SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

CROSS-REFERENCE TO RELATED PATENT APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application No. 17/237,599, titled "System and Method for Provisioning Databases in a Hyperconverged Infrastructure System," filed on April 22, 2021, which is a continuation of U.S. Patent Application No. 16/234,553, titled "System and Method for Provisioning Databases in a Hyperconverged Infrastructure System," filed on December 27, 2018, the entireties of which are incorporated by reference herein.

BACKGROUND

[0002] Virtual computing systems are widely used in a variety of applications. Virtual computing systems include one or more host machines running one or more virtual machines and other entities (e.g., containers) concurrently. Modern virtual computing systems allow several operating systems and several software applications to be safely run at the same time, thereby increasing resource utilization and performance efficiency. However, the present day virtual computing systems have limitations due to their configuration and the way they operate.

SUMMARY

[0003] In accordance with some aspects of the present disclosure, a method is disclosed. The method includes receiving, by a database engine of a database system associated with a virtual computing system, a user request via a dashboard for provisioning a source database with the database system, receiving, by the database engine via the dashboard, selection of a database engine type, and receiving, by the database engine via the dashboard, selection of a Service Level Agreement ("SLA") and a protection schedule. The method also includes provisioning, by the

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database engine, the source database based upon the database engine type, creating, by the database engine, an instance of a database protection system based upon the SLA and the protection schedule, including associating the instance of the database protection system with the source database, and displaying, by the database engine, the source database within the dashboard.

[0004] In accordance with some other aspects of the present disclosure, a system is disclosed. The system includes a dashboard, a database engine configured to receive input from and provide output to the dashboard, and a database storage system configured to store a source database upon provisioning. The database engine is configured to receive a user request via the dashboard for provisioning the source database, receive selection of a database engine type via the dashboard, receive selection of a Service Level Agreement ("SLA") and a protection schedule via the dashboard, and provision the source database based upon the database engine type and store the source database within the database storage system. The database engine is also configured to create an instance of a database protection system based upon the SLA and the protection schedule, including associating the instance of the database protection system with the source database and display the source database within the dashboard.

[0005] In accordance with yet other aspects of the present disclosure, a non-transitory computer readable media with computer-executable instructions embodied thereon is disclosed. The instructions when executed by a processor of a database engine associated with a database system of a virtual computing system cause the database engine to perform a process. The process includes receiving a user request via a dashboard for provisioning a source database with the database system, receiving, via the dashboard, selection of a database engine type, and receiving, via the dashboard, selection of a Service Level Agreement ("SLA") and a protection schedule. The process also includes provisioning the source database based upon the database engine type,

creating an instance of a database protection system based upon the SLA and the protection schedule, including associating the instance of the database protection system with the source database, and displaying the source database within the dashboard.

[0006] The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the following drawings and the detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is an example block diagram of a cluster of a virtual computing system, in accordance with some embodiments of the present disclosure.

[0008] FIG. 2 is an example block diagram of a database system of the virtual computing system of FIG. 1, in accordance with some embodiments of the present disclosure.

[0009] FIG. 3 is an example flowchart outlining operations for provisioning databases by the database system of FIG. 2, in accordance with some embodiments of the present disclosure.

[0010] FIGS. 4A-4G are example screenshots showing the operations of FIG. 3 for creating a new database, in accordance with some embodiments of the present disclosure.

[0011] FIGS. 5A-5E are example screenshots showing the operations of FIG. 3 for registering an existing database, in accordance with some embodiments of the present disclosure.

[0012] FIG. 6 is an example block diagram showing a database protection system of the database system of FIG. 2, in accordance with some embodiments of the present disclosure.

[0013] FIGS. 7A-7F are example screenshots showing creating cloned databases from source databases, in accordance with some embodiments of the present disclosure.

[0014] FIG. 8 is an example flowchart outlining operations for creating cloned databases using the database protection system of FIG. 6, in accordance with some embodiments of the present disclosure.

[0015] FIGS. 9A-9G are example screenshots showing how snapshots and transactional logs are stored within the database system, in accordance with some embodiments of the present disclosure.

[0016] FIG. 10 is an example flowchart outlining operations for protecting an external database, in accordance with some embodiments of the present disclosure.

[0017] The foregoing and other features of the present disclosure will become apparent from the following description and appended claims, taken in conjunction with the accompanying drawings. Understanding that these drawings depict only several embodiments in accordance with the disclosure and are therefore, not to be considered limiting of its scope, the disclosure will be described with additional specificity and detail through use of the accompanying drawings.

DETAILED DESCRIPTION

[0018] In the following detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar symbols typically identify similar components, unless context dictates otherwise. The illustrative embodiments described in the detailed description, drawings, and claims are not meant to be limiting. Other embodiments may be utilized, and other changes may be made, without departing from the spirit or scope of the subject matter presented here. It will be readily understood that the aspects of the present disclosure, as generally described herein, and illustrated in the figures, can be arranged, substituted, combined, and designed in a wide variety of different configurations, all of which are explicitly contemplated and made part of this disclosure.

[0019] The present disclosure is generally directed to a virtual computing system having a plurality of clusters, with each of the plurality of clusters having a plurality of nodes. Each of the plurality of nodes includes one or more virtual machines and other entities managed by an instance of a monitor such as a hypervisor. These and other components may be part of a datacenter, which may be managed by a user (e.g., an administrator or other authorized personnel). A distributed storage system, for providing storage and protection capabilities, is associated with the virtual computing system. The virtual computing system may be configured for providing database management services. For example, at least some of the one or more virtual machines within the virtual computing system may be configured as database virtual machines for storing one or more databases. These databases may be managed by a database system. The database system may provide a plurality of database services. For example, in some embodiments, the database system may provide database provisioning services and copy data management services.

[0020] Database provisioning services involve creating and/or associating databases with the database system for management and use. Creating a new database and associating the database with the database system may be a complex and long drawn process. A user desiring to create a new database with a provider of the database system may make a new database creation request with the database provider. The user request may pass through multiple entities (e.g., people, teams, etc.) of the database provider before a database satisfying the user request may be created. For example, the user may be required to work with a first entity of the database provider to specify the configuration (e.g., database engine type, number of storage disks needed, etc.) of the database that is desired. Upon receiving the database configuration, another entity of the database provider may configure a database virtual machine for hosting the database, while yet another entity may configure the networking settings to facilitate access to the database upon creation. Yet another

entity of the database provider may configure database protection services to backup and protect the database. All of these tasks may take a few to several days. Thus, creating the database is a time intensive process and inconvenient for the user. The user may not have the time or desire to wait for the multiple days to create the database.

[0021] Further, creating the database using the above procedure requires the user to rely on the other entities. If these other entities become unavailable, the user may have no choice but to wait for those entities to become operational again. Additionally, the user may not be fully privy to or even understand the various configurational details of the desired database that the user may be asked to provide to the other entities for creating the database. The present disclosure provides technical solutions to the above problems. Specifically, the database system of the present disclosure greatly simplifies the database provisioning service. The database system of the present disclosure allows the user to quickly and conveniently create a new database and associate the database with the database system without the need for contacting and working with multiple entities. The entire process of creating and associating the database with the database system may be completed by the user within a span of a few minutes instead of the multiple days mentioned above.

[0022] The database system of the present disclosure provides a user friendly, intuitive user interface that solicits information from and conveniently walks the user through the various steps for creating a new database within minutes. The database system may include a catalog of standardized configurations, which the user may select from the user interface for creating the database. The user may modify the standardized configurations or create custom configurations to suit their needs. By virtue of providing standardized configurations, the present disclosure simplifies the database creation process for the user. The user interface also hides the complexity

of creating the database from the user. For example, the user need not worry about creating, partitioning, or associating storage space (e.g., storage disk space) with the database that is being created. The user may simply specify a size of the database that is desired in the user interface and the database system automatically translates that size into storage space. Thus, based upon the needs of the user, the user is able to specifically tailor the database during creation and create the database easily and quickly using the user interface.

[0023] The database system also provides the ability to register an existing database with the database system. Such existing databases may have been created outside of the database system. Users having existing databases may desire to associate their databases with the database system for management. Similar to creating a new database in the database system, registering an existing database with the database system is easy, convenient, and may be completed within a span of a few minutes via the user interface. As with the creation of a new database, the user interface walks the user through the registration process, provides standardized configurations for the user to select from, ability to modify the standardized configurations, and create new configurations. Upon registering the database with the database system, the database may take advantage of other database management services offered by the database system.

[0024] Copy data management services involve protecting a database. Protecting a database means replicating a state of the database for creating a fully functional copy of the database. Replicating the state of the database may involve creating fully functional clones (e.g., back-ups) of the database. Since the clones are fully functional copies of the original or source database, a user may perform operations on the cloned copy that would otherwise be performed on the original database. For example, the user may perform reporting, auditing, testing, data analysis, etc. on the cloned copy of the original database. A cloned database may be created by periodically capturing

snapshots of the source database. A snapshot stores the state of the source database at the point in time at which the snapshot is captured. The snapshot is thus a point in time image of the database. The snapshot may include a complete encapsulation of the virtual machine on which the database is created, including the configuration data of the virtual machine, the data stored within the database, and any metadata associated with the virtual machine. Any of a variety of snapshotting techniques may be used. For example, in some embodiments, copy-on-write, redirect-on-write, near-sync, or other snapshotting methods may be used to capture snapshots. From the snapshot, the source database may be recreated to the state at which the snapshot was captured.

[0025] However, the number of snapshots that are captured in a given day may be limited. Specifically, because capturing a snapshot requires quiescing (e.g., pausing) the source database and entering a safe mode in which user operations are halted, it is desirable to take only a minimum number of snapshots in a day. Thus, choices of state that may recreated from a snapshot may be limited. If a state is desired that falls between the capture of two snapshots, the user is generally out of luck. Thus, the desire to limit the number of snapshots in a day results in a significant technical problem that results in losing changes made to a database since the last snapshot capture or between two snapshot captures. The present disclosure provides technical solutions to this problem.

[0026] Specifically, the present disclosure automatically creates an instance of a database protection system for each database (e.g., source database) that is created within or registered with the database system. The database protection system instance may be configured to protect the source database by automatically capturing snapshots of the source database. Additionally, to avoid losing changes in state between two snapshot captures or since the last snapshot capture, the database system may capture transactional logs. A transactional log may be a text, image, disk, or

other type of file that records every transaction or change that occurs on the source database since a last snapshot capture. Thus, by using the snapshots or a combination of snapshots and transactional logs, any state of the source database down to the last second (or even fractions of seconds or other time granularities) may be recreated. Specifically, states of the source database that fall between the capture of two snapshots may be recreated by using a combination of snapshots and transactional logs.

[0027] The frequency of capturing transactional logs may be higher than the frequency of capturing snapshots in a day. For example, in some embodiments, by default, a transactional log may be captured every 30 minutes. In other embodiments, the user may define the frequency of capturing transactional logs. Further, since the source database is not quiesced (paused) for capturing the transactional log, user operations may continue while the transactional logs are being captured. Further, since the transactional logs only capture the changes in the database since the last snapshot capture, the transactional logs do not consume a lot of space. Thus, clones of the source database can be created to a point in time by using a combination of transactional logs and snapshots (e.g., between two snapshot captures), or based upon available snapshots (e.g., at the point of snapshot capture).

[0028] Further, the frequency with which the snapshots and transactional logs are captured by the database system may depend upon the level of protection desired by the user. The database system may solicit a protection schedule and definition of a Service Level Agreement ("SLA") from the user. For convenience, the database system may include built-in defaults of the protections schedule and SLA levels that the user may select from. The user may modify the defaults or define new parameters for the protection schedule and SLA. Thus, the level of protection accorded to each database associated with the database system may be individually tailored based upon the

requirements of the user. The protection schedule may allow the user to define the frequency of snapshots and transactional logs to be captured each day, and the time-period for capturing daily, weekly, monthly, and/or quarterly snapshots based upon the SLA.

[0029] Thus, the present disclosure provides an easy, convenient, cost effective, and user-friendly mechanism for creating and registering databases, as well as effectively protecting those databases.

[0030] Referring now to FIG. 1, a cluster 100 of a virtual computing system is shown, in accordance with some embodiments of the present disclosure. The cluster 100 includes a plurality of nodes, such as a first node 105, a second node 110, and a third node 115. Each of the first node 105, the second node 110, and the third node 115 may also be referred to as a "host" or "host machine." The first node 105 includes database virtual machines ("database VMs") 120A and 120B (collectively referred to herein as "database VMs 120"), a hypervisor 125 configured to create and run the database VMs, and a controller/service VM 130 configured to manage, route, and otherwise handle workflow requests between the various nodes of the cluster 100. Similarly, the second node 110 includes database VMs 135A and 135B (collectively referred to herein as "database VMs 135"), a hypervisor 140, and a controller/service VM 145, and the third node 115 includes database VMs 150A and 150B (collectively referred to herein as "database VMs 150"), a hypervisor 155, and a controller/service VM 160. The controller/service VM 130, the controller/service VM 145, and the controller/service VM 160 are all connected to a network 165 to facilitate communication between the first node 105, the second node 110, and the third node 115. Although not shown, in some embodiments, the hypervisor 125, the hypervisor 140, and the hypervisor 155 may also be connected to the network 165. Further, although not shown, one or more of the first node 105, the second node 110, and the third node 115 may include one or more containers managed by a monitor (e.g., container engine).

[0031] The cluster 100 also includes and/or is associated with a storage pool 170 (also referred to herein as storage sub-system). The storage pool 170 may include network-attached storage 175 and direct-attached storage 180A, 180B, and 180C. The network-attached storage 175 is accessible via the network 165 and, in some embodiments, may include cloud storage 185, as well as a networked storage 190. In contrast to the network-attached storage 175, which is accessible via the network 165, the direct-attached storage 180A, 180B, and 180C includes storage components that are provided internally within each of the first node 105, the second node 110, and the third node 115, respectively, such that each of the first, second, and third nodes may access its respective direct-attached storage without having to access the network 165.

[0032] It is to be understood that only certain components of the cluster 100 are shown in FIG. 1. Nevertheless, several other components that are needed or desired in the cluster 100 to perform the functions described herein are contemplated and considered within the scope of the present disclosure.

[0033] Although three of the plurality of nodes (e.g., the first node 105, the second node 110, and the third node 115) are shown in the cluster 100, in other embodiments, greater than or fewer than three nodes may be provided within the cluster. Likewise, although only two database VMs (e.g., the database VMs 120, the database VMs 135, the database VMs 150) are shown on each of the first node 105, the second node 110, and the third node 115, in other embodiments, the number of the database VMs on each of the first, second, and third nodes may vary to include other numbers of database VMs. Further, the first node 105, the second node 110, and the third node 115 may have the same number of database VMs (e.g., the database VMs 120, the database VMs 135, the database VMs 150) or different number of database VMs.

[0034] In some embodiments, each of the first node 105, the second node 110, and the third node 115 may be a hardware device, such as a server. For example, in some embodiments, one or more of the first node 105, the second node 110, and the third node 115 may be an NX-1000 server, NX-3000 server, NX-6000 server, NX-8000 server, etc. provided by Nutanix, Inc. or server computers from Dell, Inc., Lenovo Group Ltd. or Lenovo PC International, Cisco Systems, Inc., etc. In other embodiments, one or more of the first node 105, the second node 110, or the third node 115 may be another type of hardware device, such as a personal computer, an input/output or peripheral unit such as a printer, or any type of device that is suitable for use as a node within the cluster 100. In some embodiments, the cluster 100 may be part of a data center. Further, one or more of the first node 105, the second node 110, and the third node 115 may be organized in a variety of network topologies. Each of the first node 105, the second node 110, and the third node 115 may also be configured to communicate and share resources with each other via the network 165. For example, in some embodiments, the first node 105, the second node 110, and the third node 115 may communicate and share resources with each other via the controller/service VM 130, the controller/service VM 145, and the controller/service VM 160, and/or the hypervisor 125, the hypervisor 140, and the hypervisor 155.

[0035] Also, although not shown, one or more of the first node 105, the second node 110, and the third node 115 may include one or more processing units configured to execute instructions. The instructions may be carried out by a special purpose computer, logic circuits, or hardware circuits of the first node 105, the second node 110, and the third node 115. The processing units may be implemented in hardware, firmware, software, or any combination thereof. The term "execution" is, for example, the process of running an application or the carrying out of the operation called for by an instruction. The instructions may be written using one or more programming language,

scripting language, assembly language, etc. The processing units, thus, execute an instruction, meaning that they perform the operations called for by that instruction.

[0036] The processing units may be operably coupled to the storage pool 170, as well as with other elements of the first node 105, the second node 110, and the third node 115 to receive, send, and process information, and to control the operations of the underlying first, second, or third node. The processing units may retrieve a set of instructions from the storage pool 170, such as, from a permanent memory device like a read only memory ("ROM") device and copy the instructions in an executable form to a temporary memory device that is generally some form of random access memory ("RAM"). The ROM and RAM may both be part of the storage pool 170, or in some embodiments, may be separately provisioned from the storage pool. In some embodiments, the processing units may execute instructions without first copying the instructions to the RAM. Further, the processing units may include a single stand-alone processing unit, or a plurality of processing units that use the same or different processing technology.

[0037] With respect to the storage pool 170 and particularly with respect to the direct-attached storage 180A, 180B, and 180C, each of the direct-attached storage may include a variety of types of memory devices that are suitable for a virtual computing system. For example, in some embodiments, one or more of the direct-attached storage 180A, 180B, and 180C may include, but is not limited to, any type of RAM, ROM, flash memory, magnetic storage devices (e.g., hard disk, floppy disk, magnetic strips, etc.), optical disks (e.g., compact disk ("CD"), digital versatile disk ("DVD"), etc.), smart cards, solid state devices, etc. Likewise, the network-attached storage 175 may include any of a variety of network accessible storage (e.g., the cloud storage 185, the networked storage 190, etc.) that is suitable for use within the cluster 100 and accessible via the network 165. The storage pool 170, including the network-attached storage 175 and the direct-

attached storage 180A, 180B, and 180C, together form a distributed storage system configured to be accessed by each of the first node 105, the second node 110, and the third node 115 via the network 165, the controller/service VM 130, the controller/service VM 145, the controller/service VM 160, and/or the hypervisor 125, the hypervisor 140, and the hypervisor 155. In some embodiments, the various storage components in the storage pool 170 may be configured as virtual disks for access by the database VMs 120, the database VMs 135, and the database VMs 150.

[0038] Each of the database VMs 120, the database VMs 135, the database VMs 150 is a software-based implementation of a computing machine. The database VMs 120, the database VMs 135, the database VMs 150 emulate the functionality of a physical computer. Specifically, the hardware resources, such as processing unit, memory, storage, etc., of the underlying computer (e.g., the first node 105, the second node 110, and the third node 115) are virtualized or transformed by the respective hypervisor 125, the hypervisor 140, and the hypervisor 155, into the underlying support for each of the database VMs 120, the database VMs 135, the database VMs 150 that may run its own operating system and applications on the underlying physical resources just like a real computer. By encapsulating an entire machine, including CPU, memory, operating system, storage devices, and network devices, the database VMs 120, the database VMs 135, the database VMs 150 are compatible with most standard operating systems (e.g. Windows, Linux, etc.), applications, and device drivers.

[0039] Thus, each of the hypervisor 125, the hypervisor 140, and the hypervisor 155 is a virtual machine monitor that allows a single physical server computer (e.g., the first node 105, the second node 110, third node 115) to run multiple instances of the database VMs 120, the database VMs 135, and the database VMs 150 with each VM sharing the resources of that one physical server computer, potentially across multiple environments. For example, each of the hypervisor 125, the

hypervisor 140, and the hypervisor 155 may allocate memory and other resources to the underlying VMs (e.g., the database VMs 120, the database VMs 135, the database VM 150A, and the database VM 150B) from the storage pool 170 to perform one or more functions.

[0040] By running the database VMs 120, the database VMs 135, and the database VMs 150 on each of the first node 105, the second node 110, and the third node 115, respectively, multiple workloads and multiple operating systems may be run on a single piece of underlying hardware computer (e.g., the first node, the second node, and the third node) to increase resource utilization and manage workflow. When new database VMs are created (e.g., installed) on the first node 105, the second node 110, and the third node 115, each of the new database VMs may be configured to be associated with certain hardware resources, software resources, storage resources, and other resources within the cluster 100 to allow those virtual VMs to operate as intended.

[0041] The database VMs 120, the database VMs 135, the database VMs 150, and any newly created instances of the database VMs may be controlled and managed by their respective instance of the controller/service VM 130, the controller/service VM 145, and the controller/service VM 160. The controller/service VM 130, the controller/service VM 145, and the controller/service VM 160 are configured to communicate with each other via the network 165 to form a distributed system 195. Each of the controller/service VM 130, the controller/service VM 145, and the controller/service VM 160 may be considered a local management system configured to manage various tasks and operations within the cluster 100. For example, in some embodiments, the local management system may perform various management related tasks on the database VMs 120, the database VMs 135, and the database VMs 150.

[0042] The hypervisor 125, the hypervisor 140, and the hypervisor 155 of the first node 105, the second node 110, and the third node 115, respectively, may be configured to run virtualization

software, such as, ESXi from VMWare, AHV from Nutanix, Inc., XenServer from Citrix Systems, Inc., etc. The virtualization software on the hypervisor 125, the hypervisor 140, and the hypervisor 155 may be configured for running the database VMs 120, the database VMs 135, the database VM 150A, and the database VM 150B, respectively, and for managing the interactions between those VMs and the underlying hardware of the first node 105, the second node 110, and the third node 115. Each of the controller/service VM 130, the controller/service VM 145, the controller/service VM 160, the hypervisor 125, the hypervisor 140, and the hypervisor 155 may be configured as suitable for use within the cluster 100.

