the disclosure, program modules
5 may include routines, programs, components, data structures, and other types of structures that may perform particular tasks or that may implement particular abstract data types. Moreover, embodiments of the disclosure may be practiced with other computer system configurations, including hand-held devices, general purpose graphics processor-based systems, multiprocessor systems, microprocessor-based or
10 programmable consumer electronics, application specific integrated circuit-based electronics, minicomputers, mainframe computers, and the like. Embodiments of the disclosure may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in
15 both local and remote memory storage devices.

Furthermore, embodiments of the disclosure may be practiced in an electrical circuit comprising discrete electronic elements, packaged or integrated electronic chips containing logic gates, a circuit utilizing a microprocessor, or on a single chip containing electronic elements or microprocessors. Embodiments of the disclosure
20 may also be practiced using other technologies capable of performing logical operations such as, for example, AND, OR, and NOT, including but not limited to mechanical, optical, fluidic, and quantum technologies. In addition, embodiments of the disclosure may be practiced within a general-purpose computer or in any other circuits or systems.

Embodiments of the disclosure, for example, may be implemented as a
25 computer process (method), a computing system, or as an article of manufacture, such as a computer program product or computer readable media. The computer program product may be a computer storage media readable by a computer system and encoding a computer program of instructions for executing a computer process. The
30 computer program product may also be a propagated signal on a carrier readable by a computing system and encoding a computer program of instructions for executing a computer process. Accordingly, the present disclosure may be embodied in hardware and/or in software (including firmware, resident software, micro-code, etc.). In other words, embodiments of the present disclosure may take the form of a computer

program product on a computer-usable or computer-readable storage medium having computer-usable or computer-readable program code embodied in the medium for use by or in connection with an instruction execution system. A computer-usable or computer-readable medium may be any medium that can contain, store, communicate, 5 propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device.

The computer-usable or computer-readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium. More specific 10 computer-readable medium examples (a non-exhaustive list), the computer-readable medium may include the following: an electrical connection having one or more wires, a portable computer diskette, a random-access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an optical fiber, and a portable compact disc read-only memory (CD- 15 ROM). Note that the computer-usable or computer-readable medium could even be paper or another suitable medium upon which the program is printed, as the program can be electronically captured, via, for instance, optical scanning of the paper or other medium, then compiled, interpreted, or otherwise processed in a suitable manner, if necessary, and then stored in a computer memory.

20 Embodiments of the present disclosure, for example, are described above with reference to block diagrams and/or operational illustrations of methods, systems, and computer program products according to embodiments of the disclosure. The functions/acts noted in the blocks may occur out of the order as shown in any flowchart. For example, two blocks shown in succession may in fact be executed 25 substantially concurrently or the blocks may sometimes be executed in the reverse order, depending upon the functionality/acts involved.

While certain embodiments of the disclosure have been described, other embodiments may exist. Furthermore, although embodiments of the present disclosure have been described as being associated with data stored in memory and 30 other storage mediums, data can also be stored on or read from other types of computer-readable media, such as secondary storage devices, like hard disks, solid state storage (e.g., USB drive), or a CD-ROM, a carrier wave from the Internet, or other forms of RAM or ROM. Further, the disclosed methods' stages may be

modified in any manner, including by reordering stages and/or inserting or deleting stages, without departing from the disclosure.

FIG. 3 is a flow chart of a method 300 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments.

Further, the method 300 may include a step 302 of receiving, using a communication device (such as a communication device 1002), one or more account information associated with one or more cloud account associated with the cloud from one or more device. Further, the one or more account information may include one or more cloud resources usage information associated with a usage of the cloud resources by the one or more cloud account

Further, the method 300 may include a step 304 of analyzing, using a processing device (such as a processing device 1004), the one or more account information.

Further, the method 300 may include a step 306 of determining, using the processing device, one or more cloud usage cost incurred by the one or more cloud account based on the analyzing. Further, the one or more cloud usage cost is incurred based on the usage of the cloud resources of the cloud.

Further, the method 300 may include a step 308 of comparing, using the processing device, the one or more cloud usage cost with one or more cloud usage cost criterion associated with the one or more cloud account based on the determining of the one or more cloud usage cost.

Further, the method 300 may include a step 310 of generating, using the processing device, one or more cloud account controlling command for restricting the usage of the cloud resources by the one or more cloud account based on the comparing.

Further, the method 300 may include a step 312 of transmitting, using the communication device, the one or more cloud account controlling command to one or more cloud service provider device associated with one or more cloud service provider. Further, the at least one service provider device restricts the usage of the cloud resources by the at least one cloud account based on the at least one cloud account controlling command.

Further, the method 300 may include a step 314 of storing, using a storage device (such as a storage device 1006), the one or more account information.

In some embodiments, the restricting may include stopping the one or more cloud account from using one or more additional amount of the cloud resources during one or more second time period.

5 In some embodiments, the restricting may include initiating one or more additional amount of the cloud resource for the one or more cloud account during the one or more second time period.

In some embodiments, the restricting may include terminating one or more portion of the one or more amount of the cloud resource used by the one or more cloud account during the one or more second time period.

10 Further, in some embodiments, the one or more cloud usage cost criterion may include one or more cloud usage cost endpoint. Further, the method 300 may include receiving, using the communication device, the one or more cloud usage cost endpoint associated with the one or more cloud account from one or more external device. Further, the comparing of the one or more cloud usage cost with the one or more
15 cloud usage cost criterion may include comparing the one or more cloud usage cost with the one or more cloud usage cost endpoint. Further, the generating of the one or more cloud account controlling command for the restricting of the usage of the cloud resources by the one or more cloud account is based on the comparing of the one or more cloud usage cost with the one or more cloud usage cost endpoint.

20 FIG. 4 is a flow chart of a method 400 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 400 may include determining a level of the one or more cloud usage cost in relation to one or more threshold level, in accordance with some embodiments. Further, the one or more account information may include one or more
25 cloud account identifier of the one or more cloud account. Further, at 402, the method 400 may include retrieving, using the storage device, one or more budget of the one or more cloud account based on the one or more cloud account identifier. Further, at 404, the method 400 may include analyzing, using the processing device, the one or more budget. Further, at 406, the method 400 may include determining, using the
30 processing device, one or more threshold level of the one or more cloud usage cost for the one or more cloud account based on the analyzing of the one or more budget. Further, the one or more cloud usage cost criterion may include the one or more threshold level of the one or more cloud usage cost for the one or more cloud account. Further, the comparing may include comparing the one or more cloud usage cost with

the one or more threshold level. Further, at 408, the method 400 may include determining, using the processing device, a level of the one or more cloud usage cost in relation to the one or more threshold level based on the comparing of the one or more cloud usage cost with the one or more threshold level. Further, the generating of the one or more cloud account controlling command for the restricting of the usage of the cloud resources by the one or more cloud account is based on the determining of the level of the one or more cloud usage cost.

FIG. 5 is a flow chart of a method 500 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 500 may include transmitting the one or more alert to one or more devices associated with the one or more cloud account, in accordance with some embodiments. Further, at 502, the method 500 may include generating, using the processing device, one or more alert for the one or more cloud account based on the determining of the level of the one or more cloud usage cost above the one or more threshold level. Further, at 504, the method 500 may include transmitting, using the communication device, the one or more alert to one or more devices associated with the one or more cloud account.

In some embodiments, the one or more threshold level may include two or more threshold levels. Further, the determining of the level of the one or more cloud usage cost above the one or more threshold level may include determining the level of the one or more cloud usage cost above a threshold level of the two or more threshold levels. Further, the generating of the one or more alert may include generating an alert from two or more alerts for the one or more cloud account based on the determining of the level of the one or more cloud usage cost above the threshold level of the two or more threshold levels.

FIG. 6 is a flow chart of a method 600 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 600 may include determining the level of the one or more cloud usage cost, in accordance with some embodiments. Further, the method 600 may include a step 602 of receiving, using the communication device, one or more exception associated with the one or more cloud account from the one or more device.

Further, the method 600 may include a step 604 of analyzing, using the processing device, the one or more exception.

Further, the method 600 may include a step 606 of determining, using the processing device, one or more updated threshold level for the one or more cloud account based on the analyzing of the one or more exception.

Further, the method 600 may include a step 608 of comparing, using the
5 processing device, the one or more cloud usage cost with the one or more updated threshold level associated with the one or more cloud account based on the determining of the one or more updated threshold level.

Further, the method 600 may include a step 610 of determining, using the processing device, the level of the one or more cloud usage cost in relation to the one
10 or more updated threshold level based on the comparing of the one or more cloud usage cost with the one or more updated threshold level. Further, the generating of the one or more cloud account controlling command for the restricting of the usage of the cloud resources by the one or more cloud account is further based on the determining of the level of the one or more cloud usage cost in relation to the one or more updated
15 threshold level.

FIG. 7 is a flow chart of a method 700 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 700 may include creating the one or more budget for the one or more cloud account, in accordance with some embodiments. Further, the
20 method 700 may include a step 702 of receiving, using the communication device, one or more budget information associated with the one or more cloud account from the one or more device.

Further, the method 700 may include a step 704 of analyzing, using the processing device, the one or more budget information.

Further, the method 700 may include a step 706 of creating, using the processing device, the one or more budget for the one or more cloud account.

Further, the method 700 may include a step 708 of storing, using the storage device, the one or more budget. Further, the retrieving of the one or more budget is based on the storing of the one or more budget.