[0043] The network 165 may include any of a variety of wired or wireless network channels that may be suitable for use within the cluster 100. For example, in some embodiments, the network 165 may include wired connections, such as an Ethernet connection, one or more twisted pair wires, coaxial cables, fiber optic cables, etc. In other embodiments, the network 165 may include wireless connections, such as microwaves, infrared waves, radio waves, spread spectrum technologies, satellites, etc. The network 165 may also be configured to communicate with another device using cellular networks, local area networks, wide area networks, the Internet, etc. In some embodiments, the network 165 may include a combination of wired and wireless communications. The network 165 may also include or be associated with network interfaces, switches, routers, network cards, and/or other hardware, software, and/or firmware components that may be needed or considered desirable to have in facilitating intercommunication within the cluster 100.

[0044] Referring still to FIG. 1, in some embodiments, one of the first node 105, the second node 110, or the third node 115 may be configured as a leader node. The leader node may be configured to monitor and handle requests from other nodes in the cluster 100. For example, a particular database VM (e.g., the database VMs 120, the database VMs 135, or the database VMs 150) may

direct an input/output request to the controller/service VM (e.g., the controller/service VM 130, the controller/service VM 145, or the controller/service VM 160, respectively) on the underlying node (e.g., the first node 105, the second node 110, or the third node 115, respectively). Upon receiving the input/output request, that controller/service VM may direct the input/output request to the controller/service VM (e.g., one of the controller/service VM 130, the controller/service VM 145, or the controller/service VM 160) of the leader node. In some cases, the controller/service VM that receives the input/output request may itself be on the leader node, in which case, the controller/service VM does not transfer the request, but rather handles the request itself.

[0045] The controller/service VM of the leader node may fulfil the input/output request (and/or request another component within/outside the cluster 100 to fulfil that request). Upon fulfilling the input/output request, the controller/service VM of the leader node may send a response back to the controller/service VM of the node from which the request was received, which in turn may pass the response to the database VM that initiated the request. In a similar manner, the leader node may also be configured to receive and handle requests (e.g., user requests) from outside of the cluster 100. If the leader node fails, another leader node may be designated.

[0046] Additionally, in some embodiments, although not shown, the cluster 100 may be associated with a central management system that is configured to manage and control the operation of multiple clusters in the virtual computing system. In some embodiments, the central management system may be configured to communicate with the local management systems on each of the controller/service VM 130, the controller/service VM 145, the controller/service VM 160 for controlling the various clusters.

[0047] Again, it is to be understood again that only certain components and features of the cluster 100 are shown and described herein. Nevertheless, other components and features that may be

needed or desired to perform the functions described herein are contemplated and considered within the scope of the present disclosure. It is also to be understood that the configuration of the various components of the cluster 100 described above is only an example and is not intended to be limiting in any way. Rather, the configuration of those components may vary to perform the functions described herein.

[0048] Turning now to FIG. 2, an example block diagram of a database system 200 is shown, in accordance with some embodiments of the present disclosure. FIG. 2 is discussed in conjunction with FIG. 1. The database system 200 or portions thereof may be configured as utility software for creating and implementing database management services. The database system 200 is configured to facilitate creation/registration, querying, and/or administration of the databases associated therewith. Thus, the database system 200 includes a database engine 205 that is configured to receive input from and provide output to a user via a dashboard 210. The database engine 205 is also associated with a database storage system 215 that is configured to store one or more databases under management of the database system 200. In association with the dashboard 210 and the database storage system 215, the database engine 205 is configured to implement one or more database management services of the database system 200. For example, the database engine 205 is configured to provide database provisioning services to create new databases and register existing databases with the database system 200 using a database provisioning system 220. The database engine 205 is also configured to protect databases created or registered by the database provisioning system 220 via a database protection system 225. Although the database provisioning system 220. and the database protection system 225 are shown as separate components, in some embodiments, the database provisioning system and the database protection system may be combined and the combined component may perform the operations of the

individual components. The database provisioning system 220 and the database protection system 225 are both discussed in greater detail below.

[0049] The database system 200 may be installed on a database VM (e.g., the database VMs 120, the database VMs 135, the database VMs 150 of FIG. 1). The database system 200 may be installed via the controller/service VM (e.g., the controller/service VM 130, the controller/service VM 145, the controller/service VM 160) of the node (e.g., the first node 105, the second node 110, and the third node 115) on which the database system is to be installed. For example, an administrator desiring to install the database system 200 may download a copy on write image file (e.g., qcow or qcow2 image file) on the controller/service VM to define the content and structure of a disk volume to be associated with the database system 200. In some embodiments, instead of a copy on write image file, another type of disk image file, depending upon the type of underlying hypervisor, may be installed. Further, the administrator may create or one or more new database VMs on which the database system 200 is to reside. As part of creating the database VMs, the administrator may allocate a particular number of virtual central processing units (vCPU) to each of the database VMs, define the number of cores that are desired in each vCPU, designate a specific amount of memory to each of the database VMs, and attach a database storage device (e.g., a virtual disk from the storage pool 170) with each of the database VMs. In some embodiments, at least a portion of the database storage device attached to the database system 200 may form the database storage system 215. The administrator may also create a new network interface (e.g., associate a virtual local area network (VLAN), assign an Internet Protocol ("IP") address to access the database system 200, etc.) with each of the database VMs. The administrator may perform additional and/or other actions to create the database VMs on which the database system 200 resides upon creation and installation of the disk image file.

[0050] In some embodiments, the database VMs on which the database system 200 resides may all be located on a single node (e.g., one of the first node 105, the second node 110, and the third node 115). In other embodiments, the database VMs on which the database system 200 resides may be spread across multiple nodes within a single cluster, or possibly amongst multiple clusters. When spread across multiple clusters, each of the associated multiple clusters may be configured to at least indirectly communicate with one another to facilitate operation of the database system 200. Upon installing the database system 200, a user (e.g., the administrator or other user authorized to access the database system) may access the dashboard 210. The dashboard 210, thus, forms the front end of the database system 200 and the database engine 205 and the database storage system 215 form the backend of the database system.

[0051] The database system 200 may be accessed via a computing device associated with the virtual computing system 100. In other embodiments, instead of or in addition to being accessible via a particular computing device, the database system 200 may be hosted on a cloud service and may be accessed via the cloud. In some embodiments, the database system 200 may additionally or alternatively be configured as a mobile application suitable for access from a mobile computing device (e.g., a mobile phone). In some embodiments, the database system 200 and particularly the dashboard 210 may be accessed via an Application Programming Interface ("API") 230. To access the dashboard 210 via the API 230, a user may use designated devices such as laptops, desktops, tablets, mobile devices, other handheld or portable devices, and/or other types of computing devices that are configured to access the API. These devices may be different from the computing device on which the database system 200 is installed.

[0052] In some embodiments and when the dashboard 210 is configured for access via the API 230, the user may access the dashboard via a web browser and upon entering a uniform resource

locator ("URL") for the API such as the IP address of the database system 200 or other web address. Using the API 230 and the dashboard 210, the users may then send instructions to the database engine 205 and receive information back from the database engine. In some embodiments, the API 230 may be a representational state transfer ("REST") type of API. In other embodiments, the API 230 may be any other type of web or other type of API (e.g., ASP.NET) built using any of a variety of technologies, such as Java, .Net, etc., that is capable of accessing the database engine 205 and facilitating communication between the users and the database engine. In some embodiments, the API 230 may be configured to facilitate communication via a hypertext transfer protocol ("HTTP") or hypertext transfer protocol secure ("HTTPS") type request. The API 230 may receive an HTTP/HTTPS request and send an HTTP/HTTPS response back. In other embodiments, the API 230 may be configured to facilitate communication using other or additional types of communication protocols. In other embodiments, the database system 200 may be configured for access in other ways.

[0053] The dashboard 210 provides a user interface that facilitates human-computer interaction between the users and the database engine 205. The dashboard 210 is configured to receive user inputs from the users via a graphical user interface ("GUI") and transmit those user inputs to the database engine 205. The dashboard 210 is also configured to receive outputs/information from the database engine 205 and present those outputs/information to the users via the GUI of the management system. The GUI may present a variety of graphical icons, windows, visual indicators, menus, visual widgets, and other indicia to facilitate user interaction. In other embodiments, the dashboard 210 may be configured as other types of user interfaces, including for example, text-based user interfaces and other man-machine interfaces. Thus, the dashboard 210 may be configured in a variety of ways.

[0054] Further, the dashboard 210 may be configured to receive user inputs in a variety of ways. For example, the dashboard 210 may be configured to receive the user inputs using input technologies including, but not limited to, a keyboard, a stylus and/or touch screen, a mouse, a track ball, a keypad, a microphone, voice recognition, motion recognition, remote controllers, input ports, one or more buttons, dials, joysticks, etc. that allow an external source, such as the user, to enter information into the database system 200. The dashboard 210 may also be configured to present outputs/information to the users in a variety of ways. For example, the dashboard 210 may be configured to present information to external systems such as users, memory, printers, speakers, etc. Therefore, although not shown, dashboard 210 may be associated with a variety of hardware, software, firmware components, or combinations thereof. Generally speaking, the dashboard 210 may be associated with any type of hardware, software, and/or firmware component that enables the database engine 205 to perform the functions described herein.

[0055] Thus, the dashboard receives a user request (e.g., an input) from the user and transmits that user request to the database engine 205. In some embodiments, the user request may be to request a database management service. For example, in some embodiments, the user request may be to request a database provisioning service. In response to the user request for a database provisioning service, the database engine 205 may activate the database provisioning system 220. The database provisioning system 220 includes a database creation system 235 for creating new databases within the database system 200 and a database registration system 240 for registering databases that were previously created outside of the database system with the database system. Although the database creation system 235 and the database registration system 240 are shown as separate components, in some embodiments, those components may be combined together and the combined component

may perform the functions of the individual components. The database creation system 235 and the database registration system 240 are discussed in greater detail in FIGS. 3-5E below.

[0056] The database protection system 225 is configured to protect databases associated with the database system 200. Thus, the database protection system 225 implements a copy data management service of the database system 200. During creation or registration of a database, the database provisioning system 220 creates an instance of a database protection system 225 for protecting the associated database. Thus, upon the creation or registration of a database, that database may be protected by the associated instance of the database protection system 225 by capturing snapshots, transactional logs, and creating cloned databases. Each instance of the database protection system 225 may receive a variety of user defined constraints in accordance with which the associated database is protected. The database protection system 225 is discussed in greater detail in FIG. 6 below.

[0057] The database engine 205, including the database provisioning system 220 and the database protection system 225 may be configured as, and/or operate in association with, hardware, software, firmware, or a combination thereof. Specifically, the database engine 205 may include a processing unit 245 configured to execute instructions for implementing the database management services of the database system 200. In some embodiments, each of the database provisioning system 220 and the database protection system 225 may have their own separate instance of the processing unit 245. The processing unit 245 may be implemented in hardware, firmware, software, or any combination thereof. "Executing an instruction" means that the processing unit 245 performs the operations called for by that instruction. The processing unit 245 may retrieve a set of instructions from a memory for execution. For example, in some embodiments, the processing unit 245 may retrieve the instructions from a permanent memory

device like a read only memory (ROM) device and copy the instructions in an executable form to a temporary memory device that is generally some form of random access memory (RAM). The ROM and RAM may both be part of the storage pool 170 and/or provisioned separately from the storage pool. In some embodiments, the processing unit 245 may be configured to execute instructions without first copying those instructions to the RAM. The processing unit 245 may be a special purpose computer, and include logic circuits, hardware circuits, etc. to carry out the instructions. The processing unit 245 may include a single stand-alone processing unit, or a plurality of processing units that use the same or different processing technology. The instructions may be written using one or more programming language, scripting language, assembly language, etc.

[0058] The database engine 205 may also include a memory 250. The memory 250 may be provisioned from or be associated with the storage pool 170. In some embodiments, the memory 250 may be separate from the storage pool 170. The memory 250 may be any of a variety of volatile and/or non-volatile memories that may be considered suitable for use with the database engine 205. In some embodiments, the memory 250 may be configured to store the instructions that are used by the processing unit 245. Further, although not shown, in some embodiments, the database provisioning system 220 and the database protection system 225 may each, additionally or alternatively, have their own dedicated memory.

[0059] Further, the database engine 205 may be configured to handle a variety of types of database engines. For example, in some embodiments, the database engine 205 may be configured to manage PostgreSQL, Oracle, Microsoft SQL server, and MySQL database engines. In other embodiments, the database engine 205 may be configured to manage other or additional database engines. Each database that is created within or registered with the database system 200 may be

of a particular "database engine type." The database engine type may identify the type of database management system (e.g., Oracle, PostgreSQL, etc.) of a particular database. By virtue of creating or registering a database with a particular database engine type, that database is managed in accordance with the rules of that database engine type. Thus, the database engine 205 is configured to be operable with and manage databases associated with a variety of database engine types.

[0060] It is to be understood that only some components of the database engine 205 are shown and discussed herein. In other embodiments, the database engine 205 may also include other components that are considered necessary or desirable in implementing the various database management services discussed herein. Similarly, the database provisioning system 220 and the database protection system 225 may have components that are considered necessary or desirable in implementing the various database management services discussed herein.

[0061] Referring still to FIG. 2, the database storage system 215 is configured to store one or more databases that are either created within the database system 200 or registered with the database system. The database storage system 215 may include a source database storage 255 and a target database storage 260. The source database storage 255 is configured to store the original instances of the databases (also referred to herein as source databases) that are created within or registered with the database system 200. The target database storage 260 is configured to store the clones of the source databases (also referred to herein as cloned databases). In some embodiments, the source database storage 255 and the target database storage 260 may be provisioned from the storage pool 170 and may include virtual disk storage that is associated with the database VMs (e.g., the database VMs 120, the database VMs 135, the database VMs 150) on which the database system 200, the source databases, and the cloned databases reside. For example, in some embodiments, the source database storage 255 may be associated with one or more database VMs

(referred to herein as source database VMs) and the source databases stored within the source database storage may be stored within the virtual disks associated with the source database VMs. Similarly, in some embodiments, the target database storage 260 may be associated with one or more database VMs (referred to herein as target database VMs) and the databases stored within the target database storage may be stored within the virtual disks associated with the target database VMs. In some embodiments, each source database VM may be configured to store one or more source databases and each target database VM may be configured to store one or more target databases. In other embodiments, the source database storage 255 and the target database storage 260 may additionally or alternatively be provisioned from other types of storage associated with the database system 200.

[0062] Further, depending upon the size of a particular database and the size of the virtual disk associated with a particular source database VM, a source database may be stored in its entirety on a single source database VM or may span multiple source database VMs. Further, as the size of that source database increases, the source database may be moved to another source database VM, may be stored onto multiple source database VMs, and/or additional storage may be provisioned to the source database VMs to house the increased size of the source database. Similarly, depending upon the size of a cloned database and the size of the virtual disk associated with a particular target database VM, the cloned database may be stored on a single or multiple target database VMs. Further, as the size of the cloned database increases (e.g., by virtue of updating the cloned database to incorporate any changes in the source database), the cloned database may be moved to another target database VM of appropriate size, may be divided amongst multiple target database VMs, and/or additional virtual disk space may be provisioned to the target

database VM. Thus, the database storage system 215 is structured with the flexibility to expand and adapt to accommodate databases of various sizes.

[0063] The database storage system 215 also includes a database manager 265. In some embodiments, each instance of the source database within the source database storage 255 may include an instance of the database manager 265. In other embodiments, a single instance of the database manager 265 may manage multiple or all source databases. The database manager 265 is configured to work with the database protection system 225 to protect the source databases stored within the source database storage 255. The database manager 265 is discussed in greater detail in FIG. 6 below. Although not shown, the database manager 265 may include a processing unit (e.g., similar to the processing unit 245), a memory (e.g., similar to the memory 250), and other hardware, software, and/or firmware components that are necessary or considered desirable for performing the functions described herein. Further, although the cloned databases in the target database storage 260 are shown as having a database manager, in some embodiments, each cloned database may be associated with a database manager for managing the cloned databases.

[0064] Turning now to FIG. 3, an example flow chart outlining operations of a process 300 is shown, in accordance with some embodiments of the present disclosure. The process 300 may include additional, fewer, or different operations, depending on the particular embodiment. The process 300 may be used to implement the database provisioning service. Thus, the process 300 may be used to create a new database or register an existing database. The process 300 is discussed in conjunction with FIGS. 1 and 2 and is implemented by the database provisioning system 220 of the database engine 205 in conjunction with the dashboard 210. Specifically, the database provisioning system 220 receives inputs from the user via the dashboard 210 and performs operations in response to those inputs for creating a new database or registering an existing

database. Thus, the process 300 starts at operation 305 with the database provisioning system 220 receiving a user request via the dashboard 210 for either creating a new database or registering an existing database. Specifically, once the database system 200 is installed and the user is able to access the dashboard 210, the dashboard may present an option to create a new database or register an existing database. If the user desires to create a new database, the user may select the database creation option from the dashboard 210 and activate the database creation system 235 of the database provisioning system 220. If the user desires to register an existing database, the user may select the database registration option and activate the database registration system 240 of the database provisioning system 220.

[0065] Upon activation, the database creation system 235 or the database registration system 240 may present one or more user interfaces to the user for soliciting parameters for creating a new database or registering an existing database, respectively. For example, at operation 310, the activated one of the database creation system 235 or the database registration system 240 presents, via the dashboard 210, a user interface for requesting the database engine type of the database to be created or registered. The dashboard 210 may present a selection of the database engine types that are supported by the database engine 205. The user may select one of the various database engine types presented on the dashboard 210. As noted above, the database engine type defines the database management system of the database being created or registered. For example, if the user desires to create a database with the database engine type Oracle, and if Oracle is presented as an option on the dashboard at the operation 310, the user may select Oracle on the dashboard. As another example, if the user desires to register an existing database that has been configured with the database engine type Oracle, the user may select Oracle from the dashboards at the operation 310.

[0066] The database creation system 235 or the database registration system 240 receives the user's selection of the database engine type at the operation 310. Additionally, the database creation system 235 or the database registration system 240 configures the remaining user interfaces that are presented to the user on the dashboard 210 based on the database engine type selected by the user at the operation 310. For example, if the user selected Oracle as the database engine type at the operation 315, the database creation system 235 or the database registration system 240 may configure the remaining database creation process or the database registration process in accordance with requirements for Oracle. Thus, at operation 315, the database creation system 235 or the database registration system 240 presents one or more user interfaces to the user, via the dashboard 210, for requesting a selection of parameters for defining the configuration for and creating a new source database VM on which the database being created or registered will ultimately reside.

[0067] For example, in some embodiments, the activated one of the database creation system 235 or the database registration system 240 may request parameters for defining a software profile, a network profile, a compute profile, and a database parameter profile to be associated with the new source database VM. In other embodiments, the database provisioning system 220 may request other or additional types of parameters from the user for creating the source database VM based upon the database engine type selected at the operation 310. The user interface may present one or more standardized profiles for one or more of the software profile, network profile, compute profile, and database parameter profile. The user may select from the standardized profiles in some embodiments. In some embodiments, the database creation system 235 or the database registration system 240 may also allow the user to modify a standardized profile and/or create new profiles from scratch based upon the user's preferences. Each of the profiles is based upon the

database engine type selected at the operation 310. Thus, the standardized profiles that are presented to the user are in compliance with the database engine type. Similarly, the database creation system 235 or the database registration system 240 only allow those changes to the standardized profiles or creation of new profiles that comply with the database engine type.

[0068] The software profile defines the software and operating system parameters for the database engine type that is selected at the operation 310. For example, if at the operation 310, the database engine type is selected as PostgreSQL, the software profile may include one or more software and operations system image profiles associated with PostgreSQL. Each software profile may define the rules that are to be applied in managing the database being created or registered. In some embodiments, one or more sample software profiles may be available for the user to select. In other embodiments, the user may create their own custom software profile or modify an existing software profile to suit their needs. When creating their own custom software profile or modifying an existing software profile, in some embodiments, the user may be required to create/modify the software profile before starting the process 300, while in other embodiments, the user may be able to create the custom software profile as part of the operation 315.

[0069] The network profile identifies the network location of the database being created or registered to facilitate access to the database after creation or registration. In some embodiments, the network profile may be the same profile that is created during installation of the database system 200. In other embodiments, a different network profile may be used. Similar to the software profile, the database creation system 235 or the database registration system 240 may make a sample network profile available for the user to select. Alternatively, the user may create a new network profile or modify an existing network profile either before starting the process 300 or during the operation 315. The compute profile defines the size/configuration of the source

database VM. For example, the compute profile may define the number of vCPUs, number of cores per vCPU, and memory capacity to be associated with the source database VM. In other embodiments, the compute profile may define other or additional configurational parameters. At the operation 315, the database creation system 235 or the database registration system 240 may also request the database parameter profile from the user. The database parameter profile defines the custom parameters that are applied to the database being created or registered. Again, the database creation system 235 or the database registration system 240 may make sample compute profiles and/or a sample database parameter profiles available for the user to select in some embodiments. Alternatively, the user may create custom compute and/or database parameter profiles or modify existing compute and/or database parameter profiles, either before starting the process 300 or during the operation 315.

[0070] In some embodiments, the database creation system 235 or the database registration system 240 may pre-select a default option for the user for one or more of the software profile, compute profile, network profile, and the database parameter profile. The database creation system 235 or the database registration system 240 may allow the user to change the default options by selecting another standardized option, modifying a standardized option, or creating a new profile. Thus, at the operation 315, the database creation system 235 or the database registration system 240 receives selection of the various parameters for creating a new source database VM.