Further, in some embodiments, the receiving of the one or more budget information may include receiving the one or more budget information from one or more budget planning interface of the one or more device.

Further, in some embodiments, the one or more budget information may include one or more historical budget of the one or more cloud account. Further, the

analyzing of the one or more budget information may include analyzing the one or more historical budget. Further, the creating of the one or more budget is based on the analyzing of the one or more historical budget.

Further, in some embodiments, the one or more budget information may
5 include one or more historical cloud usage cost incurred by the one or more cloud account. Further, the analyzing of the one or more budget information may include analyzing the one or more historical cloud usage cost using one or more machine learning algorithm. Further, the creating of the one or more budget is based on the analyzing of the one or more historical cloud usage cost.

10 FIG. 8 is a flow chart of a method 800 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 800 may include determining the one or more threshold level of the one or more cloud account, in accordance with some embodiments. Further, the method 800 may include a step 802 of receiving, using the
15 communication device, one or more allocated budget of the one or more cloud account from one or more external device associated with the one or more cloud account.

Further, the method 800 may include a step 804 of analyzing, using the processing device, the one or more allocated budget.

20 Further, the method 800 may include a step 806 of determining, using the processing device, the one or more threshold level of the one or more cloud account for one or more first time period based on the analyzing of the one or more allocated budget. Further, the comparing of the one or more cloud usage cost with the one or more threshold level may be based on the determining of the one or more threshold
25 level.

FIG. 9 is a flow chart of a method 900 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud in which the method 900 may include analyzing the one or more estimated cloud usage cost, in accordance with some embodiments. Further, the method 900
30 may include a step 902 of determining, using the processing device, one or more allocated cloud usage cost associated with the one or more cloud account for the one or more first time period based on the analyzing of the one or more allocated budget.

Further, the method 900 may include a step 904 of analyzing, using the processing device, the one or more allocated cloud usage cost and the one or more cloud usage cost.

Further, the method 900 may include a step 906 of estimating, using the
5 processing device, one or more estimated cloud usage cost for the one or more cloud account for one or more second time period based on the analyzing of the one or more allocated cloud usage cost.

Further, the method 900 may include a step 908 of analyzing, using the processing device, the one or more estimated cloud usage cost based on the
10 estimating. Further, the determining of the one or more allowable amount of the cloud resources may be based on the analyzing of the one or more estimated cloud usage cost.

FIG. 10 is a block diagram of a system 1000 for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, in accordance with some embodiments. The system 1000 may include a
15 communication device 1002, a processing device 1004, and a storage device 1006.

Further, the communication device 1002 may be configured for performing a step of receiving one or more account information associated with one or more cloud account associated with the cloud from one or more device. Further, the one or more
20 account information may include one or more cloud resources usage information associated with a usage of the cloud resources by the one or more cloud account.

Further, the communication device 1002 may be configured for performing a step of transmitting one or more cloud account controlling command to one or more cloud service provider device associated with one or more cloud service provider.
25 Further, the one or more service provider device restricts the usage of the cloud resources by the one or more cloud account based on the one or more cloud account controlling command.

The processing device 1004 may be communicatively coupled with the communication device 1002.

30 Further, the processing device 1004 may be configured for performing a step of analyzing the one or more account information.

Further, the processing device 1004 may be configured for performing a step of determining one or more cloud usage cost incurred by the one or more cloud account based on the analyzing. Further, the one or more cloud usage cost may be

incurred based on the usage of one or more amount of the cloud resources of the cloud.

Further, the processing device 1004 may be configured for performing a step of comparing the one or more cloud usage cost with one or more cloud usage cost
5 criterion associated with the one or more cloud account based on the determining of the one or more cloud usage cost.

Further, the processing device 1004 may be configured for performing a step of generating the one or more cloud account controlling command for restricting the usage of the cloud resources by the one or more cloud account based on the
10 comparing.

The storage device 1006 may be communicatively coupled with the processing device 1004.

Further, the storage device 1006 may be configured for performing a step of storing the one or more account information.

Further, in some embodiments, the one or more account information may include one or more cloud account identifier of the one or more cloud account.
Further, the storage device 1006 may be configured for retrieving one or more budget of the one or more cloud account based on the one or more cloud account identifier.
Further, the processing device 1004 may be configured for analyzing the one or more
20 budget. Further, the processing device 1004 may be configured for determining one or more threshold level of the one or more cloud usage cost for the one or more cloud account based on the analyzing of the one or more budget. Further, the one or more cloud usage cost criterion may include the one or more threshold level of the one or more cloud usage cost for the one or more cloud account. Further, the comparing may
25 include comparing the one or more cloud usage cost with the one or more threshold level. Further, the processing device 1004 may be configured for determining a level of the one or more cloud usage cost in relation to the one or more threshold level based on the comparing of the one or more cloud usage cost with the one or more threshold level. Further, the generating of the one or more cloud account controlling
30 command for the restricting of the usage of the cloud resources by the one or more cloud account may be based on the determining of the level of the one or more cloud usage cost.