[0071] In some embodiments, based upon the parameters received from the user, the database creation system 235 or the database registration system 240 may create a new source database VM at the operation 315. In other embodiments, the database creation system 235 or the database registration system 240 may wait until other remaining parameters are received before creating the source database VM. In some embodiments, instead of creating a new source VM, the database

creation system 235 or the database registration system 240 may allow the user to use a previously created source database VM. Thus, at the operation 315, the database creation system 235 or the database registration system 240 may first request the user to select one option from either creating a new source database VM or using an existing (e.g., previously created) source database VM. Based on the user's selection, the database creation system 235 or the database registration system 240 may request the various profiles discussed above or request the user to identify the existing source database VM to use. In some embodiments, the database creation system 235 or the database registration system 240 may present a list of existing source database VMs created previously for the database engine type selected at the operation 310 and that have space available to receive the database being created or registered. The user may select one source database VM from the list. The database creation system 235 or the database registration system 240 may facilitate the user selection of an existing source database VM in other manners (e.g., by allowing the user to browse to a location, etc.).

[0072] Upon receiving selection of the various profiles for creating a new source database VM or receiving selection of an existing source database VM, at operation 320, the database creation system 235 or the database registration system 240 presents one or more user interfaces, via the dashboard 210, for requesting parameters (e.g., configurational details) for the database being created/registered. For example, the database creation system 235 or the database registration system 240 may request a database name and a description of the database being created or registered to distinguish that database from other databases within the database system 200. The database creation system 235 or the database registration system 240 may also request a database password to restrict access to the database to only authorized users, a database size to determine how much storage space is needed for storing that base, and/or any additional or other parameters

that may be considered necessary or desirable in creating/registering the database. Further, the parameters that are requested may vary based upon whether a database is being created or whether an existing database is being registered. For example, if an existing database is being registered, the database registration system 240 may automatically determine the size of the database. In some embodiments, certain default values may be pre-selected for the user and the user may be allowed to change those values. Thus, at the operation 320, the database creation system 235 or the database registration system 240 receives selection of parameters from the user, via the dashboard 210, for either creating a new database or registering an existing database.

[0073] At operation 325, the database creation system 235 or the database registration system 240 presents one or more user interfaces, via the dashboard 210, to request selection of parameters for creating an instance of a database protection system (e.g., the database protection system 225) for the database being created or registered by the process 300. The instance of the database protection system is configured to protect the database being created or registered by the process 300. To create the instance of the database protection system, the database creation system 235 or the database registration system 240 may request a name and description for the instance of the database protection system 225, a level of a Service Level Agreement ("SLA"), and a protection schedule to define rules based on which the instance of the database protection system 225 operates.

[0074] An SLA is an agreement between a service provider (e.g., the owner of the database system 200) and the user (e.g., the owner of the database) that outlines, among other things, the protection scope of the database. The protection scope defines for how long data from the database being created or registered is retained. Thus, the protection scope defines the database retention policy. In some embodiments, the SLA may define various protection parameters such as continuous,

daily, weekly, monthly, quarterly, or yearly protection parameters for determining the protection scope of the database being created/registered. In other embodiments, the SLA may define other or additional protection parameters.

[0075] Each database for which an instance of the database protection system 225 is created may be protected by capturing snapshots and/or transactional logs. The number of snapshots and transactional logs to be captured on each day may be defined by the user in the protection schedule. As used herein, a "day" may be any 24-hour period (e.g., from midnight to Noon). In some embodiments, the protection schedule may define default values to define the frequency of capturing snapshots and transactional logs, which the user may modify. Thus, based upon the frequency of capturing snapshots and transactional logs defined in the protection schedule, the instance of the database protection system 225 may be configured to capture one or more snapshots and one or more transactional logs each day. Generally speaking, the number of transactional logs that are captured each day may be higher than the number of snapshots that are captured on that day. Since it is impractical and expensive to indefinitely store the captured snapshots and the transactional logs, the protection parameters in the SLA define the duration for how long those snapshots and transactional logs are stored.

[0076] For example, the continuous protection parameter within the SLA defines the duration in days for which all captured snapshots and transactional logs are retained. For example, if the continuous protection parameter is defined as 30 days, the instance of the database protection system 225 is configured to retain all snapshots and transactional logs that are captured within the last 30 days. By retaining all snapshots and the transactional logs, the user may replicate any or substantially any state of the database (down to a second or even a fraction of a second).

[0077] The SLA may also define a daily protection parameter, which defines the duration in days for which a daily snapshot is stored. For example, if the daily protection parameter is 90 days, the instance of the database protection system 225 is configured to store a daily snapshot for 90 days. The protection schedule may define the time of day to identify the snapshot that is designated as the daily snapshot. For example, if the user specifies that the snapshot captured at 11:00 AM every day is the daily snapshot and the SLA defines the daily protection parameter for 90 days, the instance of the database protection system 225 may be configured to store a daily snapshot that was captured at or closest to 11:00 AM and store the daily snapshot for 90 days.

[0078] Similarly, the SLA may define weekly, monthly, and quarterly protection parameters. A weekly protection parameter in the SLA may define the duration in weeks for which a weekly snapshot is stored. The protection schedule may define the day of the week to identify which snapshot is designated as the weekly snapshot. For example, if the user defines in the protection schedule that the snapshot captured on Monday is to be designated as the weekly snapshot, and the weekly protection parameter in the SLA specifies a duration of 8 weeks, the instance of the database protection system 225 may store the snapshot captured every week on Monday for 8 weeks. If multiple snapshots are captured each day, the protection schedule may also define which snapshot captured on the designated day of the week (e.g., Monday) serves as the weekly snapshot. In some embodiments, the time defined in the protection schedule for capturing a daily snapshot may be used. For example, if the protection schedule defines that the snapshot captured at 11:00 AM is the daily snapshot, and the weekly snapshot is to be captured on Monday, the instance of the database protection system 225 may store the snapshot captured at or closest to 11:00 AM every Monday as the weekly snapshot. In other embodiments, another time period may be used.

[0079] Likewise, a monthly protection parameter in the SLA may define a duration in months for which a monthly snapshot is to be stored. The user may specify the date within the protection schedule for identifying which snapshot corresponds to the monthly snapshot. For example, the user may specify storing the snapshot captured on the 20th of every month as the monthly snapshot in the protection schedule, and the monthly protection parameter may specify a duration of 12 months for storing the monthly snapshot. Thus, the instance of the database protection system 225 stores a monthly snapshot captured on the 20th of every month and stores that monthly snapshot for 12 months. A quarterly protection parameter in the SLA may define a duration in quarters for which a quarterly snapshot is to be stored and the user may specify in the protection schedule which months correspond to the various quarters. For example, the user may specify January, April, July, and October as the quarters and the quarterly protection parameter may specify storing the quarterly snapshots for 20 quarters. Thus, the instance of the database protection system 225 may designate a snapshot captured on the first day of January, April, July, and October (e.g., January 1, April 1, July 1, and October 1) as the quarterly snapshot and store the quarterly snapshot for 20 quarters.

[0080] Thus, for each protection parameter that is defined in the SLA, a corresponding value may be requested from the user in the protection schedule to identify which snapshot corresponds to that protection parameter. It is to be understood that the various protection parameters and their respective schedules mentioned above are only examples and may vary from one embodiment to another as desired. Further, when the duration specified by a protection parameter expires, any snapshots or transactional logs that are expired (e.g., past their duration) may be deleted. As an example, if a snapshot is to be stored for 30 days, on the 31st day, that snapshot may be deleted.

Thus, each snapshot and transactional log is managed based on the SLA and protection schedule independent from other snapshots and transactional logs.

[0081] Additionally, to simplify user selection, in some embodiments, various levels of SLA may be pre-defined within the database provisioning system 220. Each level of the SLA may have default values of the various protection parameters. For example, in some embodiments, the various levels of SLA may be GOLD, SILVER, BRONZE and the various protection parameters for these levels may be as follows:

Name	Continuous	Daily	Weekly	Monthly	Quarterly
GOLD	30 Days	90 Days	16 Weeks	12 Months	75 Quarters
SILVER	14 Days	60 Days	12 Weeks	12 Months	0 Quarters
BRONZE	7 Days	30 Days	8 Weeks	6 Months	0 Quarters

[0082] It is to be understood that the nomenclature of the GOLD, SILVER, BRONZE levels of the SLA is only an example and the levels may be given different names in other embodiments. Further, although three levels of the SLA are described herein, in other embodiments, greater or fewer than three SLA levels may be used. Additionally, the values of the protection parameters in each level of the SLA may vary from one embodiment to another. The database creation system 235 or the database registration system 240 may present the various pre-defined SLA levels to the user at the operation 325 to select from. In some embodiments, the database creation system 235 or the database registration system 240 may allow the user to modify the values of one or more protection parameters in the pre-defined SLA levels. For example, if the user desires to select the GOLD level, but would like continuous protection for 45 days instead of the default value of 30

days shown in the table above, the user may modify the continuous protection parameter of the GOLD level. Thus, the pre-defined SLA levels provide the convenience and flexibility of tailoring the various protection parameters to suit the user's needs. Alternatively, the database creation system 235 or the database registration system 240 may allow the user to create a new SLA at the operation 325.

[0083] To create a new SLA, upon receiving input from the user at the operation 325 indicating creation of a new SLA, the database creation system 235 or the database registration system 240 may present one or more user interfaces to the user requesting certain information. For example, the database creation system 235 or the database registration system 240 may request an SLA name, description, and values for the continuous, daily, weekly, monthly, and quarterly protection parameters. The database creation system 235 or the database registration system 240 may request other or additional details as well. Upon receiving the various inputs from the user for creating the new SLA, the database creation system 235 or the database registration system 240 may create the new SLA and allow the user to select that SLA at the operation 325.

[0084] Therefore, at the operation 325, the database creation system 235 or the database registration system 240 receives selection of the SLA and the protection schedule for creating an instance of the database protection system 225 for the database being created/registered. At operation 330, upon receiving the various user selections at the operations 310-325, the database creation system 235 or the database registration system 240 creates a new database or registers the existing database with the database system 200. To create/register the database, the database creation system 235 or the database registration system 240 initiates a series of operations. For example, the database creation system 235 or the database registration system 240 may create a source database VM (or designate an existing source database VM), convert the database size into

a number of virtual disks that are needed to house the database, create a database profile having a database name, description, network information, etc., attach the software and parameters of the database engine type with the database, create an instance of the database protection system, associate the SLA and schedule with the database protection system, designate storage for storing snapshots and transactional logs, etc. Once the database is created/registered, database management services may be applied to the database.

[0085] In some embodiments, the database creation system 235 or the database registration system 240 may request other or additional information for creating/registering the database. For example, the database creation system 235 or the database registration system 240 may request which cluster or clusters the user desires to create/register the database, which node or nodes on a cluster the user desires to create the source database VM, etc. Thus, the database system 200 provides an easy, convenient, and flexible mechanism to create a new database or register an existing database using a user friendly and intuitive user interface. Instead of requiring multiple days to create/register a database, using the user interface of the present disclosure, the database may be created/registered within minutes. Once created/registered, additional database management services may be implemented on those databases.

[0086] Turning now to FIGS. 4A-5E, example user interfaces for creating and registering a database are shown, in accordance with some embodiments of the present disclosure. FIGS. 4A-4G show example user interfaces for creating a database, while FIGS. 5A-5E show example user interfaces for registering a database. FIGS. 4A-5E are discussed in conjunction with FIGS. 1-3. Referring to FIGS. 4A-4G, FIG. 4A shows an example dashboard 400. The dashboard 400 is similar to the dashboard 210. The dashboard 400 becomes accessible to the user upon installing the database system 200 and allows the user to manage and monitor activities across multiple

databases that are created/registered within the database system. In some embodiments, the user may be required to be authenticated before being able to access the dashboard 400.

[0087] The dashboard 400 may include a toolbar 405 and a body 410. The toolbar 405 is configured to switch between various control functions of the database system 200. In some embodiments, the toolbar 410 includes a main menu 415, an alerts menu 420, and a user view menu 425. The main menu 415 may be configured as a drop-down list that enables the user selected within the user view menu 425 to select and activate a control function. For example, when the control function "dashboard" is selected in the main menu 415, the dashboard 400 may be configured to display a "home page" 430 in the body 410 of the dashboard. As the control function selected in the main menu 415 is changed, the page (or at least portions thereof) that is displayed in the body 410 of the dashboard 400 may change to reflect the control function that is activated. The alerts menu 420 allows the user to view and monitor any alerts that are occurring within the database system. An "alert" may be indicative of an error or issue in the database system that needs user attention. In some embodiments, alerts may be color coded to identify the criticality of the alert. The user view menu 425 determines which features are accessible to a particular user. For example, if the user selected in the user view menu 425 is an administrator, certain features that are generally not available to a non-administrator user may be activated. It is to be understood that the toolbar 405 is only an example and may vary from one embodiment to another.

[0088] The homepage 430 displayed within the body 410 provides a summary or a "quick-glance" view of all the databases (e.g., source databases) that are managed by the database system 200. The homepage 430 may be divided into one or more components or cells. For example, the homepage 430 may include a database list cell 435A that lists all of the source databases stored in the source database VMs of the database system 200 and provides a summary of each of those

source databases (e.g., name of the source database, database engine type, size of the database, name of the instance of the database protection system, number of cloned databases created from the source database, etc.). A summary cell 435B lists the total number of source databases created or registered on the source database VMs combined (e.g., the total number of databases listed in the database list cell 435A), the total number of cloned databases created from those total number of source databases, data usage values of the source and/or the cloned databases, etc. A clone cell 435C provides history on the cloning of the databases (e.g., number of clones created in a given time period, whether the cloning was successful or not, etc.). A version cell 435D provides information on the cluster on which the source databases resides and the version of the software implemented by the database system. An alerts cell 435E provides additional details on the various alerts being generated by the databases listed within the database list cell 4335A.

[0089] It is to be understood that the various components or cells of the homepage 430 shown in FIG. 4A are examples and features thereof may vary from one embodiment to another. For example, the number of components or cells that are shown on the homepage 430 may vary from one embodiment to another. Likewise, the details that are displayed within each component or cell may vary from one embodiment to another. The orientation, placement, size, and other design aspects of each component or cell may vary from one embodiment to another. In some embodiments, the configuration of the homepage 430 and/or the configuration of each component/cell may be defined by the user by using a settings menu option of the dashboard 400. By virtue of the dashboard 400, the user may get a quick glance summary of the various source databases that are managed by the database system 200, as well as a quick summary of the configuration and specifics of each source database. Via the dashboard 400, the user may also decide to perform various database management services on the source databases.

[0090] For example, to initiate a database provisioning service, the user authorized to request the database provisioning service may select a "databases" option from the main menu 415 to display a database page 440 (shown in FIG. 4B) in the body 410 of the dashboard. If the user selected in the user view menu 425 is not permitted to request the database provisioning service, the "databases" option may be inactivated or not shown in the main menu 415. The database page 440 may display a database menu 445A from which the user may view additional information and/or perform additional operations. The database page 440 may also include a database detail component 445B to display additional details corresponding to the option selected from the database menu 445A. For example, as shown in FIG. 4B. upon selecting the "Sources" option from the database menu 445, a list of the source databases associated with the database system 200 may be displayed within the database detail component 445B. The user may select any one of the source databases to view additional details of that source database and/or perform permitted operations on that source database.

[0091] The database page 440 may also allow the user to create a new database or register an existing database. For example, the user may select a create button 445C on the database page 440 to send a user request to the database engine 205 to start the process 300 for creating a new database. Likewise, the user may select a register button 445D to initiate a registration process and sending a user request to the database engine 205.

[0092] Upon selecting the create button 445C, the database engine 205, and particularly the database creation system 235 of the database engine may present a user interface 450, shown in FIG. 4C. The user interface 450 identifies the various steps of creating the new database and highlights the current step. For example, the user interface 450 has the "Engine" step highlighted. By virtue of identifying the various steps of creating the new database, the dashboard 400 keeps

the user informed as to which step the database creation process is on and which steps are coming up next. The user interface 450 may also present one or more database engine types that are supported by the database system 200. The user may select one of the database engine types to highlight the selection. For example, the PostgreSQL database engine type is shown selected in the user interface 450. The user may select the "Next" button to send the selected database engine type selection to the database creation system 235, which in response, presents a user interface 455 of FIG. 4D.

[0093] The user interface 455 identifies that the database creation process is at the "Server" step for creating a new source database VM or identifying an existing source database VM. The user interface 455 may, thus, allow a user to select an option 455A to create a new source database VM or an option 455B to use an existing source database VM. In the user interface 455 of FIG. 4D, the option 455A for creating a new source database VM is shown selected. Thus, the user interface 455 requests user selection of one or more profiles for creating a new source database VM. For example, the user interface 455 may request a name 455C for the source database VM, a software profile 455D, a compute profile 455E, a network profile 455F, a description 455G for the source database VM, and security options 455H for the source database VM. The user interface 455 may also request a parameter profile for the source database VM. In other embodiments, the user interface 455 may request additional or other information for creating a new source database VM.

[0094] Although not shown, if the user selects the option 455B for using an existing source database VM, the user interface 455 may display options for allowing the user to identify an existing source database VM. Upon selecting the "Next" button, the various user selections of the user interface 455 are sent to the database creation system 235, which then presents a user interface 460 of FIG. 4E to the user on the dashboard 400.

[0095] The user interface 460 identifies that the database creation process is at the "Database" step at which various parameters for creating a database on the source database VM are received from the user. The user interface 460 also requests the user to provide a name 460A and description 460B for the database being created, a password 460C and 460D to restrict access to the database, a size 460E of the database to be created, a database parameter profile 460F to be applied to the database and the source database VM, a listener port 460G for the database engine type selected in the user interface 450, and any other details (e.g., details 460H) that may be needed or considered desirable to have in creating the database. When the user is satisfied with the selections on the user interface 460, the user may select a "Next" button to send the selections to the database creation system 235. The database creation system 235 may then present a user interface 465 of FIG. 4F.

[0096] The user interface 465 identifies that the database creation process is at the last step of creating the "Time Machine." The user interface 465 is configured to request selection of SLA and protection schedule from the user for creating an instance of the database protection system 225. The user interface 465, thus, requests a name 465A and description for the instance of the database protection system 225, an SLA level 465C, and a protection schedule 465D. Within the protection schedule 465D, the user interface 465 requests the user to provide a number of snapshots 465E desired each day, a number of transactional logs 465F desired each day, and time periods 465G for identifying which snapshot to designate as the daily snapshot, 465H for identifying which snapshot to designate as the weekly snapshot, 465I for identifying which snapshot to designate as the monthly snapshot, and 465J for identifying which snapshot to designate as the quarterly snapshot. Upon providing the various parameters in the user interface 465, the user may select a "Next" button to send the selections to the database creation system 235 and start the database

creation. The database creation system 235 may display a status of the database creation in a user interface 470 of FIG. 4G.

[0097] Upon creating the database, the newly created database may be displayed within the database list cell 435A, within the database page 440, and anywhere else where source databases are listed. The database creation system 235 may also update the various calculations and numbers in the dashboard 400 that provide some statistic of the source databases (e.g., the summary cell 435B). It is to be understood that the configurations of the various user interfaces of FIGS. 4A-4G may vary from one embodiment to another. For example, the various selections may be displayed as drop-lists, as radio buttons, or in other ways. Similarly, some fields may be pre-filled with default values and allowed to be changed by the user if desired. The placement of the various fields, the size, orientation, and other design aspects of those fields may be varied as well. Additionally, some fields may be considered mandatory, while other fields may be designated as mandatory to be filled in by the user. The dashboard 400 thus provides an easy mechanism for creating a new database in a simple, user friendly, and intuitive user interface.

[0098] Turning now to FIGS. 5A-5E, example user interfaces for registering an existing database are shown, in accordance with some embodiments of the present disclosure. Similar to the database creation process, the database registration process is initiated from a dashboard 500. The dashboard 500 is similar to the dashboards 210 and 400. The dashboard 500 includes a database page 505, which is similar to the database page 440. To register an existing database, the user may select a register button 510 and select "Next." Upon selecting "Next," the database registration system 240 may be activated, which starts the database registration process by displaying a user interface 515 of FIG. 5B. From the user interface 515, the user may select the desired database engine type and select "Next." Upon selecting "Next," the user's selection of the database engine

type is sent to the database registration system 240, which then displays a user interface 520 of FIG. 5C.

[0099] By way of the user interface 520, the database registration system 240 requests the user for creating a new source database VM or selecting an existing source database VM. Likewise, by way of user interface 525 of FIG. 5D, the database registration system 240 requests the user for providing various parameters of the existing database, and by way of user interface 530, the database registration system requests the user to define the SLA and protection schedule. Upon receiving all of the parameters from the user, the database registration system 240 registers the database. Similar to the user interface 470, the database registration system may display the registration status in a user interface. Upon registration, the database becomes a source database that resides on a source database VM and on which other database management services may be applied.

[0100] Referring now to FIG. 6, an example block diagram of a database system 600 is shown, in accordance with some embodiments of the present disclosure. The database system 600 is similar to the database system 200. Therefore, the components of the database system 600 that are already discussed with respect to the database system 200 are not discussed again. The database system 600 includes a database engine 605 that is associated with a dashboard 610 via an API 615. The database engine 605 is also associated with a database storage system 620 for storing one or more databases managed by the database system 600. The database engine 605 is similar to the database engine 205, the dashboard 610 is similar to the dashboard 210, the API 615 is similar to the API 230, and the database storage system 620 is similar to the database storage system 215. The database engine 605 includes a database protection system 625 that is configured to protect databases that are associated with the database system 600. The database protection system 625

is similar to the database protection system 225. Although not shown, the database engine 605 also includes a database provisioning system similar to the database provisioning system 220.

[0101] As discussed above, an instance of the database protection system 625 may be created for each source database when that source database is created or registered within the database system 600. Thus, the database protection system 625 may include multiple instances of the database protection system – one for each source database. For example, the database protection system 625 may include database protection system instance 630A-630N (collectively referred to herein as database protection system instances 630). In other embodiments, each instance of the database protection system (e.g., the database protection system instances 630A-630N) may be configured to protect more than one source database. Each of the database protection system instances 630A-6930N may respectively include a clone management system 635A-635N (collectively referred to herein as clone management systems 635) and a snapshot/log capturing system 640A-640N (collectively referred to herein as snapshot/log capturing systems 640).

[0102] Each of the database protection system instances 630 may be associated with a source database stored within a source database storage 645. The source database storage 645 is similar to the source database storage 255. Thus for example, the database protection system instance 630A may be associated with a source database 650A stored within the source database storage 645, the database protection system instance 630B may be associated with a source database 650B of the source database storage, the database protection system instance 630N may be associated with a source database 650N, and so on. Thus, the clone management system 635A and the snapshot/log capturing system 640A of the database protection system instance 630A may be configured to protect the source database 650A, the clone management system 635B and the snapshot/log capturing system 640B may be configured to protect the source database 650B, the

clone management system 635N and the snapshot/log capturing system 640N may be configured to protect the source database 650N, and so on. By virtue of having the database protection system instances 630 for each of the source databases 650A-650N (collectively referred to herein as the source databases 650), the protection of each of those databases may be customized and tailored to suit the user's needs.

[0103] To protect the source databases 650, the database protection system instances 630 may create a clone of those source databases. The clones of the source databases 650 (e.g., cloned databases) may be stored within a target database storage 655. The target database storage 655 is similar to the target database storage 260. For each source database (e.g., the source databases 650) that is stored within the source database storage 645, one or more clones of that source database may be created and stored within the target database storage 655. For example, when a clone of the source database 650A is created, a cloned database 660A is created and stored within the target database storage 655. Similarly, clones of the source databases 650B and 650N may be created as cloned databases 660B and 660N, respectively, and stored within the target database storage 655. The cloned databases 660A-660N are collectively referred to herein as the cloned databases 660. Although each of the source databases 650 in the source database storage 645 has been shown as having a corresponding instance of the cloned databases 660 in the target database storage 655, it is to be understood that in some embodiments, clones of only some of the source databases stored in the source database storage may be made. The source databases 650 that have not been cloned may not have a cloned database within the target database storage 655.

[0104] Further, similar to the source databases 650, which reside on a database VM (e.g., the source database VMs), the cloned databases 660 also reside on a database VM. The database VMs on which the cloned databases 660 reside are referred to herein as target database VM. Each of

the cloned databases 660 may reside entirely on one target database VM or may span across multiple target database VMs. In some embodiments, the source database VMs and the target database VMs may be created on the same node or different nodes of the same cluster or across multiple clusters.

[0105] Thus, the database protection system instances 630, and particularly the clone management systems 635 of the database protection system instances creates the cloned databases 660 from the source databases 650 stored within the source database storage 645, and stores the cloned databases within the target database storage 655. The cloned databases 660 may be of a variety of types. As discussed above, each of the source databases 650 are created or registered on a source database VM. Thus, each of the cloned databases 660 may include a clone of the source database VM only (e.g., to create the target database VM) or may include the clone of the source database VM plus the database that resides on that source database VM. For example, the cloned database 660A of the source database 650A may include a clone of the source database VM on which the source database 650A resides or a clone of that source database VM plus the database 650A. When both the source database VM and the source database 650A are cloned, the cloned database 660A may include a target database VM created on the target database storage 655 with a similar or different configuration as the source database VM and the clone of the source database stored on the target database VM. When only the source database VM is cloned, a target database VM is created for that source database VM and stored on the target database storage 655. The target database VM may be used at a later point to store the clone of the source database that resides on the associated source database VM. Thus, the cloned databases 660 may include the source database VM only, the source database VM plus the source database, or the source database only (which is to be stored on a previously created target database VM).

[0106] The cloned databases 660 may be considered operationally same (or substantially similar) to the source databases 650. Each of the cloned databases 660 may be refreshed/updated to incorporate any changes that may have occurred in the source databases 650 since the cloned databases were created. In some embodiments, the operations that are performed on the source databases 650 may be performed on the cloned databases 660 as well. Thus, in some embodiments, instead of using the source databases 650, the cloned databases 660 may be used for performing operations (e.g., analyzing data). The cloned databases 660 may be created from snapshots and transactional logs captured from the source databases 650. The cloned databases 660 are generally created upon receiving a user request. The user may request to clone a particular one of the source databases 650 to a point in time or to a specific snapshot. For example, the user may request a cloned database of a particular one of the source databases 650 as that source database existed at 11:00AM on a particular date. Alternatively, the user may specifically identify a snapshot and request a cloned database of the source databases 650 based on that snapshot. Creating a cloned database (e.g., the cloned databases 600) involves replicating a state of the source databases 650. The "state" of the source databases 650 may include the configuration of the source database, the user data stored within the source database, metadata stored within the source database, and any other information associated with the source database. In other words, a cloned database may be an exact or substantially exact copy of the source database.

[0107] Thus, upon receiving a user request to create a cloned database (e.g., the cloned database 660A) from a source database (e.g., the source database 650A), the clone management system (e.g., the clone management system 635A) associated with the source database may retrieve snapshots and transactional logs of the source database from a repository where the snapshots and transactional logs are stored. If the user request is to clone the source database to a point in time,

the clone management system (e.g., the clone management system 635A) may retrieve all snapshots and transactional logs captured of the source database at that point in time and create a cloned database (e.g., the cloned database 660A) from those snapshots and transactional logs. The cloned database (e.g., the cloned database 660A) represents the state of the source database at the requested point in time. If the user request is to clone the source database based on a particular available snapshot, the clone management system (e.g., the clone management system 635A) may retrieve that particular snapshot and create a cloned database (e.g., the cloned database 660A) from that particular snapshot. The cloned database (e.g., the cloned database 660A) represents the state of the source database (e.g., the source database 650A) at the time the requested snapshot was captured. Thus, the clone management systems 635 are configured to create the cloned databases 660. The clone management systems 635 are also configured to refresh the cloned databases 660, as well as manage/perform any operations performed on the cloned databases.

[0108] Referring now to FIGS. 7A-7F in conjunction with FIGS. 6 and 4A, example user screenshots illustrating the cloning of a source database are shown, in accordance with some embodiments of the present disclosure. To clone a source database, the user may start from dashboard 700 of FIG. 7A. The dashboard 700 is similar to the dashboard 400. To create a clone of a source database, the user may select the option "time machines" from main menu 705. Upon selecting the option "time machines" from the main menu 705, the user may select a particular source database to be cloned. Alternatively, in some embodiments, the user may first select the source database to be cloned and then select the option "time machines" from the main menu 705. Upon selecting the source database to be cloned, the database protection system instance associated with the source database is activated. Further, the database protection system instance displays, in a body 710 of the dashboard 700, a summary section 715. The summary section 715

may display one or more configurational features of the source database such as the database engine type (e.g., type in FIG. 7A), how long ago was the source database created (e.g., age), the last time the source database was updated (e.g., last update), the next period for capturing a transactional log (e.g., next log catch up), name of the source database (e.g., name), the number of clones previously made of the source database (e.g., clones), the SLA level of the source database (e.g., SLA), and the protection schedule (e.g., schedule). In other embodiments, other or additional details may be provided in the summary section 715.

[0109] The database protection system instance may also display within the body 410 a menu section 720 that provides options of operations that the user may perform on the source database. For example, the user may select a clone option 725A to create a new clone of the source database. The user may elect to manually capture transactional logs or snapshots by interacting with log catch up option 725B and snapshot option 725C, respectively. Similarly, the user may perform other operations by selecting another one of options 725D. Depending upon the options that the user is authorized to make, some of the options 725A-725D may be inactivated. Further, although specific options are shown in FIG. 7A, the number and types of options may vary from one embodiment to another. The database protection system instance may also display a calendar 730 visually representing the SLA associated with the source database. For example, the calendar 730 may include a color coded legend to represent the duration for the continuous, daily, weekly, monthly, and quarterly protection parameters for a selected number of months. For example, the calendar 730 of FIG. 7A shows five months (May-September) with dates highlighted based upon the protection parameter that applies to that date.

[0110] For example, by looking at the calendar 730, the user may quickly determine that August 20-September 19 fall under the continuous protection parameter, July 21-August 19 fall under the

daily protection parameter, and July 5, 12, and 19 are days when the weekly protection parameter applies. The calendar 730 may also show the dates when manual snapshots and/or transactional logs were captured of the source database (e.g., on June 7, July 13, August 19). Further, upon selecting a particular date, the user may view additional details of available snapshots and transactional logs for that date from which a clone may be created. For example, in FIG. 7A, August 21 is shown as selected. Thus, in a display portion 735, a time scale shows the available snapshots/transactional logs. Since August 21 falls under the continuous protection parameter, the user may select any time on the time scale to create a clone of the source database. If for example July 25 is selected by the user, the display portion 735 may highlight the time on the time scale at which the daily snapshot was captured (as identified from the protection schedule) and which the user may be able to select to create a clone from. Thus, the body 710 of the dashboard 700 provides a user friendly, visual, and intuitive interface for easily and quickly determining how the source database is protected and the level of protection that is available to that source database on any given day.

[0111] To clone the source database, the user may select the clone option 725A. Upon selecting the clone option 725A, the database protection system instance and particularly the clone management system of the source database initiates the cloning process. The cloning process may include three distinct operations: a time operation to identify whether the user desires to create the clone based on an available snapshot or to a point in time, a server operation to either create a new target database VM to house the clone of the source database or select a previously created target database VM, and a database operation to create the clone of the source database on the target database VM. Selecting the clone option 725A triggers the time operation by displaying a user interface 740 shown in FIG. 7B.

[0112] The user interface 740 solicits a clone name 740A, a date from a calendar 740B from which the clone is desired, and one of a point in time option 740C or snapshot option 740D. If the user desires to clone the source database to a point in time, the user may select the point in time option 740C and if the user desires to create the clone from an available snapshot, the user may select the snapshot option 740D. Upon providing the information requested in the user interface 740, the user may interact with (e.g., click on) a next button 740E, which opens user interface 745 of FIG. 7C. The dialog box 745 is shown for a point in time selection. Thus, the user interface 745 may solicit the exact time from which the clone is to be created. The user interface 745 may display the times that are available for the user to select for the point in time option. Specifically, the user interface 745 may display a time scale 745A, which may include an activated slot from which the user may pick a time and an inactivated slot that is unavailable to the user. For example, the time scale 745A shows an activated slot 745B and an inactivated slot 745C. The user may pick (e.g., by interacting with the time scale 745A or by entering the time in box 745D) a time from the activated slot 745B for creating the clone. For example, if the user selects 5:00 from the activated slot 745B, the corresponding clone management system is configured to create a clone based on the state of the source database at 5:00.

[0113] It is to be understood that the activated slot 745B corresponds to the protection parameter of the SLA and the protection schedule. For example, if the date that the user selected on the calendar 740B falls under the daily protection parameter and the protection schedule indicates that the daily snapshot is captured at 11:00AM, in some embodiments, the user may be able to only select 11:00AM for the clone. In other embodiments, the user may still be allowed to select times other than 11:00AM as well. However, since only a daily snapshot is available for that date, the clone may be based on the daily snapshot of 11:00AM.

[0114] If the user selects the snapshot option 740D in FIG. 7B, the user interface 745 may look somewhat different and may present options to allow the user to select one or more available snapshots to create a clone from. Upon selecting the point in time or the available snapshot, the user may interact with a next button 745E to display user interface 750 of FIG. 7D. The user interface 750 allows the user to either create a new target database VM 750A on the target database storage (e.g., the target database storage 655) or select an existing target database VM 750B. To create a new target database VM, the database protection system instance may solicit the target database VM name and one or more profiles (e.g., software profile, compute profile, network profile, database parameter profile), and any other desired or required information from the user. In some embodiments, one or more profiles may be same as that of the source database VM, while in other embodiments, the one or more profiles may vary from those of the source database VM. If the user selects the existing target database VM 750B, the user interface 750 may display a list of previously created target database VMs for the source database. In some embodiments, multiple target database VMs may be created for a particular source database. Upon providing the target database VM information, the user may interact with a next button 750C to display a user interface 755 of FIG. 7E.

[0115] In the user interface 755, the user may specify details of the cloned database. For example, the database protection system instance may solicit a name 755A of the cloned database, a password 755B if desired, and any other information that is desired or needed. Upon interacting with a clone button 755C, the database protection system instance creates the clone of the source database based upon the inputs received from the user in FIGS. 7A-7D. Interacting with the clone button 755C may display a user interface 760 of FIG. 7F, which shows the status of the clone. The database protection system instance may retrieve the snapshot(s) and/or the transactional logs and

create the clone therefrom. For the point in time option, the database protection system instance may use both snapshots and transactional logs to create the cloned database, while for the available snapshot option, the database protection system instance may use only the available snapshot. The database protection system instance may also create a new target database VM (if a new target database VM is selected by the user). Once the cloned database is created, the cloned database may be displayed within the dashboard 700. Thus, the dashboard 700 provides an easy and convenient mechanism to clone source databases.

[0116] Turning now to FIG. 8 and referring to FIG. 8 in conjunction with FIGS. 6 and 7A-7F, an example flowchart outlining operations of a process 800 is shown, in accordance with some embodiments of the present disclosure. The process 800 may include additional, other, or different operations depending upon the embodiment. The process 800 may be used to create a cloned database from a source database. The process 800 may be implemented by the clone management systems 635 of the database protection system instances 630. The process 800 starts at operation 805 with the database protection system instances 630 receiving a user request for creating a clone. As discussed in FIG. 7A, the user may request creation of a clone of a source database via the dashboard 700. Upon receiving the user request, the database protection system instances 630 corresponding to the source database being clones is activated. The activated one of the database protection system instances 630 receives selection from the user of creating the clone from either a point in time or from an available snapshot. If the user selects the point in time option, the process 800 proceeds to operation 810. At the operation 810, the activated one of the database protection system instances 630 presents user interface, via the dashboard 700, to the user to receive selection of a specific time at which the clone is to be created. The clone is created based on the state of the source database at that specific time. At operation 815, the activated one of the

database protection system instances 630 retrieves the snapshot corresponding to that specific time or the snapshot that is available closest to that specific time.

[0117] At operation 820, the activated one of the database protection system instances 630 retrieves any transactional logs that may be needed. For example, if the snapshot that is retrieved at the operation 815 is captured at the specific time selected by the user at the operation 810, then the source database may be cloned from the snapshot of the operation 815. However, if the snapshot of the operation 815 is created before or after the specific time selected by the user, then one or more transactional logs may exist between the time the snapshot is captured and the specific time. For example, if the specific time is 11:00 AM and the closest snapshot to 11:00 AM is from 10:00 AM, the database protection system instance 630 may determine if there are transactional logs available between 10:00 AM and 11:00 AM. The database protection system instance 630 may retrieve any transactional logs that may be available. If no transactional logs are available between 10:00 AM and 11:00 AM, the database protection system instance 630 may create the clone from the snapshot of 10:00 AM. Thus, at the operation 820, the activated one of the database protection system instances 630 determines if a transactional log is needed or exists, and retrieves those transactional log(s).

[0118] Additionally, at operation 825, the activated one of the database protection system instance 630 receives selection for a target database VM from the user. As indicated above, the user may either create a new target database VM or use an existing target database VM for storing the cloned database. If the activated one of the database protection system instances 630 receives selection for creating a new target database VM from the user, the database protection system instance may solicit information (e.g., name, profiles, etc.) from the user to create the target database VM. The target database VM may be associated with the target database storage. Alternatively, if the user

desires to use an existing target database VM, the activated one of the database protection system instance 630 may present a list of existing target database VMs created previously for the source database. The user may select one of the existing target database VMs from the list. At operation 830, the activated one of the database protection system instances 630 creates the cloned database from the snapshot of the operation 815 and any transactional logs of the operation 820. The database protection system instances 630 stores the cloned database, at operation 835, on the target database VM, and the process 800 ends at operation 840.

[0119] If at the operation 805, the user selects the option of creating a clone from an available snapshot, the process 800 proceeds to operation 845. At the operation 845, the activated one of the database protection system instances 630 solicits the user to select the snapshot from which the clone is to be created. Upon receiving the user's selection of the available snapshot, at operation 850, the activated one of the database protection system instance 630 retrieves that snapshot. Before, after, or along with retrieving the snapshot, at the operation 825, the database protection system instance 630 may either create a new target database VM or identify an existing target database VM to use. At the operations 830 and 835, the database protection system instance 630 creates the clone of the source database and stores the cloned database on the target database VM. Again, the process 800 ends at the operation 840.

[0120] Returning back to FIG. 6, the cloned databases 660 of the source databases 650 are created from snapshots and transactional logs. Thus, to be able to create the cloned databases 660, snapshots and transactional logs are needed of the source databases 650. The snapshots and transactional logs may be captured via the snapshot/log capturing systems 640. The snapshot/log capturing systems 640 may be configured with the protection schedule and the SLA that are defined by the user when the source databases 650 are created or registered with the database

system 600. The protection schedule defines, among other things, the frequency of capturing snapshots and transactional logs each day. Thus, based upon the protection schedule, the snapshot/log capturing systems 640 may instruct a data manager of the source databases 650 to capture snapshots and transactional logs automatically. As discussed above, an instance of a data manager may be associated with each source database that is created on the source database storage 645. For example, the source database 650A may be associated with a database manager 665A, the source database 650B may be associated with a data manager 665B, and the source database 650N may be associated with a database manager 665N. The database managers 665A-665N are collectively referred to herein as database managers 665. Although not shown, in some embodiments, the cloned databases 660 may each be associate with a database manager as well.

[0121] The database managers 665 are configured to capture the snapshots and the transactional logs upon instruction from the snapshot/log capturing systems 640. The database managers 665 may include an agent that captures the snapshots and the transactional logs based on the protection schedule received from the snapshot/log capturing systems 640. Thus, the database manager 665A may include an agent 670A, the database manager 665B may include an agent 670B, and the database manager 665N may include an agent 670N. The agents 670A-670N are collectively referred to herein as agents 670. Each of the agents 670 is an autonomous software program that is configured for performing one or more specific and approved operations. For example, each of the agents 670 may be configured to capture snapshots and transactional logs based upon the protection schedule, and store the captured snapshots and transactional logs in a repository associated therewith. The clone management systems 635 may retrieve the snapshots and transactional logs from the repositories when creating a clone of the source databases 650. For example, the agent 670A may be configured to store the captured snapshots and transactional logs

in a repository 675A that is configured for the source database 650A, the agent 670B may be configured to store the captured snapshots and transactional logs in a repository 675B that is configured for the source database 650B, and the agent 670N may be configured to store the captured snapshots and transactional logs in a repository 675N that is configured for the source database 650N. The repositories 675A-675N are collectively referred to herein as repositories 675.

[0122] For example, if the protection schedule specifies capturing 2 snapshot every day and capturing a transactional log every 2 hours for the source database 650A, the agent 670A may capture 2 snapshots of the source database 650A and a transactional log every 2 hours such that in a 24-hour period, the agent captures 2 snapshots and 12 transactional logs. Further, if the continuous protection parameter in the SLA specifies a continuous protection of 30 days, the agent 670A may be configured to save all snapshots and transactional logs captured in the previous 30 days (not including the current day). Thereafter, the agent 670A may purge (e.g., delete) some of the snapshots and transactional logs based upon the protection parameters defined in the SLA level. For example, if the SLA level specifies a daily protection parameter of 30 days after the duration of the continuous protection parameter expires, the agent 670A may be configured to delete all but one snapshot that were captured before the previous 30 days, as well as delete all the transaction logs captured before the previous 30 days. The snapshot that is saved as the daily snapshot may be the snapshot that is closest to the daily snapshot time specified in the protection schedule. For example, if the time specified in the protection schedule is 11:00 AM for the daily snapshot, the snapshot that is captured at 11:00AM or closest to 11:00 AM is saved and all other snapshots captured on that day are deleted. Thus, the agent 670A is configured to capture and manage snapshots and transactional logs.

[0123] Referring to FIGS. 9A-9G in conjunction with FIG. 6, an example flow diagram outlining operations of how an agent (e.g., the agents 670) of a database (e.g., the source databases 650) may capture, store, and purge snapshots and transactional logs based upon the protection schedule and protection parameters defined in the SLA level is shown, in accordance with some embodiments of the present disclosure. Simply for purposes of explanation, FIGS. 9A-9G show the flow for an SLA that requires a continuous protection of 7 days and a daily protection thereafter for 7 days. Thus, the SLA defines the continuous protection parameter as 7 days and the daily protection parameter as 7 days. Further, FIGS. 9A-9G are based on a protection schedule that specifies capturing 1 snapshot every day and 3 transactional logs every day. It is to be understood that the SLA definitions and the protection schedule above is only an example and not intended to be limiting in any way.

[0124] FIG. 9A shows the contents of a database 900 on a first day of the continuous 7 days. Since the protection schedule specifies capturing 1 snapshot every day, on the first day, the agent associated with the database 900 captures a snapshot 905. The time of the day at which the snapshot 905 is captured may either be defined in the protection schedule or may be pre-defined within the agent capturing the snapshot. Additionally, as shown in FIG. 9B, on the first day, the agent associated with the database 900 also captures 3 transactional logs (e.g., one transactional log every 8 hours) 910. On the second day, as shown in FIG. 9C, the agent associated with the database 900 captures another snapshot 915 and 3 transactional logs 920 shown in FIG. 9D. The agent associated with the database 900 continues to capture snapshots and transactional logs for 7 days to satisfy the continuous protection parameter and provide continuous protection for 7 days as defined in the SLA level. Thus, as shown in FIG. 9D, by the end of the seventh day, the agent associated with the database 900 has captured the snapshots 900, 915, snapshots 925A-925E, the

transactional logs 910, 920, and 930A-930E. On the eighth and following days, the agent associated with the database 900 continues to capture snapshots (e.g., snapshot 935) and 3 transactional logs 940 shown in FIG. 9E.