Further, in some embodiments, the communication device 1002 may be configured for receiving one or more budget information associated with the one or

more cloud account from the one or more device. Further, the processing device 1004 may be configured analyzing the one or more budget information. Further, the processing device 1004 may be configured for creating the one or more budget for the one or more cloud account. Further, the storage device 1006 may be configured for
5 storing the one or more budget. Further, the retrieving of the one or more budget may be based on the storing of the one or more budget.

Further, in an embodiment, the receiving of the one or more budget information may include receiving the one or more budget information from one or more budget planning interface of the one or more device.

10 Further, in an embodiment, the one or more budget information may include one or more historical budget of the one or more cloud account. Further, the analyzing of the one or more budget information may include analyzing the one or more historical budget. Further, the creating of the one or more budget may be based on the analyzing of the one or more historical budget.

15 Further, in an embodiment, the one or more budget information may include one or more historical cloud usage cost incurred by the one or more cloud account. Further, the analyzing of the one or more budget information may include analyzing the one or more historical cloud usage cost using one or more machine learning algorithm. Further, the creating of the one or more budget may be based on the
20 analyzing of the one or more historical cloud usage cost.

Further, in some embodiments, the one or more cloud usage cost criterion may include one or more cloud usage cost endpoint. Further, the communication device 1002 may be configured for receiving the one or more cloud usage cost endpoint associated with the one or more cloud account from one or more external device.

25 Further, the comparing of the one or more cloud usage cost with the one or more cloud usage cost criterion may include comparing the one or more cloud usage cost with the one or more cloud usage cost endpoint. Further, the generating of the one or more cloud account controlling command for the restricting of the usage of the cloud resources by the one or more cloud account may be further based on the comparing of
30 the one or more cloud usage cost with the one or more cloud usage cost endpoint.

In some embodiments, the restricting may include stopping the one or more cloud account from using one or more additional amount of the cloud resources during one or more second time period.

In some embodiments, the restricting may include initiating one or more

additional amount of the cloud resource for the one or more cloud account during the one or more second time period.

In some embodiments, the restricting may include terminating one or more portion of the one or more amount of the cloud resource used by the one or more
5 cloud account during the one or more second time period.

In some embodiments, the processing device 1004 may be configured for performing a step of generating one or more alert for the one or more cloud account based on the determining of the level of the one or more cloud usage cost above the one or more threshold level. Further, the communication device 1002 may be
10 configured for performing a step of transmitting the one or more alert to one or more devices associated with the one or more cloud account.

In some embodiments, the one or more threshold level may include two or more threshold levels. Further, the determining of the level of the one or more cloud usage cost above the one or more threshold level may include determining the level of
15 the one or more cloud usage cost above a threshold level of the two or more threshold levels. Further, the generating of the one or more alert may include generating an alert from two or more alerts for the one or more cloud account based on the determining of the level of the one or more cloud usage cost above the threshold level of the two or more threshold levels.

In some embodiments, the communication device 1002 may be configured for performing a step of receiving one or more exception associated with the one or more cloud account from the one or more device. Further, the processing device 1004 may be configured for performing a step of analyzing the one or more exception. Further, the processing device 1004 may be configured for performing a step of determining
20 one or more updated threshold level for the one or more cloud account based on the analyzing of the one or more exception. Further, the processing device 1004 may be configured for performing a step of comparing the one or more cloud usage cost with the one or more updated threshold level associated with the one or more cloud account based on the determining of the one or more updated threshold level. Further,
25 the processing device 1004 may be configured for performing a step of determining the level of the one or more cloud usage cost in relation to the one or more updated threshold level based on the comparing of the one or more cloud usage cost with the one or more updated threshold level. Further, the generating of the one or more cloud account controlling command for the restricting of the usage of the cloud resources by
30

the one or more cloud account may be further based on the determining of the level of the one or more cloud usage cost in relation to the one or more updated threshold level.

5 In some embodiments, the communication device 1002 may be configured for performing a step of receiving one or more historical cloud usage data associated with the one or more cloud account from one or more external device associated with the one or more cloud account. Further, the processing device 1004 may be configured for performing a step of analyzing the one or more historical cloud usage data using one or more machine learning algorithm. Further, the processing device 1004 may be
10 configured for performing a step of estimating one or more budget of the one or more cloud account for the one or more first time period based on the analyzing of the one or more historical cloud usage data. Further, the processing device 1004 may be configured for performing a step of determining the one or more threshold level of the one or more cloud account for the one or more first time period based on the one or
15 more budget. Further, the comparing of the one or more cloud usage cost with the one or more threshold level may be based on the determining of the one or more threshold level.