[0125] However, since the SLA requires 7 days of continuous protection, after the 7 days, the continuous protection is not required and the agent may purge some of the captured snapshots and transactional logs, again based on the definitions in the SLA. As indicated above, the SLA of FIGS. 9A-9G defines a daily protection parameter of 7 days for daily protection after the expiration of the 7 days of continuous protection. Thus, on the ninth day, the snapshot 905 captured on the first day is greater than 7 days old. Since only one snapshot is captured every day, the agent associated with the database 900 maintains the snapshot as the daily snapshot. If multiple snapshots are captured each day, the agent associated with the database 900 may delete all snapshots except one. Further, since the daily protection parameter provides guarantee of a daily snapshot, the agent may delete all of the transactional logs that were captured that day. Therefore, as shown in FIGS. 9E and 9F, on the ninth day, the snapshot 905 may continue to be stored as the daily snapshot but the transactional logs 910 may be deleted. Further, on the ninth day, the agent associated with the database 900 captures another snapshot 945 to continue to provide a continuous protection for the past 7 days.

[0126] Similarly, on each day, from days 10-14, the agent associated with the database 900 continues to delete the transactional logs that are older than 7 days, and capture a new snapshot and 3 transactional logs (e.g., snapshots 950A-950E and transactional logs 955A-955E shown in FIG. 9G). Thus, the agent associated with the database 900 continues to capture snapshots and transactional logs based upon the SLA level and the protection schedule, and deletes some of the snapshots and transactional logs that are no longer required to satisfy the SLA level.

[0127] Snapshots of a source database may be captured by creating a snapshot of the source database VM and a snapshot of the source database itself. Specifically, a snapshot may be an image/copy of the location of the storage files associated with the virtual disks of the source database and an image/copy of the location of the configuration files associated with the source database VM. The virtual disk(s) on which the source database is stored may be composed of or divided into one or more memory blocks. The snapshot/log capturing systems 640 may capture images or copies of the memory blocks for capturing snapshots. A copy of the memory blocks may be made by identifying the memory pointer (e.g., location) assigned to each memory block and copying the memory pointer to a repository (e.g., the repositories 675). During a first snapshot of the memory blocks, the contents of all the memory blocks may be copied to the repositories 675. After the first snapshot is captured, transactional logs may be captured based upon the protection schedule to record all transactions or changes in the source database after the capture of the first snapshot. Capturing a transactional log may be referred to herein as a log catch up operation.

[0128] For example, say the protection schedule defines capturing 2 snapshots each day and 2 transactional logs between the 2 snapshot captures. If the source database includes 1000 memory blocks, the first snapshot creates copies of all the 1000 memory blocks. Capturing a snapshot involves pausing the source database such that no user operations are performed while the source database is being snapshotted, creating copies of the memory blocks (and other information such as the configuration file of the source database VM, etc.), and unpausing the source database. Since snapshots temporarily halt operation of the source database, taking frequent snapshots of the source database is not practical or desirable. However, to accurately capture the state of the source database in between two snapshot captures and allow creation of cloned databases to satisfy the

SLA (e.g., the continuous protection parameter), transactional logs may be captured between two snapshot captures. The frequency of capturing transactional logs may be higher than the frequency of capturing the snapshots. Thus, for example and continuing the example above, if after capturing the first snapshot, 4 out of the 1000 memory blocks of the source database have changed (e.g., due to data being updated, new data being added, etc.), the agents 670 create a first transactional log based upon the protection schedule. The first transactional log may reflect that the 4 blocks have changed since the last snapshot capture. Specifically, the first transactional log may include memory pointers to the 4 memory blocks that have changed. Thus, instead of copying all of the 1000 memory blocks, the first transactional log only copies the changes since the last snapshot capture, thereby saving space and time. Similarly, based upon the protection schedule, the agents 670 may capture a second transactional log after the first transactional log. The second transactional log may determine which memory blocks have changes since the first snapshot capture.

[0129] For example, if the agents 670 determine that 6 memory blocks have changed since the first snapshot capture, the second transactional log may include memory pointers back to the first snapshot indicating which 6 of the memory blocks have changed. The 6 memory blocks that changed at the time of capturing the second transactional log may or may not include the 4 memory blocks that changed at the time of capturing the first transactional log. Thus, each transactional log that is captured identifies the memory blocks that have changed since the previous snapshot capture and include memory pointers to those changed memory blocks. When the source database is cloned, say to a state when the second transactional log is captured, the associated one of the clone management systems 635 may recreate the source database from the first snapshot and the second transactional log. Specifically, the associated one of the clone management systems 635

may determine (e.g., from the memory pointers in the second transactional log) which particular memory blocks have changed from the first snapshot. In the example above, the second transactional log includes memory pointers of the 6 memory blocks that have changed since the first snapshot capture. Thus, the agents 670 may create the cloned based on the 994 memory blocks from the first snapshot that have not changed plus the 6 memory blocks in the second transactional log that have changed. Thus, the cloned database reflects an accurate state of the source database at the time of the second transactional log capture.

[0130] Further, and continuing with the example above of capturing 2 snapshots and 2 transactional logs each day, the agents 670 may capture a second snapshot based upon the protection schedule. In some embodiments, the second snapshot may be a copy of all the memory blocks (e.g., all 1000 memory blocks in the example above) again and transactional logs that are captured after the second snapshot may identify changes in the memory blocks relative to the second snapshot. Thus, any changes made between the capture of the first snapshot and the capture of the second snapshot are reflected in the second snapshot. In other embodiments, the second snapshot may also be an incremental snapshot that reflects only which memory blocks have changed since the first snapshot capture. Thus, the second snapshot in such cases may take less time to create, as well as less space to store. The subsequent transactional logs may continue to make pointers to the first snapshot to reflect the memory blocks that change.

[0131] Advantageously, the snapshot and transactional log capturing efficiently only copies changes in the memory blocks. Furthermore, all transactions are recorded using transaction logs such that when a clone is created, the source database may be recovered based on both the snapshots and the transaction logs to any desired state. Further, since capturing a transactional log does not require pausing the source database, the transactional logs may be captured in background

while the source database is operating, and the transactional logs may be captured at a greater frequency than the snapshots. To capture a transactional log, the agents 670 maintain a small staging disk. The staging disk may be part of the repositories 675 or may be separately provisioned from those repositories. The staging disk may be dedicated or shared amongst the various source databases 650 and may be used to temporarily store the transactional logs. The agents 670 may sweep (e.g., collects) the transactional logs from the source database to the staging disk based upon the protection schedule. From the staging disk, the agents 670 may start the log catch up operation to move the transactional logs from the staging disk to the repositories 675. Thus, based upon a combination of snapshots and transactional logs, the state of the source database may be effectively and accurately replicated. While the snapshots and transactional logs may be automatically captured based upon the protection schedule, in some embodiments, the database engine 605 may allow the users to manually capture snapshots and transactional logs. Such an operation may be particularly useful if the user desires a state that falls between the capture of two snapshots and transactional logs.

[0132] Referring still to FIG. 6, the database storage system 620 may also include an external database manager 680. The source databases 650 that are created within the database system 600 are already configured to be snapshotted. However, databases that were created outside of the database system 600 and registered with the database system may not have been configured to be snapshotted. Thus, such databases need to be reconfigured to be able be snapshotted and protected by the database system 600. The reconfiguration may be part of the registration process or performed after those databases have been registered. To reconfigure the externally created databases, a process 1000 of FIG. 10 may be used. Referring to FIG. 10 in conjunction with FIG. 6, a flowchart outlining the operations of the process 100 is shown, in accordance with some

embodiments of the present disclosure. The process 1000 may include other, additional, or fewer operations depending upon the particular embodiment. The process 1000 may be implemented by the database engine 605.

[0133] The process 1000 starts at operation 1005 and at operation 1010, a complete back up of the external database is made by the external database manager 680. The complete backup includes a complete copy of the external database. In other words, the actual data of the database is copied when creating a back-up. Knowledge about the structure of the underlying storage (e.g., the virtual disks) of a database is not needed when a back-up is created. In contrast, snapshotting requires knowledge of the underlying storage (e.g., virtual disks) since no actual copy of the data is made. Rather, when a snapshot is captured, a copy of the location of the virtual disk where the data is stored is made. Thus, to configure the external database for capturing snapshots and transactional logs, the external database is backed up to a storage disk (e.g., virtual disk), the structure of which is known to the database engine 605. The back-up copy may be considered the source database for purposes of protection and may be part of the source database storage 645. Further, an instance of a database manager may be associated with the back-up copy to create clones from the back-up copy.

[0134] In some embodiments, the operation 1010 may be performed as part of the registration process when the external database is registered with the database system 600. In other embodiments, the operation 1010 may be performed after the registration process. Since the back-up of the external database is to a known structure of the storage disk, snapshots and transactional logs may be created from the back-up copy. Thus, at operation 1015, snapshots and transactional logs may be captured of the external database from the back-up copy. The process of capturing snapshots and transactional logs from the back-up copy is the same as that of a database created

internally within the database system 600. The snapshots and transactional logs may be stored within the repositories 675 and clones may be created from those snapshots or a combination of snapshots and transactional logs.

[0135] Thus, at operation 1020, upon receiving a user request to create a clone of the external database, the database manager associated with the back-up copy of the external database may create a cloned database from the back-up copy. The clone creation process is same as discussed above. The cloned database may be stored within the target database storage 655. In some embodiments, the user may desire to store the external database outside of the database system 600 or on a system that is not compatible with the database system. Thus, at operation 1025, a user may request storing the cloned database to an external location. The database engine 605 and particularly the external database manager 680 may reconfigure the cloned database to a form that is compatible with the external location and at operation 1030, send the reconfigured database to the external location. The database engine 605 may continue to make snapshots and transactional logs of the back-up copy of the operation 1010 based upon the SLA and protection schedule defined for the external database during the registration process. When the user request of the operation 1020 is received, the database engine 605 may create the clone of the external database, reconfigure the cloned database, and send it to the external location. The process 1000 ends at operation 1035.

[0136] Thus, the database system of the present disclosure is a versatile system for creating and managing databases. A variety of operations may be performed on the databases associated with the database system using a user friendly and intuitive user interface.

[0137] It is to be understood that any examples used herein are simply for purposes of explanation and are not intended to be limiting in any way. It is also to be understood that any examples used

herein are simply for purposes of explanation and are not intended to be limiting in any way. Further, although the present disclosure has been discussed with respect to memory usage, in other embodiments, the teachings of the present disclosure may be applied to adjust other resources, such as power, processing capacity, etc.

[0138] The herein described subject matter sometimes illustrates different components contained within, or connected with, different other components. It is to be understood that such depicted architectures are merely exemplary, and that in fact many other architectures can be implemented which achieve the same functionality. In a conceptual sense, any arrangement of components to achieve the same functionality is effectively "associated" such that the desired functionality is achieved. Hence, any two components herein combined to achieve a particular functionality can be seen as "associated with" each other such that the desired functionality is achieved, irrespective of architectures or intermedial components. Likewise, any two components so associated can also be viewed as being "operably connected," or "operably coupled," to each other to achieve the desired functionality, and any two components capable of being so associated can also be viewed as being "operably couplable," to each other to achieve the desired functionality. Specific examples of operably couplable include but are not limited to physically mateable and/or physically interacting components and/or wirelessly interactable and/or wirelessly interacting components and/or logically interacting and/or logically interactable components.

[0139] With respect to the use of substantially any plural and/or singular terms herein, those having skill in the art can translate from the plural to the singular and/or from the singular to the plural as is appropriate to the context and/or application. The various singular/plural permutations may be expressly set forth herein for sake of clarity.

[0140] It will be understood by those within the art that, in general, terms used herein, and especially in the appended claims (e.g., bodies of the appended claims) are generally intended as "open" terms (e.g., the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.). It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases "at least one" and "one or more" to introduce claim recitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles "a" or "an" limits any particular claim containing such introduced claim recitation to inventions containing only one such recitation, even when the same claim includes the introductory phrases "one or more" or "at least one" and indefinite articles such as "a" or "an" (e.g., "a" and/or "an" should typically be interpreted to mean "at least one" or "one or more"); the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an introduced claim recitation is explicitly recited, those skilled in the art will recognize that such recitation should typically be interpreted to mean at least the recited number (e.g., the bare recitation of "two recitations," without other modifiers, typically means at least two recitations, or two or more recitations). Furthermore, in those instances where a convention analogous to "at least one of A, B, and C, etc." is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (e.g., "a system having at least one of A, B, and C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.).

In those instances where a convention analogous to "at least one of A, B, or C, etc." is used, in general such a construction is intended in the sense one having skill in the art would understand the convention (e.g., "a system having at least one of A, B, or C" would include but not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.). It will be further understood by those within the art that virtually any disjunctive word and/or phrase presenting two or more alternative terms, whether in the description, claims, or drawings, should be understood to contemplate the possibilities of including one of the terms, either of the terms, or both terms. For example, the phrase "A or B" will be understood to include the possibilities of "A" or "B" or "A and B." Further, unless otherwise noted, the use of the words “approximate,” “about,” “around,” “substantially,” etc., mean plus or minus ten percent.

[0141] The foregoing description of illustrative embodiments has been presented for purposes of illustration and of description. It is not intended to be exhaustive or limiting with respect to the precise form disclosed, and modifications and variations are possible in light of the above teachings or may be acquired from practice of the disclosed embodiments. It is intended that the scope of the invention be defined by the claims appended hereto and their equivalents.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Filer:	Paul S. Hunter/Emily Rogers
Attorney Docket Number:	115539-0436

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	320	320
UTILITY SEARCH FEE	1111	1	700	700
UTILITY EXAMINATION FEE	1311	1	800	800
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	1	100	100
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1920**

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PTO/AIA/01 (modified)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	115539-0217

Title of Invention	SYSTEM AND METHOD FOR PROVISIONING A DATABASE IN A HYPER CONVERGED INFRASTRUCTURE SYSTEM

As the below named inventor, I hereby declare that:

This declaration is directed to:

☒ The attached application, or

☐ United States application or PCT international application number _____ filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: BALASUBRAHMANYAM KUCHIBHOTLA Date (Optional): November 30, 2018

Signature: DocuSigned by: BALASUBRAHMANYAM KUCHIBHOTLA 5046EE798D084DB...

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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PTO/AIA/01 (modified)

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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF INVENTOR

Inventor: KAMALDEEP KHANUJA Date (Optional): November 29, 2018

Signature: DocuSigned by: KAMALDEEP KHANUJA E514083C97D04EC...

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	115539-0217

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☐ United States application or PCT international application number _____ filed on _____.

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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: JEREMY LAUNIER Date (Optional): November 29, 2018

Signature: DocuSigned by: Jeremy Launier 6121A43481C143C...

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

DocuSign Envelope ID: D727EBBB-B845-4AEF-9E97-FFE8E0121992

PTO/AIA/01 (modified)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	115539-0217

Title of Invention	SYSTEM AND METHOD FOR PROVISIONING A DATABASE IN A HYPER CONVERGED INFRASTRUCTURE SYSTEM

As the below named inventor, I hereby declare that:

This declaration is directed to:

☒ The attached application, or

☐ United States application or PCT international application number _____ filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: SUJIT MENON Date (Optional): November 29, 2018

Signature: DocuSigned by: sujit menon DDED94A58492408...

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

DocuSign Envelope ID: D727EBBB-B845-4AEF-9E97-FFE8E0121992

PTO/AIA/01 (modified)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	115539-0217

Title of Invention	SYSTEM AND METHOD FOR PROVISIONING A DATABASE IN A HYPER CONVERGED INFRASTRUCTURE SYSTEM

As the below named inventor, I hereby declare that:

This declaration is directed to:

☒ The attached application, or

☐ United States application or PCT international application number _____ filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: MANEESH RAWAT Date (Optional): November 30, 2018

Signature: DocuSigned by: maneesh rawat 646DB2967AC8451...

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

PTO/AIA/14 (01-22)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Balasubrahmanyam		Kuchibhotla	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	San Ramon	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1740 Technology Drive
Address 2	Suite 150

City	San Jose	State/Province	CA
Postal Code	95110	Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kamaldeep		Khanuja	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	Dublin	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1740 Technology Drive
Address 2	Suite 150

City	San Jose	State/Province	CA
Postal Code	95110	Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeremy		Launier	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

City	San Jose	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1740 Technology Drive		
Address 2	Suite 150		
City	San Jose	State/Province	CA
Postal Code	95110	Country	US

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Sujit		Menon	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1740 Technology Drive		
Address 2	Suite 150		
City	San Jose	State/Province	CA
Postal Code	95110	Country	US

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Maneesh		Rawat	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1740 Technology Drive		
Address 2	Suite 150		
City	San Jose	State/Province	CA
Postal Code	95110	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

Customer Number	147491		
Email Address	IPDocketing@foley.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM		
Attorney Docket Number	115539-0436	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	31	**Suggested Figure for Publication (if any)**	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	147491		

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	17/237599	2021-04-22

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
17/237599	Continuation of	16/234553	2018-12-27	11010336	2021-05-18

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Nutanix, Inc.		
Mailing Address Information For Applicant:			
Address 1	1740 Technology Drive		
Address 2	Suite 150		
City	San Jose	**State/Province**	CA
Country	US	Postal Code	95110
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Paul S. Hunter/			Date (YYYY-MM-DD)	2023-02-23
First Name	Paul S.	Last Name	Hunter	Registration Number	44787

Additional Signature may be generated within this form by selecting the Add button. Add

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	115539-0436
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

EFS Web 2.2.13

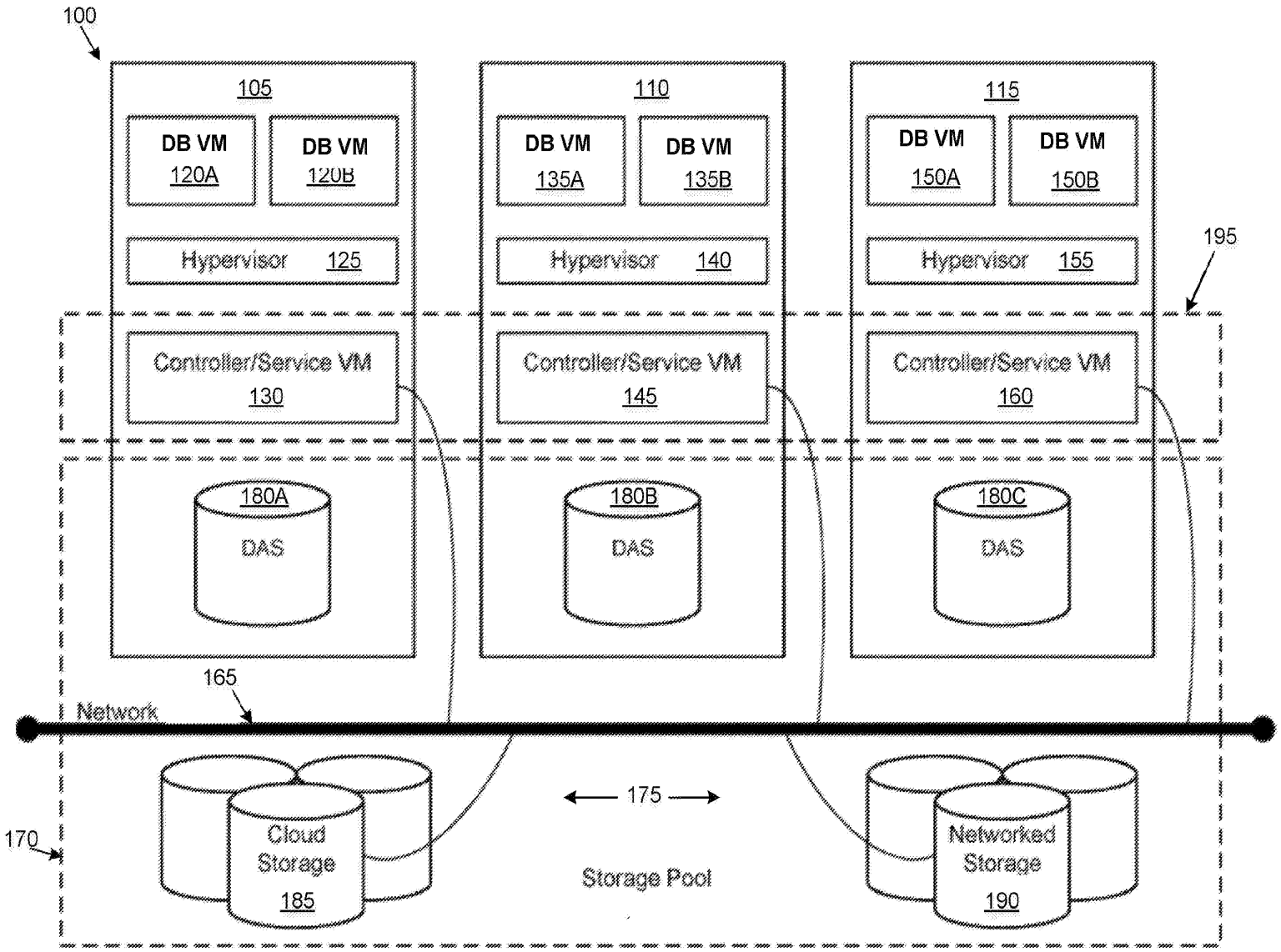

100
105
DB VM
120A
DB VM
120B
Hypervisor 125
Controller/Service VM
130
180A
DAS
110
DB VM
135A
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Hypervisor 140
Controller/Service VM
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180B
DAS
115
DB VM
150A
DB VM
150B
Hypervisor 155
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Storage Pool
Networked
Storage
190

FIG. 1

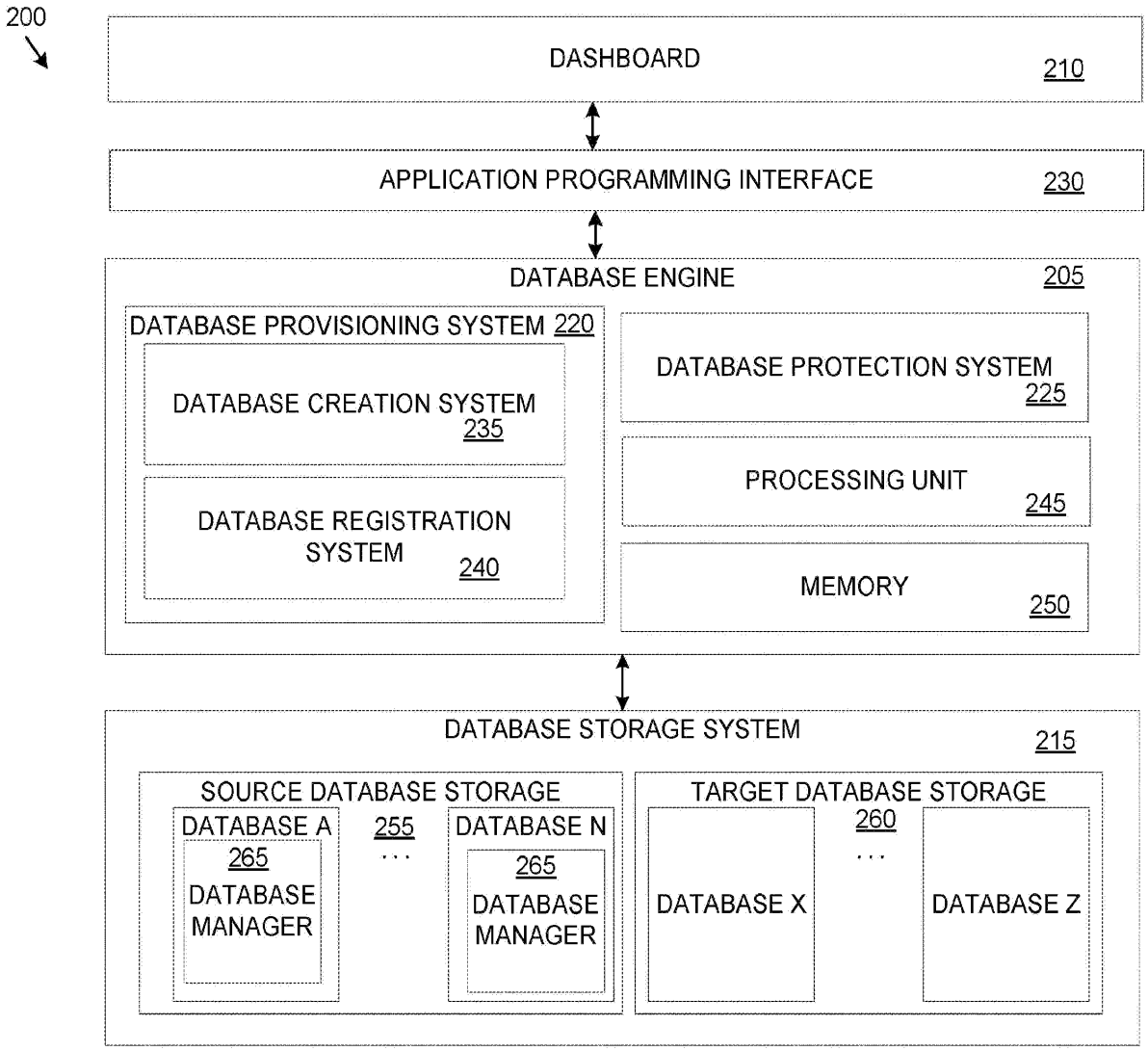

200
DASHBOARD
210
APPLICATION PROGRAMMING INTERFACE
230
DATABASE ENGINE
205
DATABASE PROVISIONING SYSTEM 220
DATABASE CREATION SYSTEM
235
DATABASE REGISTRATION SYSTEM
240
DATABASE PROTECTION SYSTEM
225
PROCESSING UNIT
245
MEMORY
250
DATABASE STORAGE SYSTEM
215
SOURCE DATABASE STORAGE
DATABASE A
265
DATABASE MANAGER
255
DATABASE N
265
DATABASE MANAGER
TARGET DATABASE STORAGE
260
DATABASE X
DATABASE Z

FIG. 2

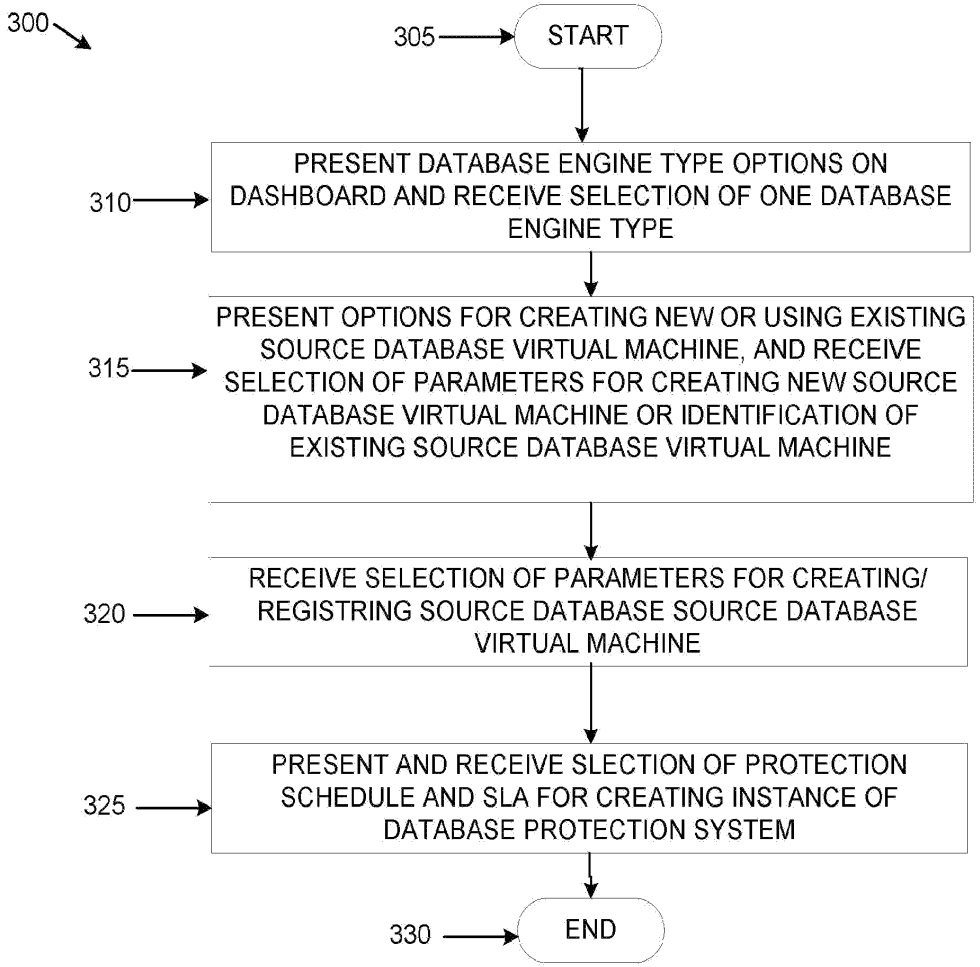

300
305
START
PRESENT DATABASE ENGINE TYPE OPTIONS ON DASHBOARD AND RECEIVE SELECTION OF ONE DATABASE ENGINE TYPE
310
PRESENT OPTIONS FOR CREATING NEW OR USING EXISTING SOURCE DATABASE VIRTUAL MACHINE, AND RECEIVE SELECTION OF PARAMETERS FOR CREATING NEW SOURCE DATABASE VIRTUAL MACHINE OR IDENTIFICATION OF EXISTING SOURCE DATABASE VIRTUAL MACHINE
315
RECEIVE SELECTION OF PARAMETERS FOR CREATING/ REGISTRING SOURCE DATABASE SOURCE DATABASE VIRTUAL MACHINE
320
PRESENT AND RECEIVE SLECTION OF PROTECTION SCHEDULE AND SLA FOR CREATING INSTANCE OF DATABASE PROTECTION SYSTEM
325
END
330

FIG. 3


400
415
405
420
425
Era
Dashboard
Admin
Databases
3
17
435B
Clone Data Age (Days)
About
Cluster
435D
Era
Version
Data Usage (TiB)
7.5x
Used
Savings over traditional cloning
Tasks (Last 5 days)
435C
0
43
Time Machines
Source Databases
Database Clones
Database Servers
Alerts (Last 5 days)
435E
1
4
435A
430
410