In some embodiments, the communication device 1002 may be configured for performing a step of receiving one or more allocated budget of the one or more cloud
20 account from one or more external device associated with the one or more cloud account. Further, the processing device 1004 may be configured for performing a step of analyzing the one or more allocated budget. Further, the processing device 1004 may be configured for performing a step of determining the one or more threshold level of the one or more cloud account for the one or more first time period based on
25 the analyzing of the one or more allocated budget. Further, the comparing of the one or more cloud usage cost with the one or more threshold level may be based on the determining of the one or more threshold level.

In some embodiments, the processing device 1004 may be configured for performing a step of determining one or more allocated cloud usage cost associated
30 with the one or more cloud account for the one or more first time period based on the analyzing of the one or more allocated budget. Further, the processing device 1004 may be configured for performing a step of analyzing the one or more allocated cloud usage cost and the one or more cloud usage cost. Further, the processing device 1004 may be configured for performing a step of estimating one or more estimated cloud

usage cost for the one or more cloud account for the one or more second time period based on the analyzing of the one or more allocated cloud usage cost. Further, the processing device 1004 may be configured for performing a step of analyzing the one or more estimated cloud usage cost based on the estimating. Further, the determining
5 of the one or more allowable amount of the cloud resources may be based on the analyzing of the one or more estimated cloud usage cost.

FIG. 11 is a flowchart of a method 1100 for facilitating controlling and managing cloud usage costs incurred by cloud accounts of a cloud, in accordance with some embodiments. Accordingly, the method 1100 may include a step 1102 of
10 receiving, using a communication device, at least one account information associated with at least one cloud account of the cloud from at least one first device.

Further, the method 1100 may include a step 1104 of analyzing, using a processing device, the at least one account information.

Further, the method 1100 may include a step 1106 of determining, using the
15 processing device, at least one cloud usage cost incurred by the at least one cloud account based on the analyzing.

Further, the method 1100 may include a step 1108 of comparing, using the processing device, the at least one cloud usage cost with at least one threshold cost associated with the at least one cloud account based on the determining of the at least
20 one cloud usage cost.

Further, the method 1100 may include a step 1110 of determining, using the processing device, an attainment of the at least one threshold cost by the at least one cloud usage cost based on the comparing.

Further, the method 1100 may include a step 1112 of initiating, using the
25 processing device, cloud resources of the cloud for the at least one cloud account based on the determining of the attainment. Further, the cloud resources may not be initiated for the at least one cloud account if the at least one cloud usage cost attains the at least one threshold cost. Further, the cloud resources may be initiated for the at least one cloud account if the at least one cloud usage cost does not attain the at least
30 one threshold cost.

Further, the method 1100 may include a step 1114 of storing, using a storage device, the at least one account information.

FIG. 12 is a flowchart of a method 1200 for facilitating overriding the attainment of the at least one threshold cost by the at least one cloud usage cost, in

accordance with some embodiments. Accordingly, the method 1200 may include a step 1202 of generating, using the processing device, at least one alert for the at least one cloud account based on the comparing.

Further, the method 1200 may include a step 1204 of transmitting, using the communication device, the at least one alert to at least one second device.

Further, the method 1200 may include a step 1206 of receiving, using the communication device, at least one response from the at least one second device.

Further, the method 1200 may include a step 1208 of analyzing, using the processing device, the at least one response.

Further, the method 1200 may include a step 1210 of determining, using the processing device, at least one parameter of the at least one cloud account based on the analyzing of the at least one response.

Further, the method 1200 may include a step 1212 of overriding, using the processing device, the attainment of the at least one threshold cost for the at least one cloud account based on the determining of the at least one parameter. Further, the initiating of the cloud resources for the at least one cloud account may be based on the overriding.

FIG. 13 is a flowchart of a method 1300 for estimating budgets for the cloud accounts of the cloud, in accordance with some embodiments. Accordingly, the method 1300 may include a step 1302 of retrieving, using the storage device, at least one historical account information associated with the at least one cloud account.

Further, the method 1300 may include a step 1304 of analyzing, using the processing device, the at least one historical account information.

Further, the method 1300 may include a step 1306 of determining, using the processing device, at least one historical cloud usage cost incurred by the at least one cloud account.

Further, the method 1300 may include a step 1308 of predicting, using the processing device, at least one future cloud usage cost incurable by the at least one cloud account for at least one period using at least one machine learning model based on the determining of the at least one historical cloud usage cost.

Further, the method 1300 may include a step 1310 of generating, using the processing device, at least one budget for the at least one cloud account based on the predicting.

Further, the method 1300 may include a step 1312 of transmitting, using the communication device, the at least one budget to at least one third device.