FIG. 4A

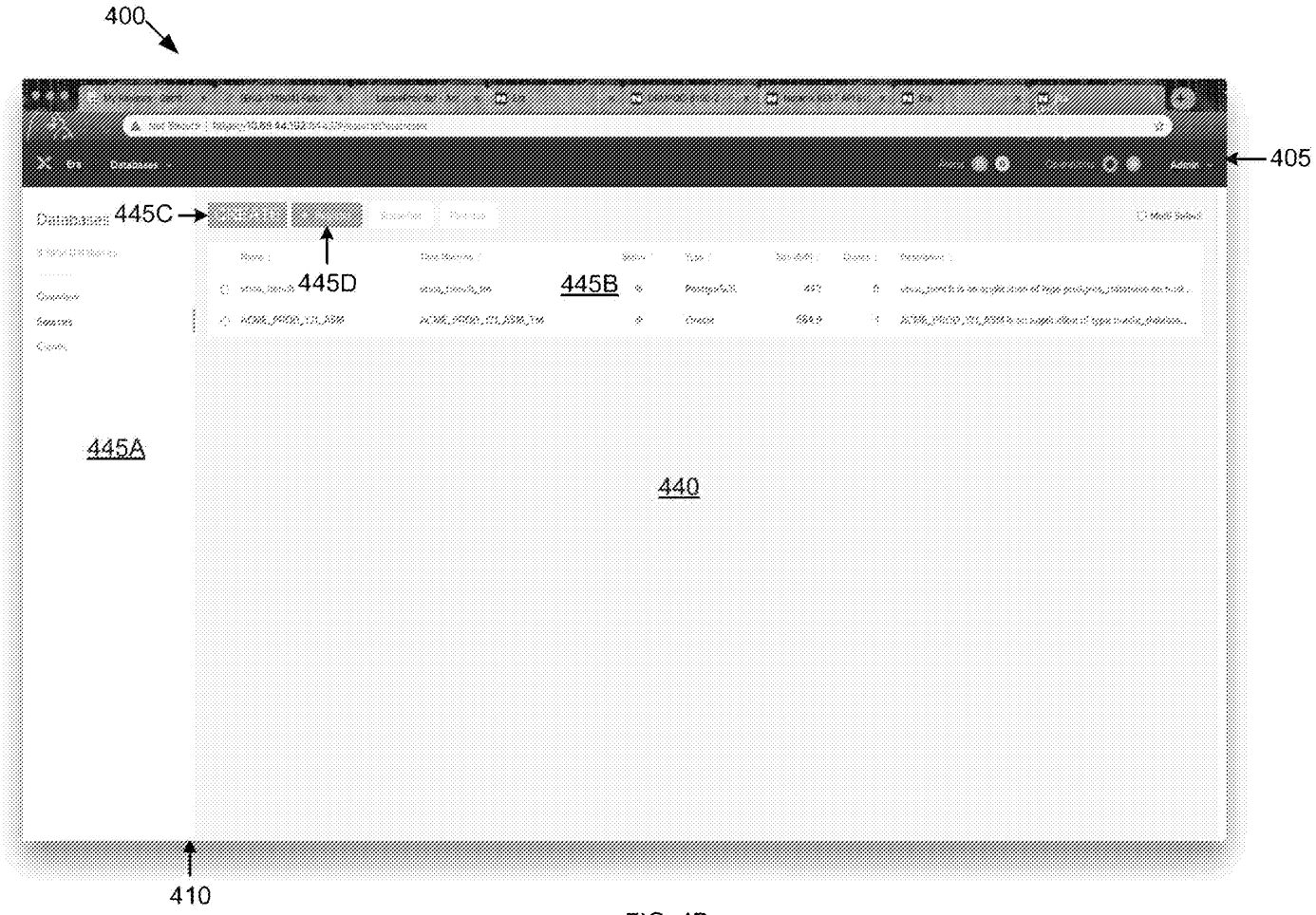


FIG. 4B

EX1002 - Page 92

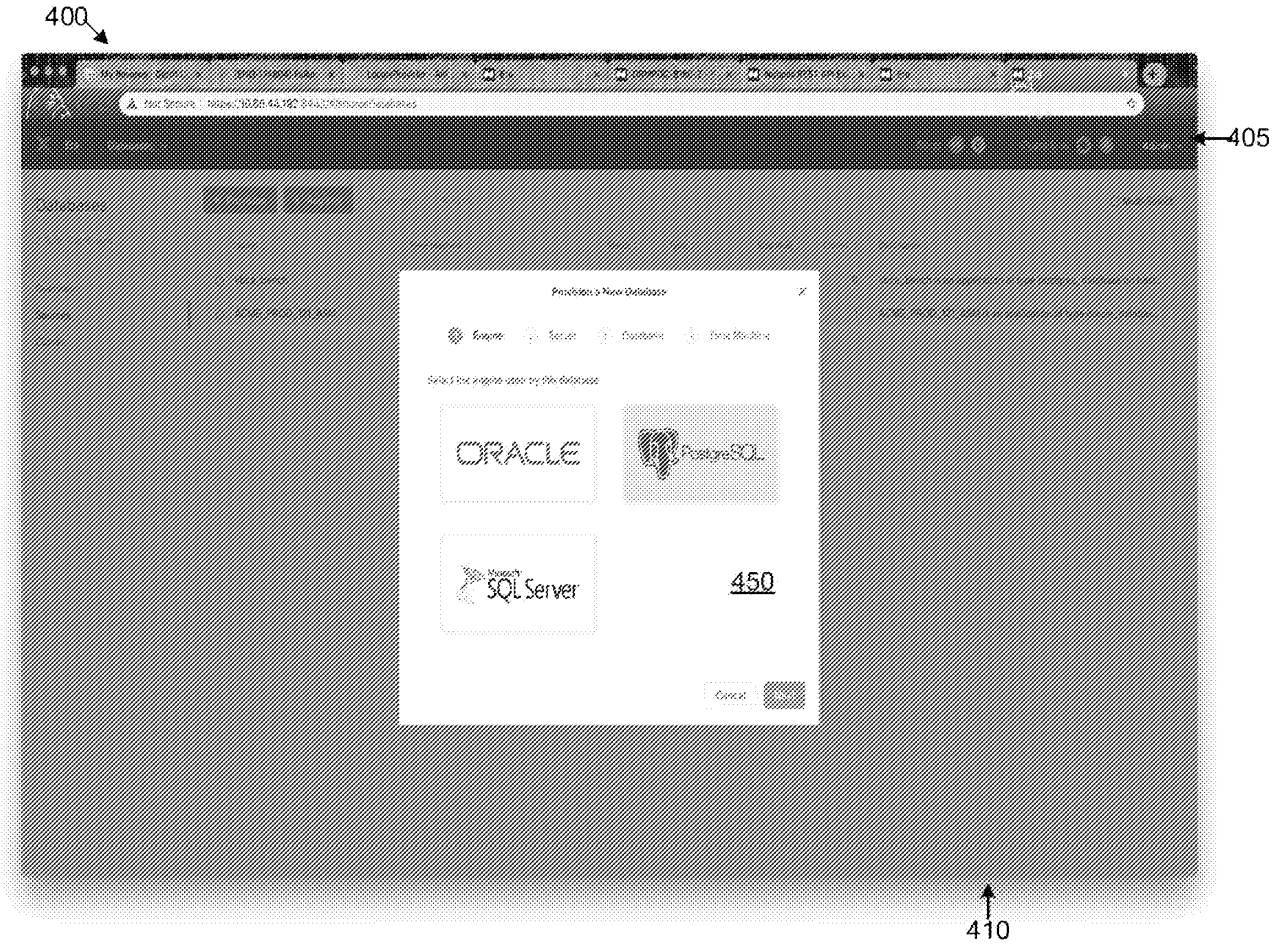


FIG. 4C

EX1002 - Page 93

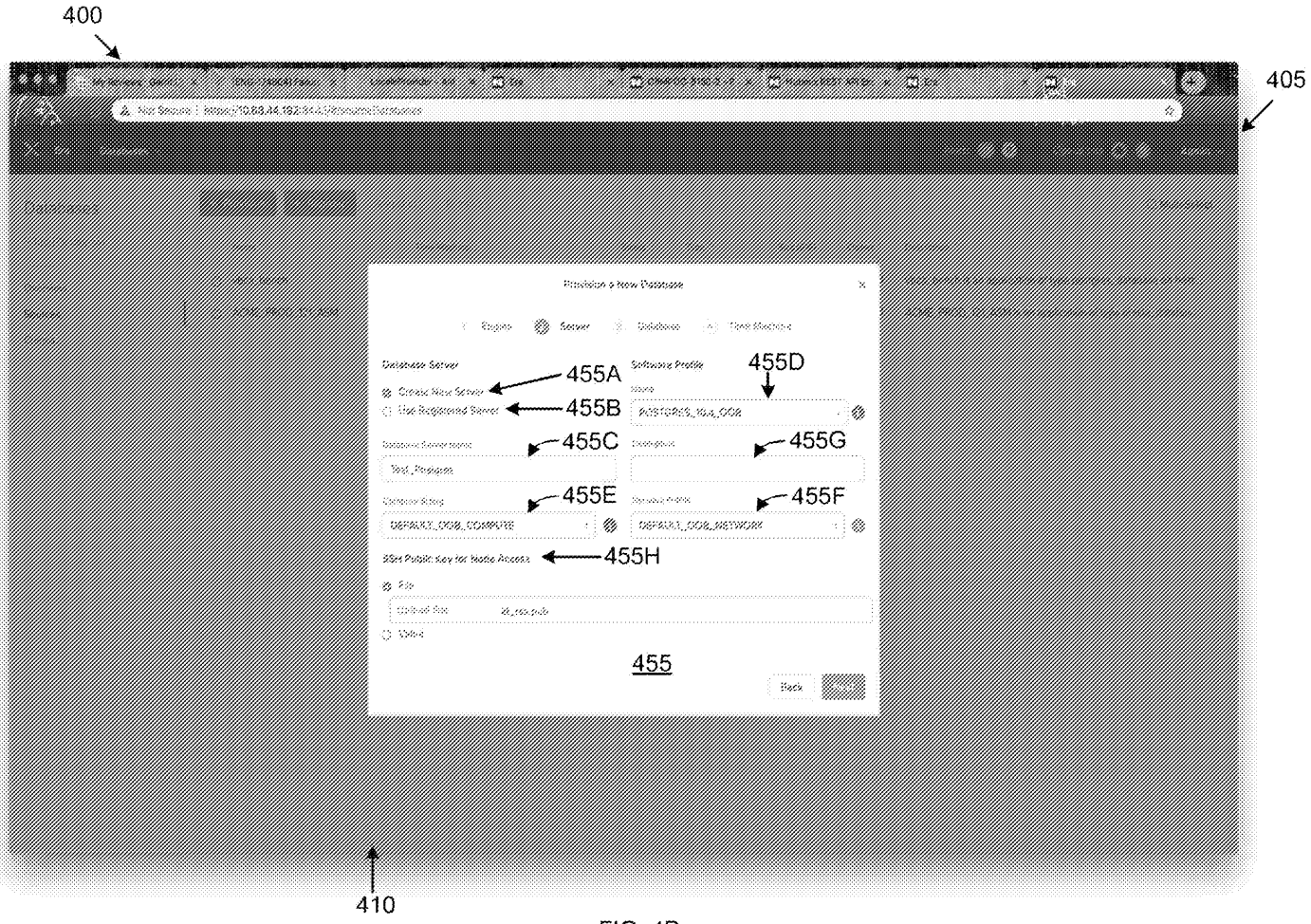


FIG. 4D

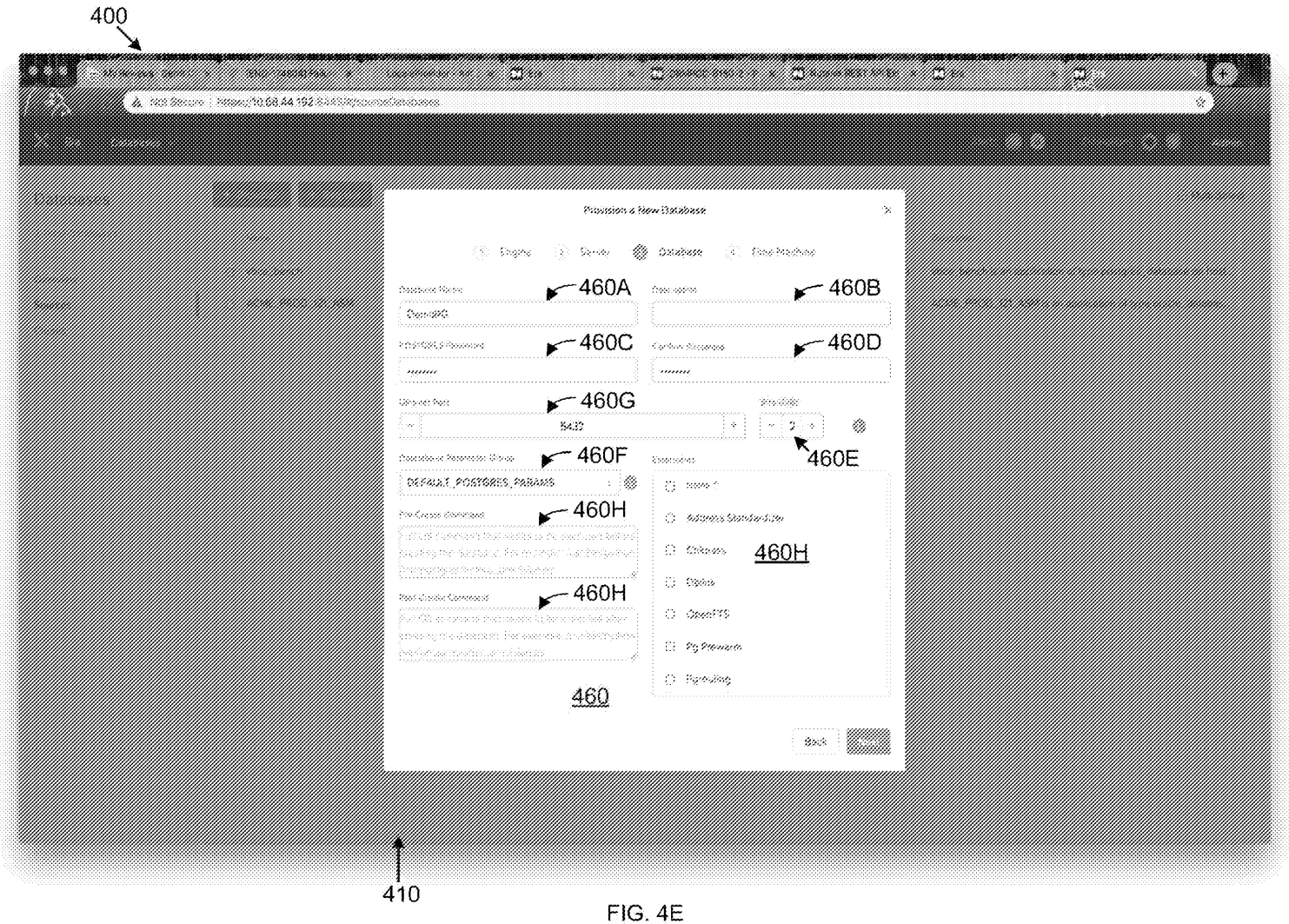


FIG. 4E

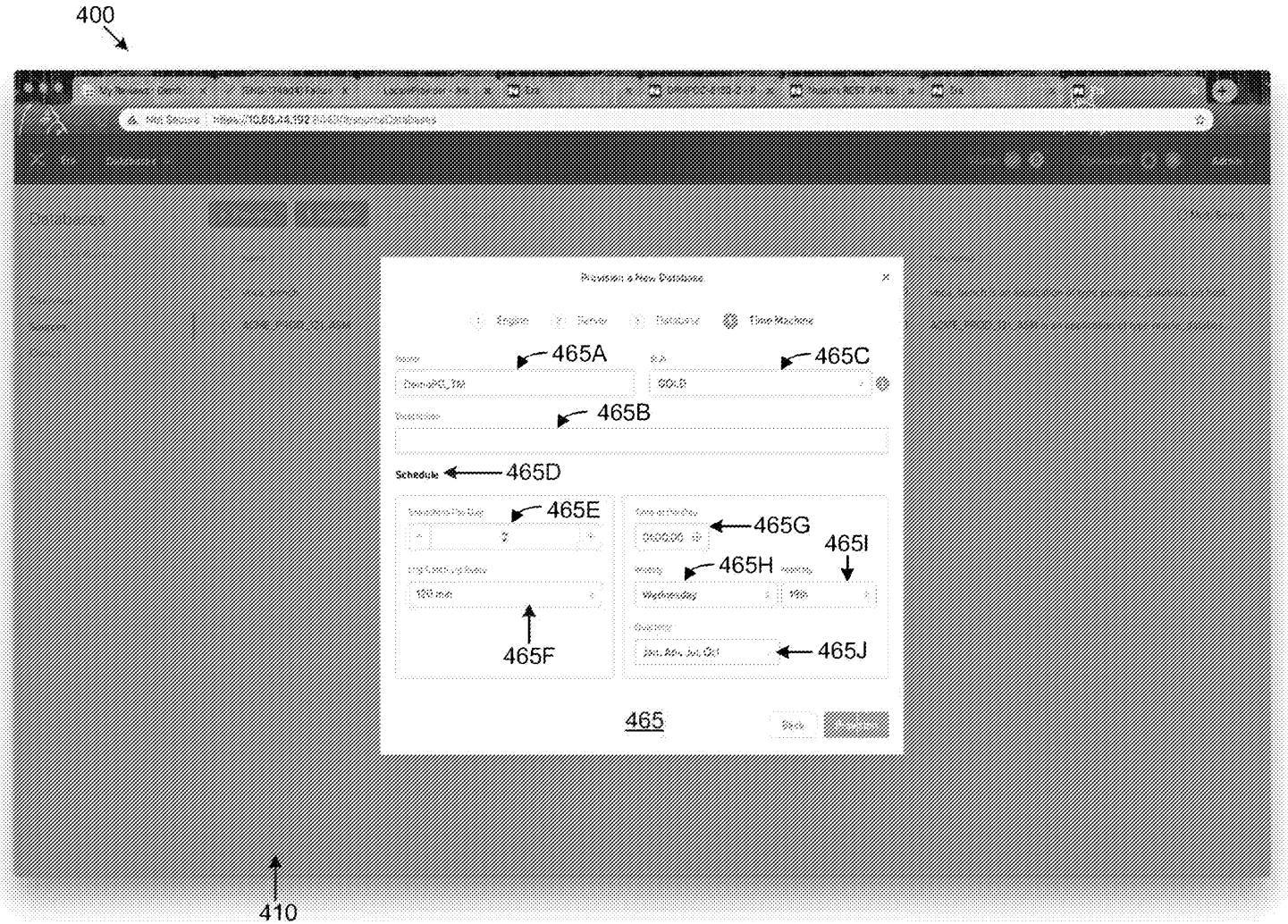

400
Provision a New Database
Engine
Server
Database
Time Machine
465A
465C
465B
Schedule
465D
465E
465G
465I
465H
465F
465J
465
410

FIG. 4F

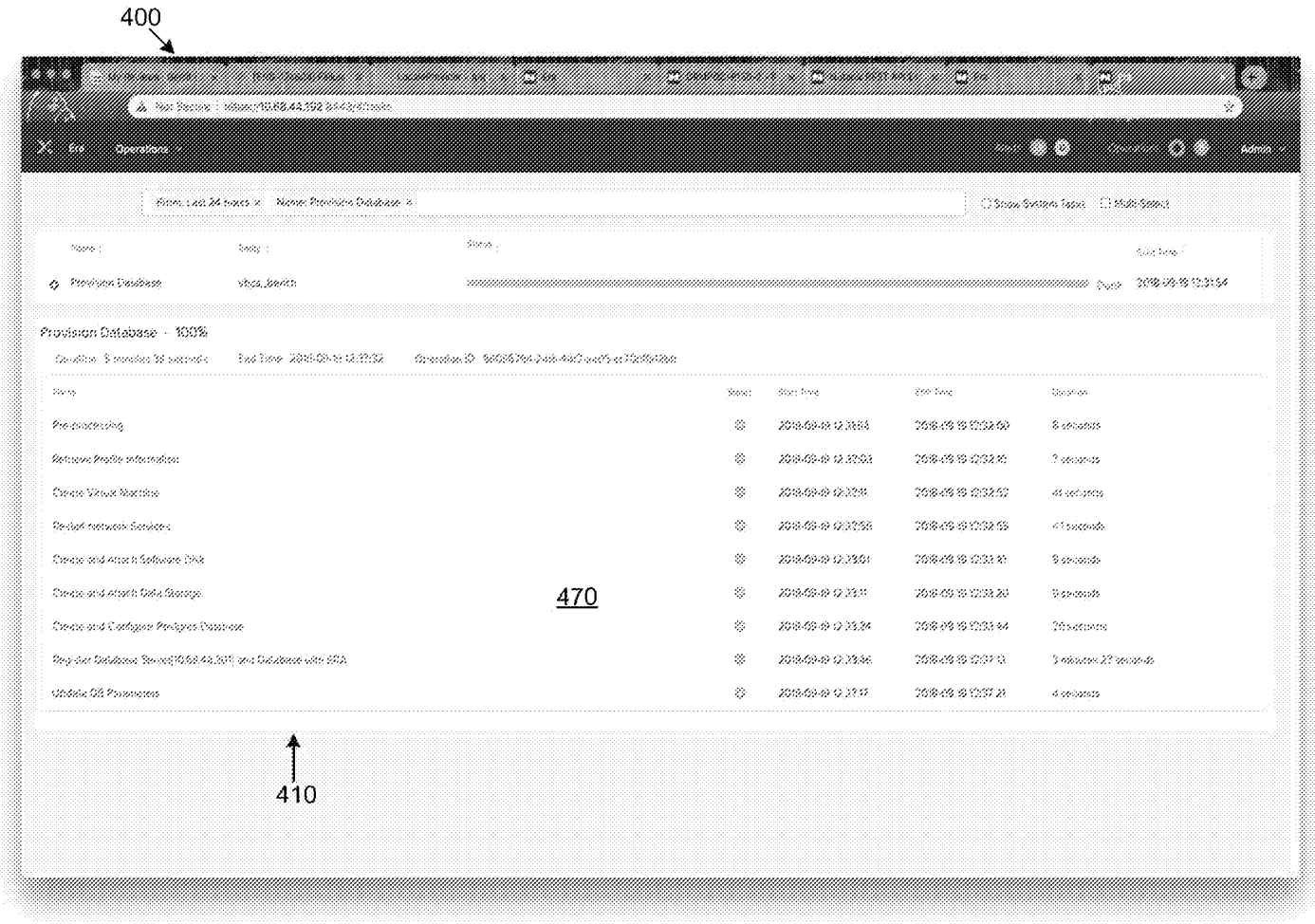


FIG. 4G

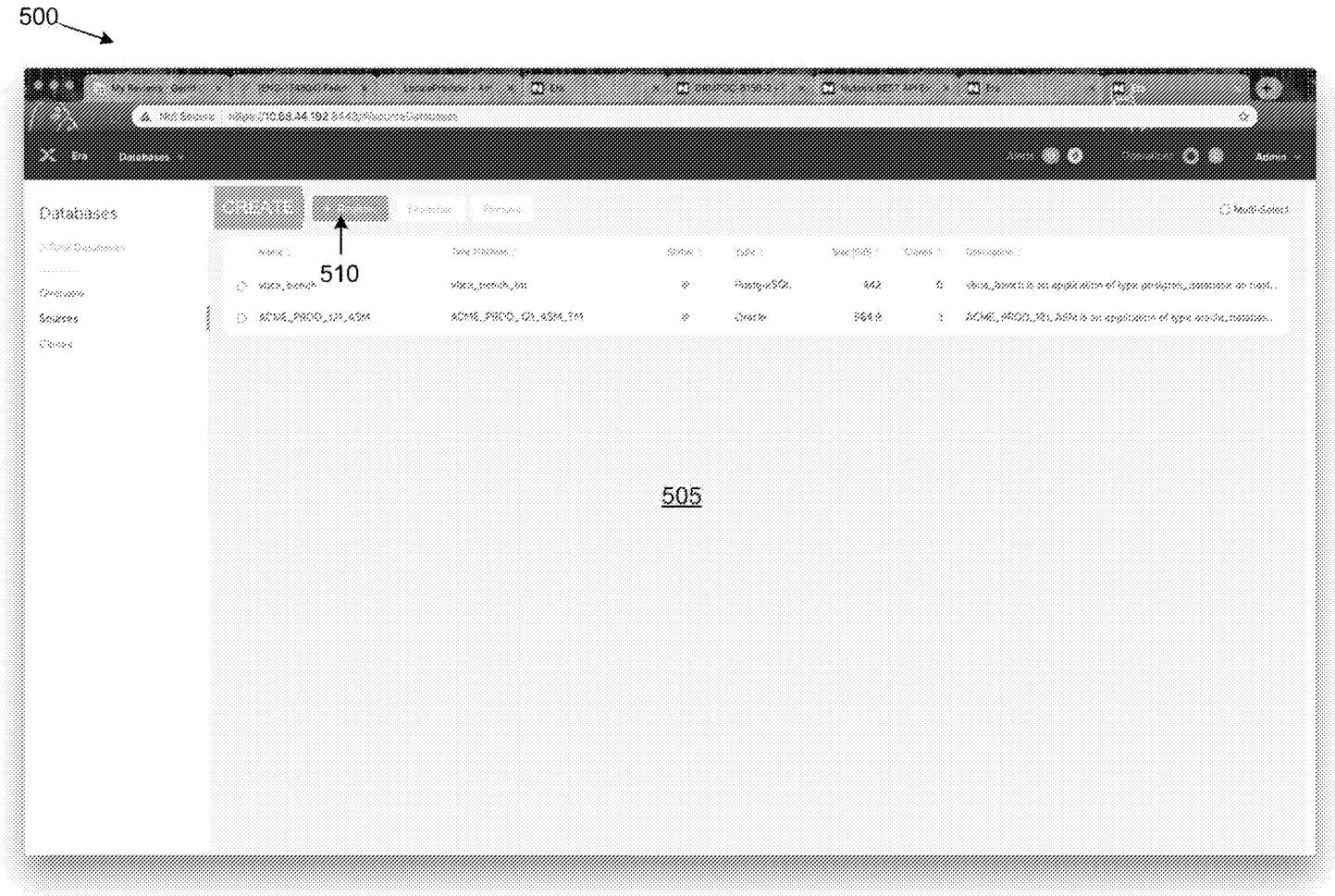


FIG. 5A

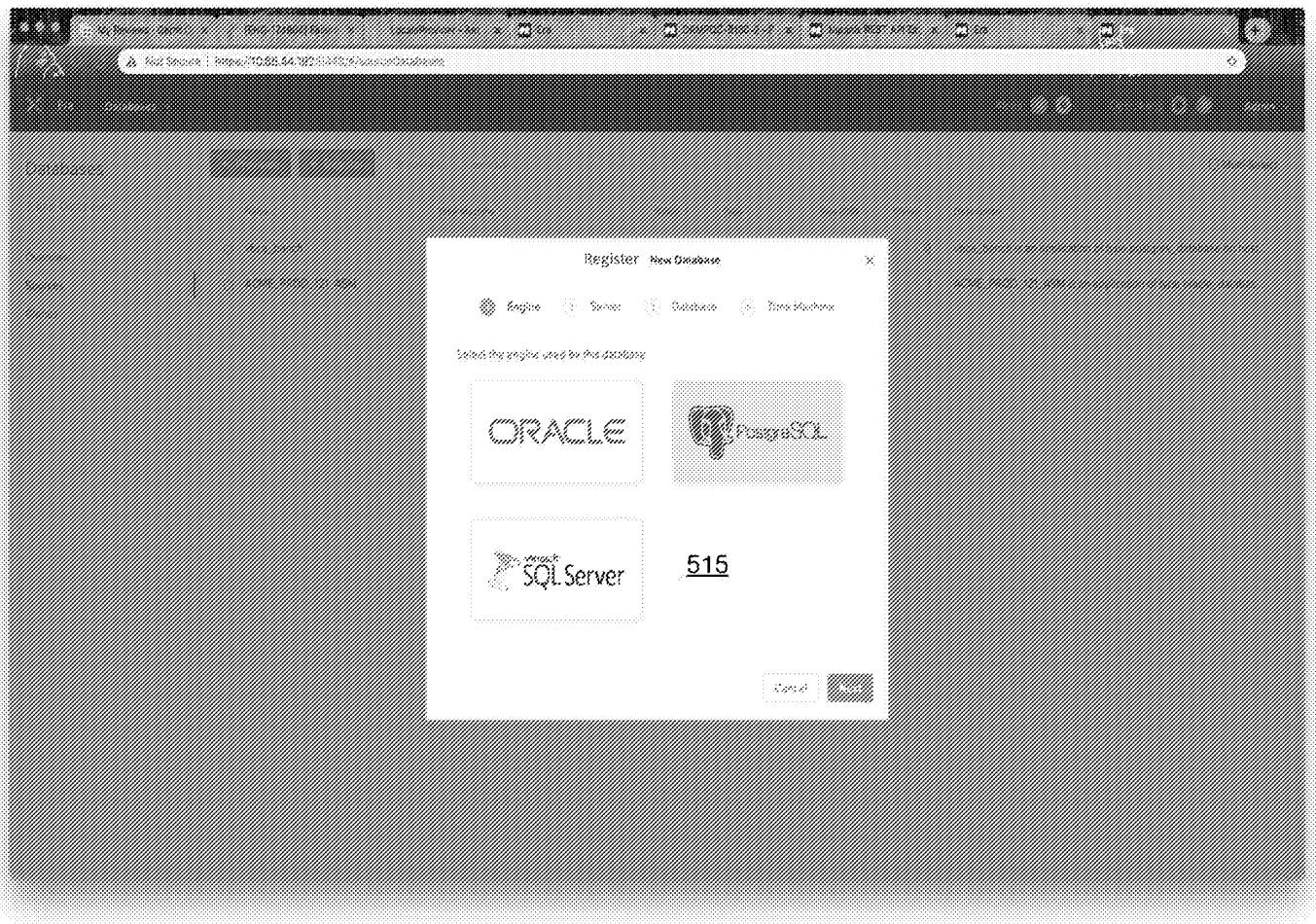


FIG. 5B

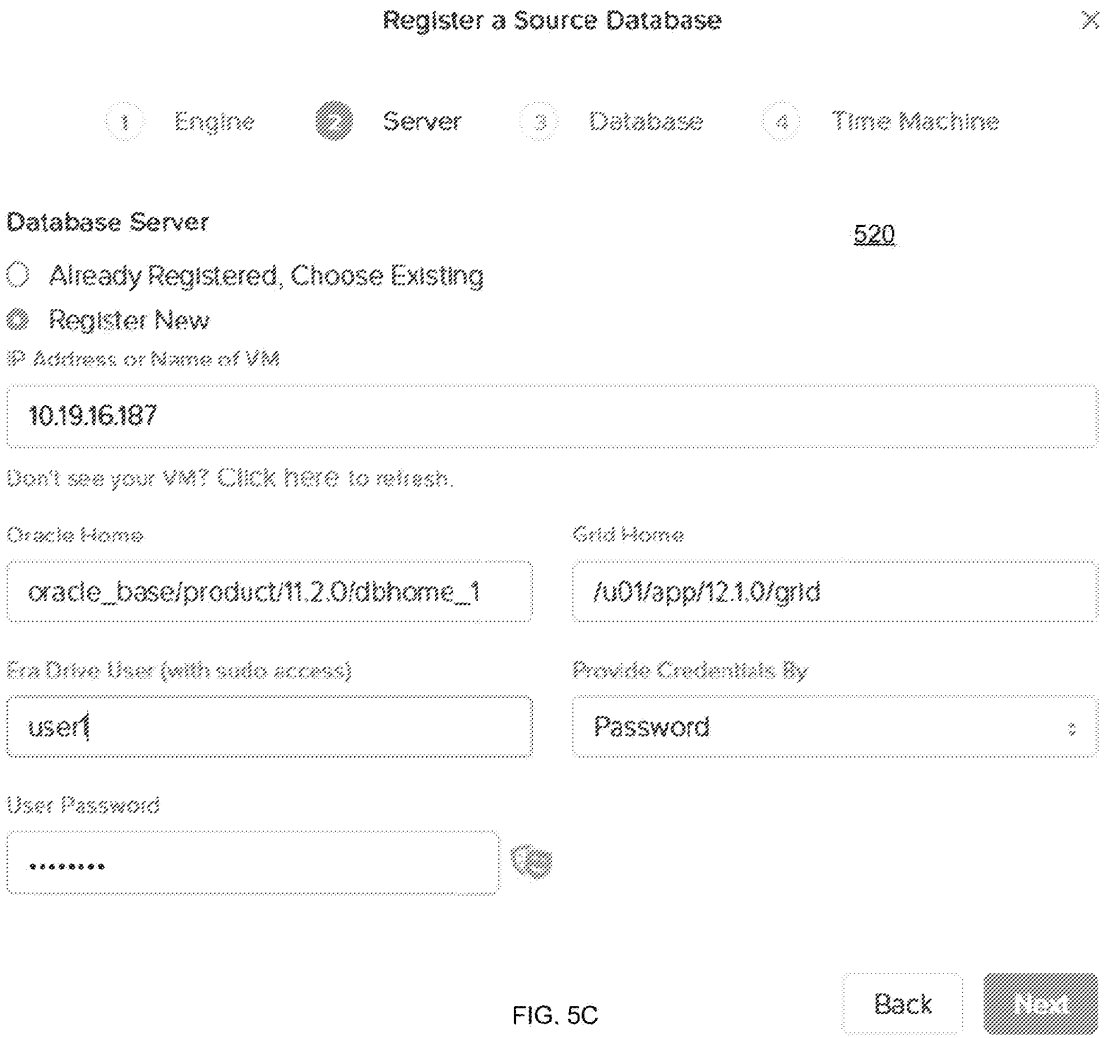

Register a Source Database
1 Engine
2 Server
3 Database
4 Time Machine
Database Server
520
Already Registered, Choose Existing
Register New
IP Address or Name of VM
10.19.16.187
Don't see your VM? Click here to refresh.
Oracle Home
oracle_base/product/11.2.0/dbhome_1
Grid Home
/u01/app/12.1.0/grid
Era Drive User (with sudo access)
user1
Provide Credentials By
Password
User Password
Back
Next