FIG. 14 is a block diagram of a system 1400 for creating, manage and planning a budget for any given period or Fiscal year across all the accounts in the Cloud, in accordance with some embodiments. Further, the system 1400 may include a budget planner and cost controller 1402. Further, at 1404, the budget planner and cost controller 1402 import/enter CSP's accounts from a master account using a CSPs 1406. Further, at 1408, the budget planner and cost controller 1402 performs advance tagging. Further, at 1410, the budget planner and cost controller 1402 define markups and administration fees. Further, at 1412, the budget planner and cost controller 1402 maps product/project information. Further, at 1414, the budget planner and cost controller 1402 maps advance charge code to project/product. Further, at 1416, the budget planner and cost controller 1402 classifies accounts based on CSP. Further, at 1418, the budget planner and cost controller 1402 determines budget validation/burn rate/stats. Further, the system 1400 may include a unified console 1420, a budget scheduler 1422, a create cloud budget 1424, a manage budget 1426, a budget planner 1428, an AI based budget estimate engine 1430, a report/dashboard and analytical engine 1432, a generate/export stats 1434, and alerts and notifications 1436. Further, the system 1400 generates a schedule via the budget scheduler 1422 to push the schedule to cloud accounts 1538 using a CSPs 1438.

FIG. 15 is a flow diagram of methods for creating, managing, and controlling the budget, budget schedules, and budget planning for the cloud accounts 1538 across multiple cloud service providers, in accordance with some embodiments. Further, at 1502, the budget planner 1428 may include creating a new budget plan. Further, at 1504, the budget planner 1428 may include adding/uploading based on importing a plan 1506 or from System generated budget plan from AI based budget estimate engine 1430. Further, at 1508, the budget planner 1428 may include entering the budget's start and end dates. Further, at 1510, the budget planner 1428 may include generating a budget schedule. Further, the budget planner and cost controller 1402 receives the budget schedule after the step 1510.

Further, at 1512, the create cloud budget 1424 may include creating a budget. Further, at 1514, the create cloud budget 1424 may include budget estimation based on importing TCO 1516. Further, at 1518, the create cloud budget 1424 may include entering the budget's start and end dates. Further, at 1520, the create cloud budget

1424 may include generating a budget schedule. Further, the budget planner and cost controller 1402 receives the budget schedule after the step 1520.

Further, at 1522, the manage budget 1426 may include a cloud-based budget management. Further, at 1524, the manage budget 1426 may include budget
5 schedules. Further, at 1526, the manage budget 1426 may include a budget schedule. Further, at 1528, the manage budget 1426 may include overriding the budget schedule based on the budget schedule 1526. Further, at 1530, the manage budget 1426 may include updating the budget schedule based on the budget schedule 1526. Further, the budget planner and cost controller 1402 receives the budget schedule after the step
10 1530. Further, the budget planner and cost controller 1402 receives the budget schedule after the step 1528.

Further, the report 1432 may include export budget (CSV) 1532, generate finance and IT budget plan 1534, and various reports 1536.

Further, the cloud accounts 1538 may include cloud account 1540, set budget
15 1542, and budget status 1544. Further, the budget planner and cost controller 1402 and the budget scheduler 1422 receive the budget status 1544 via a step of 1546.

Although the present disclosure has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the disclosure.

20

What is claimed is:

1. A method for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, the method comprising:
 - 5 receiving, using a communication device, at least one account information associated with at least one cloud account associated with the cloud from at least one device, wherein the at least one account information comprises at least one cloud resources usage information associated with a usage of the cloud resources by the at least one cloud account;
 - 10 analyzing, using a processing device, the at least one account information;
determining, using the processing device, at least one cloud usage cost incurred by the at least one cloud account based on the analyzing, wherein the at least one cloud usage cost is incurred based on the usage of the cloud
15 resources of the cloud;
comparing, using the processing device, the at least one cloud usage cost with at least one cloud usage cost criterion associated with the at least one cloud account based on the determining of the at least one cloud usage cost;
generating, using the processing device, at least one cloud account
20 controlling command for restricting the usage of the cloud resources by the at least one cloud account based on the comparing;
transmitting, using the communication device, the at least one cloud account controlling command to at least one cloud service provider device associated with at least one cloud service provider, wherein the at least one
25 service provider device restricts the usage of the cloud resources by the at least one cloud account based on the at least one cloud account controlling command; and
storing, using a storage device, the at least one account information.
- 30 2. The method of claim 1, wherein the at least one account information comprises at least one cloud account identifier of the at least one cloud account, wherein the method further comprises:
 - retrieving, using the storage device, at least one budget of the at least
one cloud account based on the at least one cloud account identifier;

- analyzing, using the processing device, the at least one budget;
determining, using the processing device, at least one threshold level of
the at least one cloud usage cost for the at least one cloud account based on the
analyzing of the at least one budget, wherein the at least one cloud usage cost
5 criterion comprises the at least one threshold level of the at least one cloud
usage cost for the at least one cloud account, wherein the comparing
comprises comparing the at least one cloud usage cost with the at least one
threshold level; and
determining, using the processing device, a level of the at least one
10 cloud usage cost in relation to the at least one threshold level based on the
comparing of the at least one cloud usage cost with the at least one threshold
level, wherein the generating of the at least one cloud account controlling
command for the restricting of the usage of the cloud resources by the at least
one cloud account is further based on the determining of the level of the at
15 least one cloud usage cost.
3. The method of claim 2 further comprising:
receiving, using the communication device, at least one budget
information associated with the at least one cloud account from the at least one
20 device;
analyzing, using the processing device, the at least one budget
information;
creating, using the processing device, the at least one budget for the at
least one cloud account; and
25 storing, using the storage device, the at least one budget, wherein the
retrieving of the at least one budget is based on the storing of the at least one
budget.
4. The method of claim 3, wherein the receiving of the at least one budget
30 information comprises receiving the at least one budget information from at
least one budget planning interface of the at least one device.
5. The method of claim 3, wherein the at least one budget information comprises
at least one historical budget of the at least one cloud account, wherein the

analyzing of the at least one budget information comprises analyzing the at least one historical budget, wherein the creating of the at least one budget is further based on the analyzing of the at least one historical budget.

- 5 6. The method of claim 3, wherein the at least one budget information comprises at least one historical cloud usage cost incurred by the at least one cloud account, wherein the analyzing of the at least one budget information comprises analyzing the at least one historical cloud usage cost using at least one machine learning algorithm, wherein the creating of the at least one
10 budget is further based on the analyzing of the at least one historical cloud usage cost.
7. The method of claim 1, wherein the at least one cloud usage cost criterion comprises at least one cloud usage cost endpoint, wherein the method further
15 comprises receiving, using the communication device, the at least one cloud usage cost endpoint associated with the at least one cloud account from at least one external device, wherein the comparing of the at least one cloud usage cost with the at least one cloud usage cost criterion comprises comparing the at least one cloud usage cost with the at least one cloud usage cost endpoint,
20 wherein the generating of the at least one cloud account controlling command for the restricting of the usage of the cloud resources by the at least one cloud account is further based on the comparing of the at least one cloud usage cost with the at least one cloud usage cost endpoint.
- 25 8. The method of claim 2 further comprising:
 generating, using the processing device, at least one alert for the at least one cloud account based on the determining of the level of the at least one cloud usage cost above the at least one threshold level; and
 transmitting, using the communication device, the at least one alert to
30 one or more devices associated with the at least one cloud account.
9. The method of claim 8, wherein the at least one threshold level comprises a plurality of threshold levels, wherein the determining of the level of the at least one cloud usage cost above the at least one threshold level comprises

determining the level of the at least one cloud usage cost above a threshold level of the plurality of threshold levels, wherein the generating of the at least one alert comprises generating an alert from a plurality of alerts for the at least one cloud account based on the determining of the level of the at least one cloud usage cost above the threshold level of the plurality of threshold levels.

10. The method of claim 2 further comprising:

receiving, using the communication device, at least one exception for the at least one budget associated with the at least one cloud account from the at least one device;

analyzing, using the processing device, the at least one exception;

determining, using the processing device, at least one updated threshold level for the at least one cloud account based on the analyzing of the at least one exception;

comparing, using the processing device, the at least one cloud usage cost with the at least one updated threshold level associated with the at least one cloud account based on the determining of the at least one updated threshold level; and

determining, using the processing device, the level of the at least one cloud usage cost in relation to the at least one updated threshold level based on the comparing of the at least one cloud usage cost with the at least one updated threshold level, wherein the generating of the at least one cloud account controlling command for the restricting of the usage of the cloud resources by the at least one cloud account is further based on the determining of the level of the at least one cloud usage cost in relation to the at least one updated threshold level.

11. A system for facilitating controlling and managing cloud usage costs incurred by cloud accounts for using cloud resources of a cloud, the system comprising:

a communication device configured for:

receiving at least one account information associated with at least one cloud account associated with the cloud from at least one device, wherein the at least one account information comprises at least

one cloud resources usage information associated with a usage of the cloud resources by the at least one cloud account; and

transmitting at least one cloud account controlling command to at least one cloud service provider device associated with at least one cloud service provider, wherein the at least one service provider device restricts the usage of the cloud resources by the at least one cloud account based on the at least one cloud account controlling command; a processing device communicatively coupled with the communication device, wherein the processing device is configured for:

analyzing the at least one account information;

determining at least one cloud usage cost incurred by the at least one cloud account based on the analyzing, wherein the at least one cloud usage cost is incurred based on the usage of the cloud resources of the cloud;

comparing the at least one cloud usage cost with at least one cloud usage cost criterion associated with the at least one cloud account based on the determining of the at least one cloud usage cost; and

generating the at least one cloud account controlling command for restricting the usage of the cloud resources by the at least one cloud account based on the comparing; and

a storage device communicatively coupled with the processing device, wherein the storage device is configured for storing the at least one account information.

12. The system of claim 11, wherein the at least one account information comprises at least one cloud account identifier of the at least one cloud account, wherein the storage device is further configured for retrieving at least one budget of the at least one cloud account based on the at least one cloud account identifier, wherein the processing device is further configured for:
- analyzing the at least one budget;
- determining at least one threshold level of the at least one cloud usage cost for the at least one cloud account based on the analyzing of the at least one budget, wherein the at least one cloud usage cost criterion comprises the at

least one threshold level of the at least one cloud usage cost for the at least one cloud account, wherein the comparing comprises comparing the at least one cloud usage cost with the at least one threshold level; and

5 determining a level of the at least one cloud usage cost in relation to the at least one threshold level based on the comparing of the at least one cloud usage cost with the at least one threshold level, wherein the generating of the at least one cloud account controlling command for the restricting of the usage of the cloud resources by the at least one cloud account is further based on the determining of the level of the at least one cloud usage cost.

10

13. The system of claim 12, wherein the communication device is further configured for receiving at least one budget information associated with the at least one cloud account from the at least one device, wherein the processing device is further configured for:

15

analyzing the at least one budget information; and

creating the at least one budget for the at least one cloud account, wherein the storage device is further configured for storing the at least one budget, wherein the retrieving of the at least one budget is based on the storing of the at least one budget.

20

14. The system of claim 13, wherein the receiving of the at least one budget information comprises receiving the at least one budget information from at least one budget planning interface of the at least one device.

25

15. The system of claim 13, wherein the at least one budget information comprises at least one historical budget of the at least one cloud account, wherein the analyzing of the at least one budget information comprises analyzing the at least one historical budget, wherein the creating of the at least one budget is further based on the analyzing of the at least one historical budget.

30

16. The system of claim 13, wherein the at least one budget information comprises at least one historical cloud usage cost incurred by the at least one cloud account, wherein the analyzing of the at least one budget information comprises analyzing the at least one historical cloud usage cost using at least

one machine learning algorithm, wherein the creating of the at least one budget is further based on the analyzing of the at least one historical cloud usage cost.

- 5 17. The system of claim 11, wherein the at least one cloud usage cost criterion comprises at least one cloud usage cost endpoint, wherein the communication device is further configured for receiving the at least one cloud usage cost endpoint associated with the at least one cloud account from at least one external device, wherein the comparing of the at least one cloud usage cost
10 with the at least one cloud usage cost criterion comprises comparing the at least one cloud usage cost with the at least one cloud usage cost endpoint, wherein the generating of the at least one cloud account controlling command for the restricting of the usage of the cloud resources by the at least one cloud account is further based on the comparing of the at least one cloud usage cost
15 with the at least one cloud usage cost endpoint.
18. The system of claim 12, wherein the processing device is further configured for generating at least one alert for the at least one cloud account based on the determining of the level of the at least one cloud usage cost above the at least
20 one threshold level, wherein the communication device is further configured for transmitting the at least one alert to one or more devices associated with the at least one cloud account.
19. The system of claim 18, wherein the at least one threshold level comprises a
25 plurality of threshold levels, wherein the determining of the level of the at least one cloud usage cost above the at least one threshold level comprises determining the level of the at least one cloud usage cost above a threshold level of the plurality of threshold levels, wherein the generating of the at least one alert comprises generating an alert from a plurality of alerts for the at least
30 one cloud account based on the determining of the level of the at least one cloud usage cost above the threshold level of the plurality of threshold levels.
20. The system of claim 12, wherein the communication device is further configured for receiving at least one exception for the at least one budget

associated with the at least one cloud account from the at least one device,
wherein the processing device is further configured for:

analyzing the at least one exception;

5 determining at least one updated threshold level for the at least one
cloud account based on the analyzing of the at least one exception;

comparing the at least one cloud usage cost with the at least one
updated threshold level associated with the at least one cloud account based on
the determining of the at least one updated threshold level; and

10 determining the level of the at least one cloud usage cost in relation to
the at least one updated threshold level based on the comparing of the at least
one cloud usage cost with the at least one updated threshold level, wherein the
generating of the at least one cloud account controlling command for the
restricting of the usage of the cloud resources by the at least one cloud account
is further based on the determining of the level of the at least one cloud usage
15 cost in relation to the at least one updated threshold level.