FIG. 5C

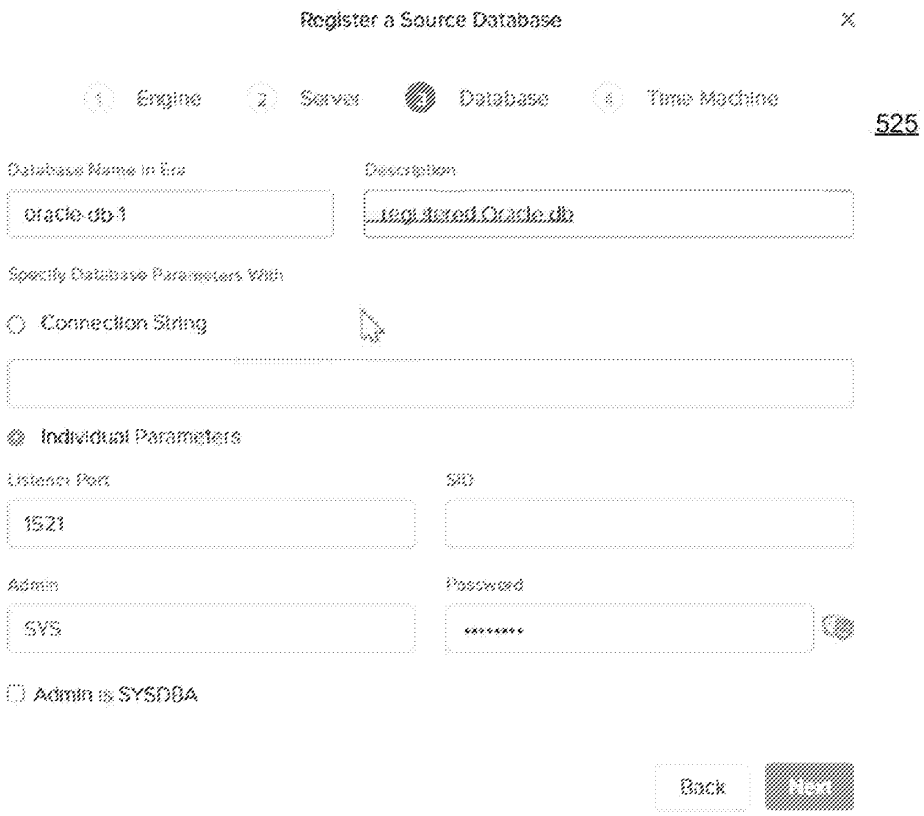


FIG. 5D

EX1002 - Page 101

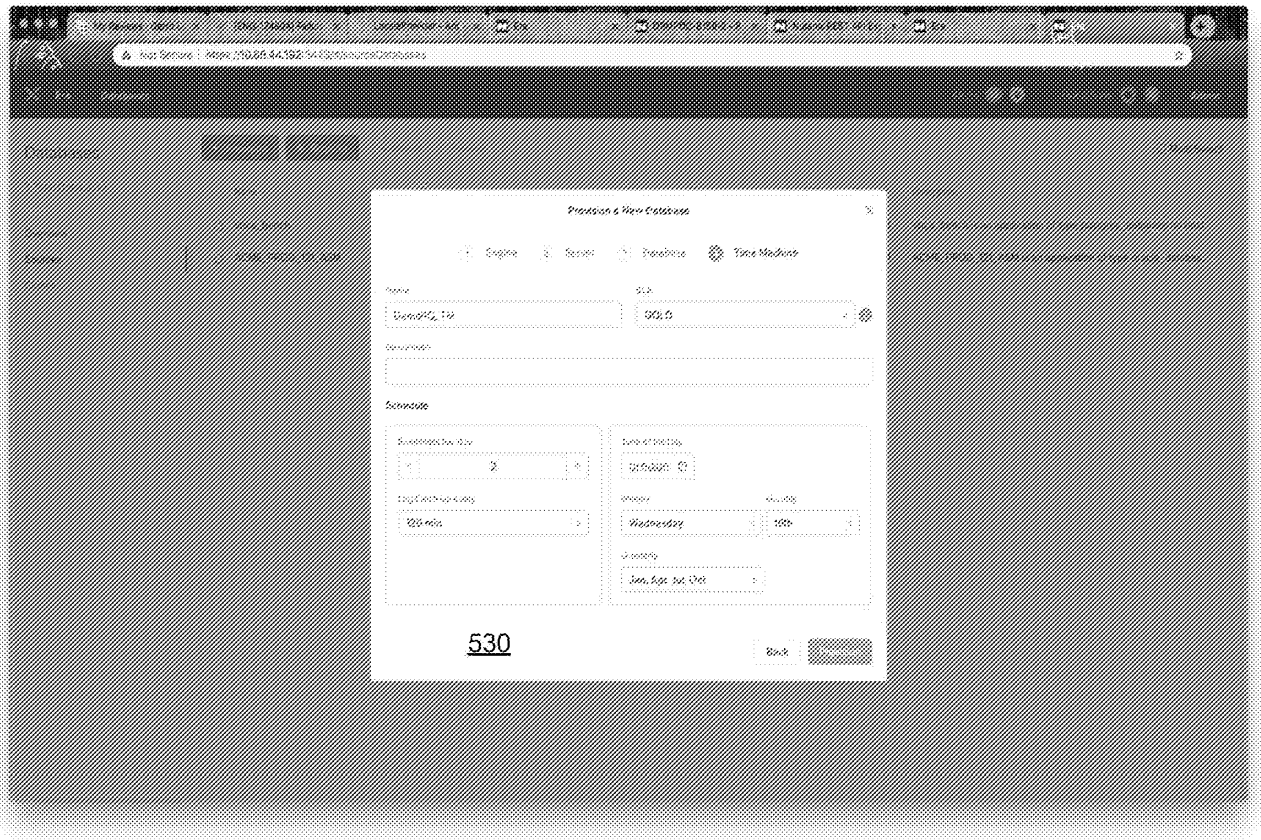


FIG. 5E

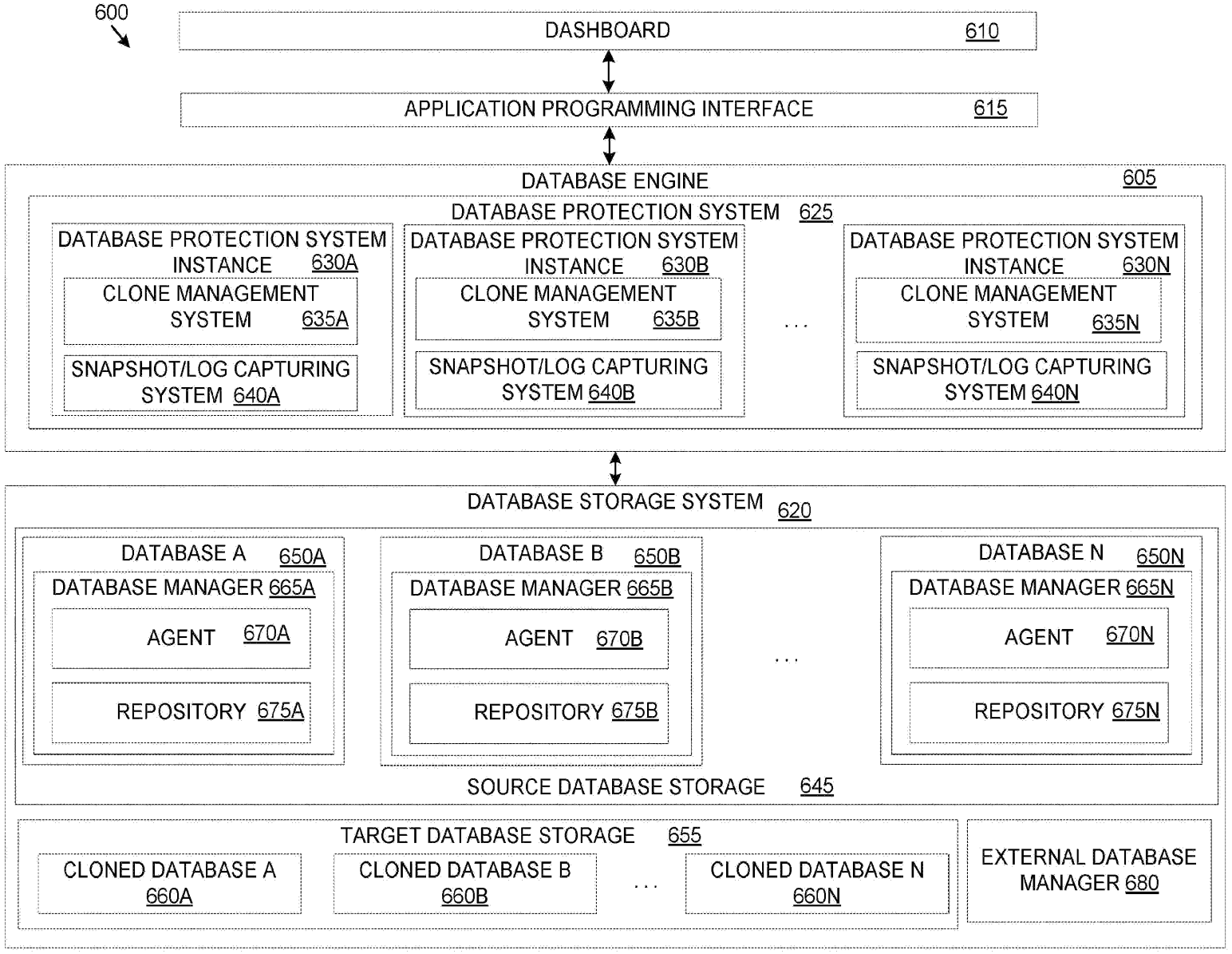

600
DASHBOARD 610
APPLICATION PROGRAMMING INTERFACE 615
DATABASE ENGINE 605
DATABASE PROTECTION SYSTEM 625
DATABASE PROTECTION SYSTEM INSTANCE 630A
CLONE MANAGEMENT SYSTEM 635A
SNAPSHOT/LOG CAPTURING SYSTEM 640A
DATABASE PROTECTION SYSTEM INSTANCE 630B
CLONE MANAGEMENT SYSTEM 635B
SNAPSHOT/LOG CAPTURING SYSTEM 640B
DATABASE PROTECTION SYSTEM INSTANCE 630N
CLONE MANAGEMENT SYSTEM 635N
SNAPSHOT/LOG CAPTURING SYSTEM 640N
DATABASE STORAGE SYSTEM 620
DATABASE A 650A
DATABASE MANAGER 665A
AGENT 670A
REPOSITORY 675A
DATABASE B 650B
DATABASE MANAGER 665B
AGENT 670B
REPOSITORY 675B
DATABASE N 650N
DATABASE MANAGER 665N
AGENT 670N
REPOSITORY 675N
SOURCE DATABASE STORAGE 645
TARGET DATABASE STORAGE 655
CLONED DATABASE A 660A
CLONED DATABASE B 660B
CLONED DATABASE N 660N
EXTERNAL DATABASE MANAGER 680

FIG. 6

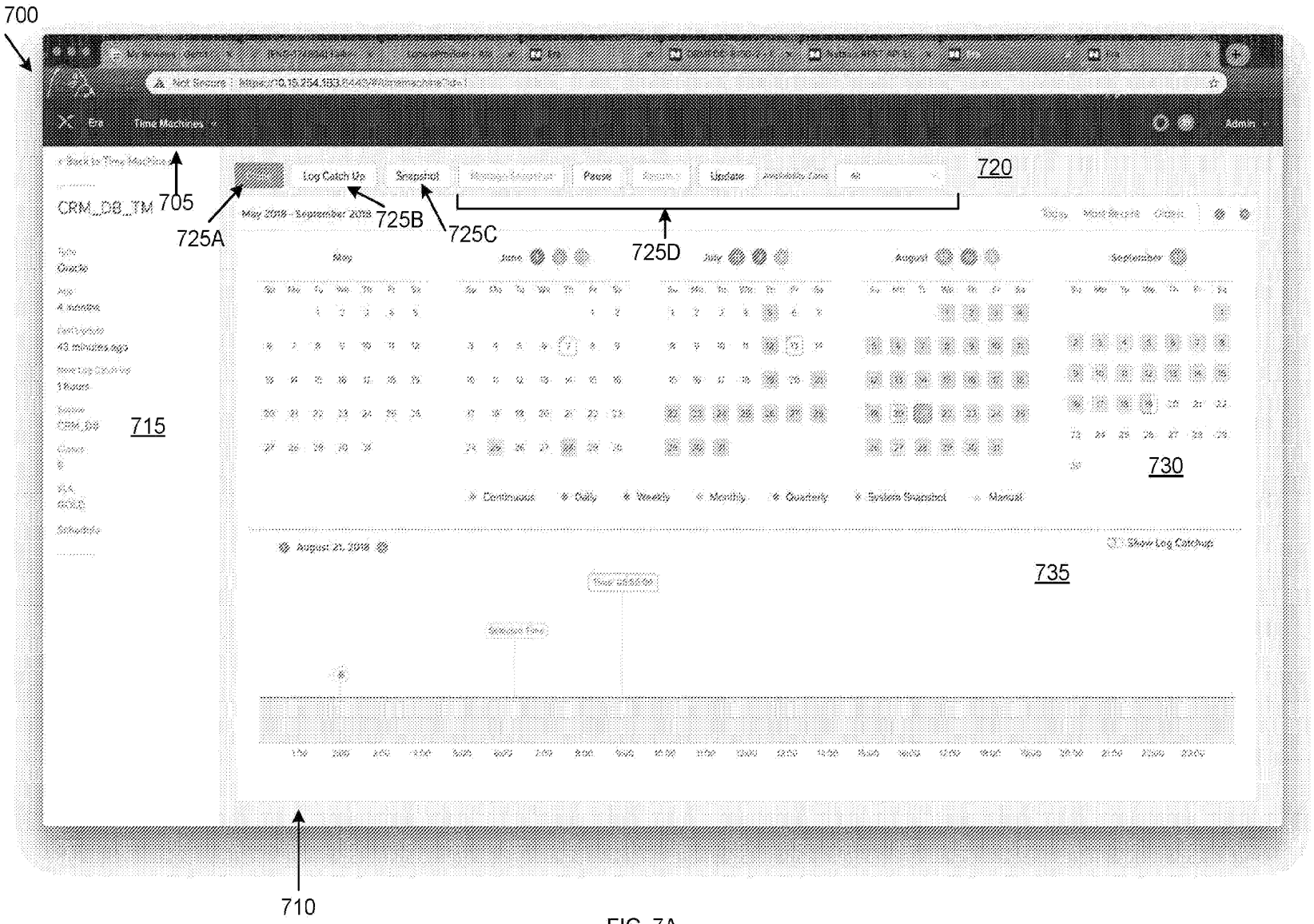


FIG. 7A

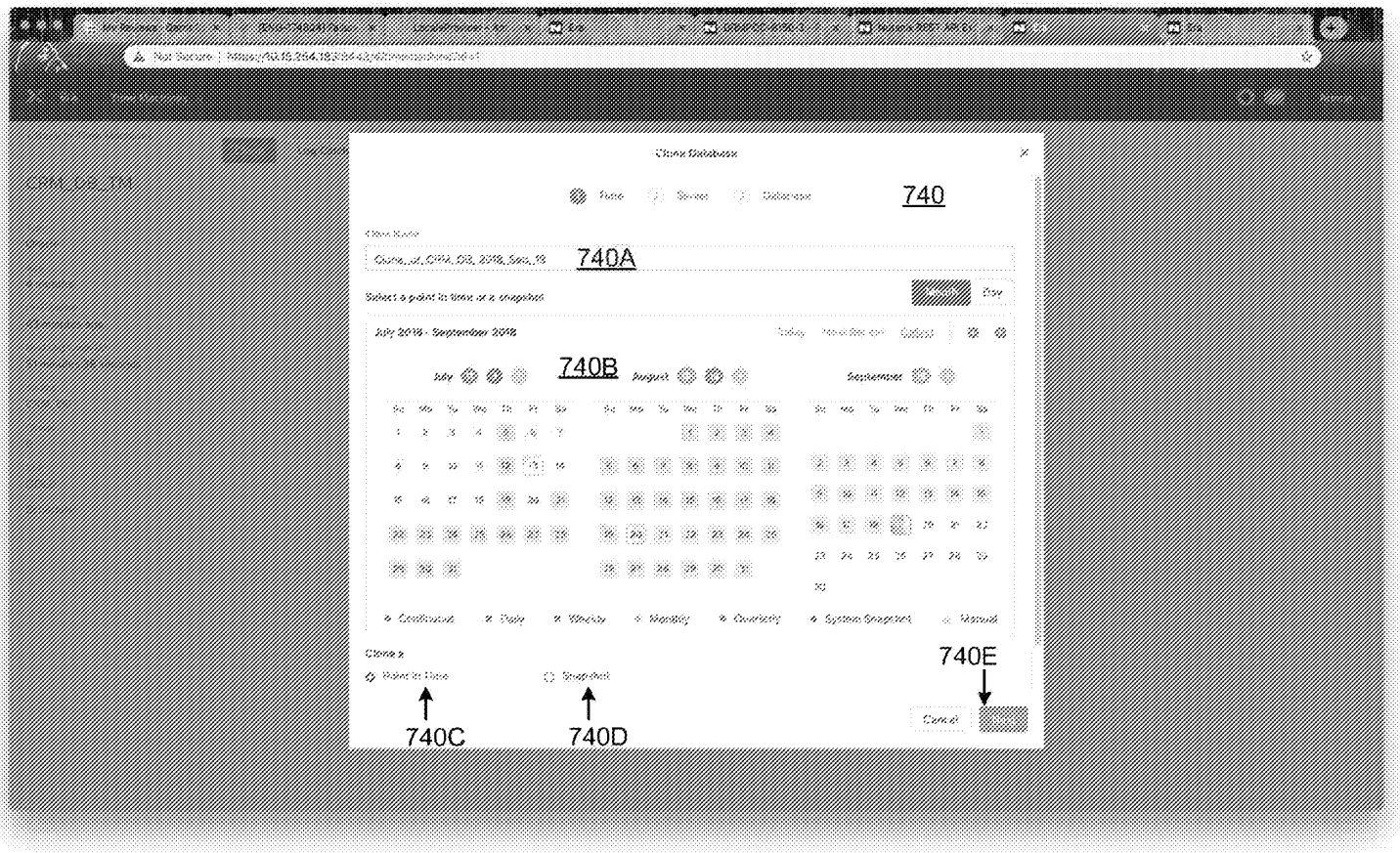


FIG. 7B


Clone Database
745
Time
Server
Database
Clone name
Clone_of_CDB1_08_2018_Sep_19
Select a point in time or a snapshot
Manually
Now
September 19, 2018
745A
745B
745C
Clone Time
Current Time
Clone a
Point in Time
Snapshot
05:09:27
745D
745E
Cancel

FIG. 7C

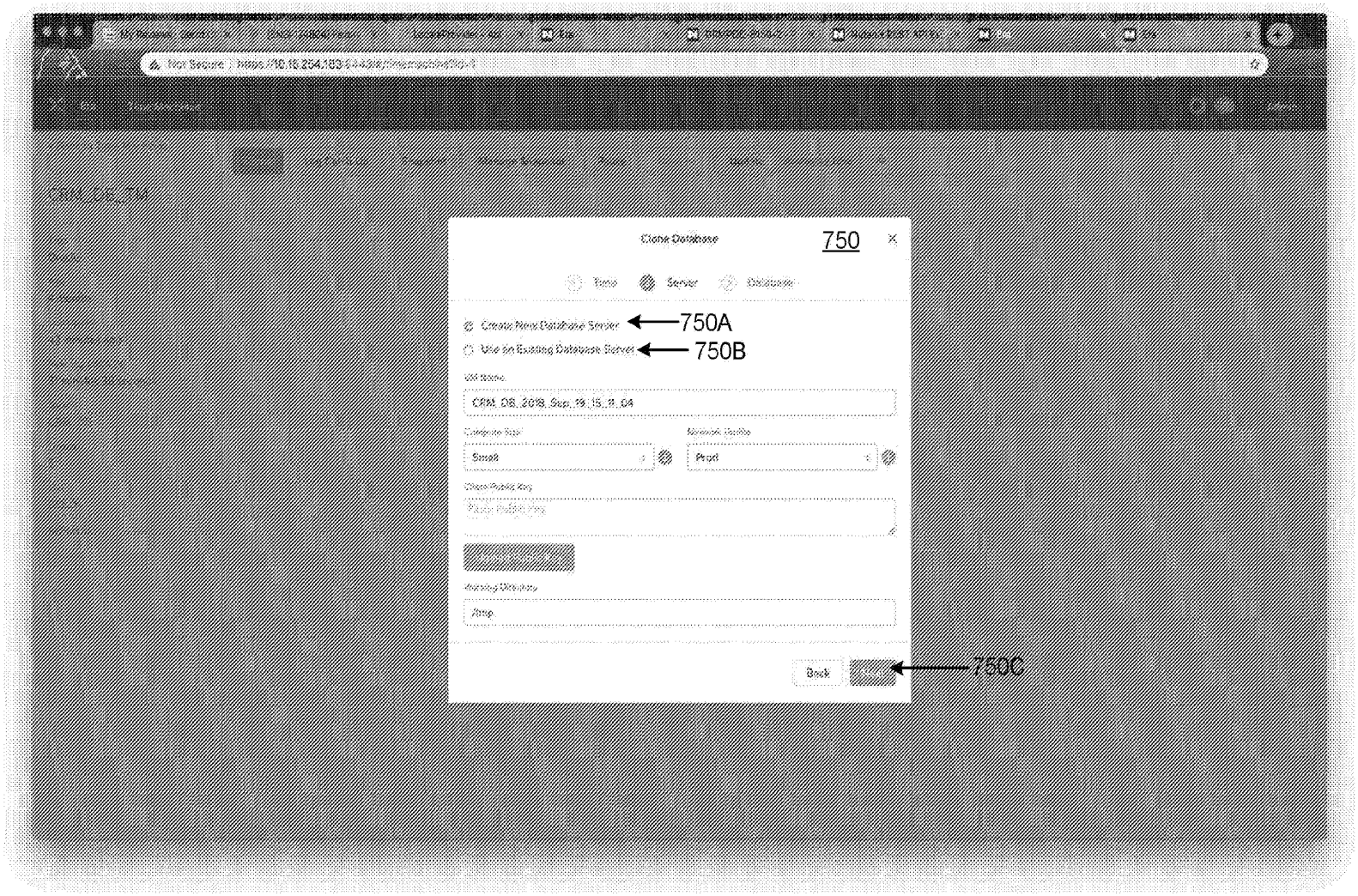

Clone Database
750
Time
Server
Database
Create New Database Server
750A
Use an Existing Database Server
750B
CRM_DB_2018_Sep_19_15_11_04
Small
Prod
Back
750C

FIG. 7D

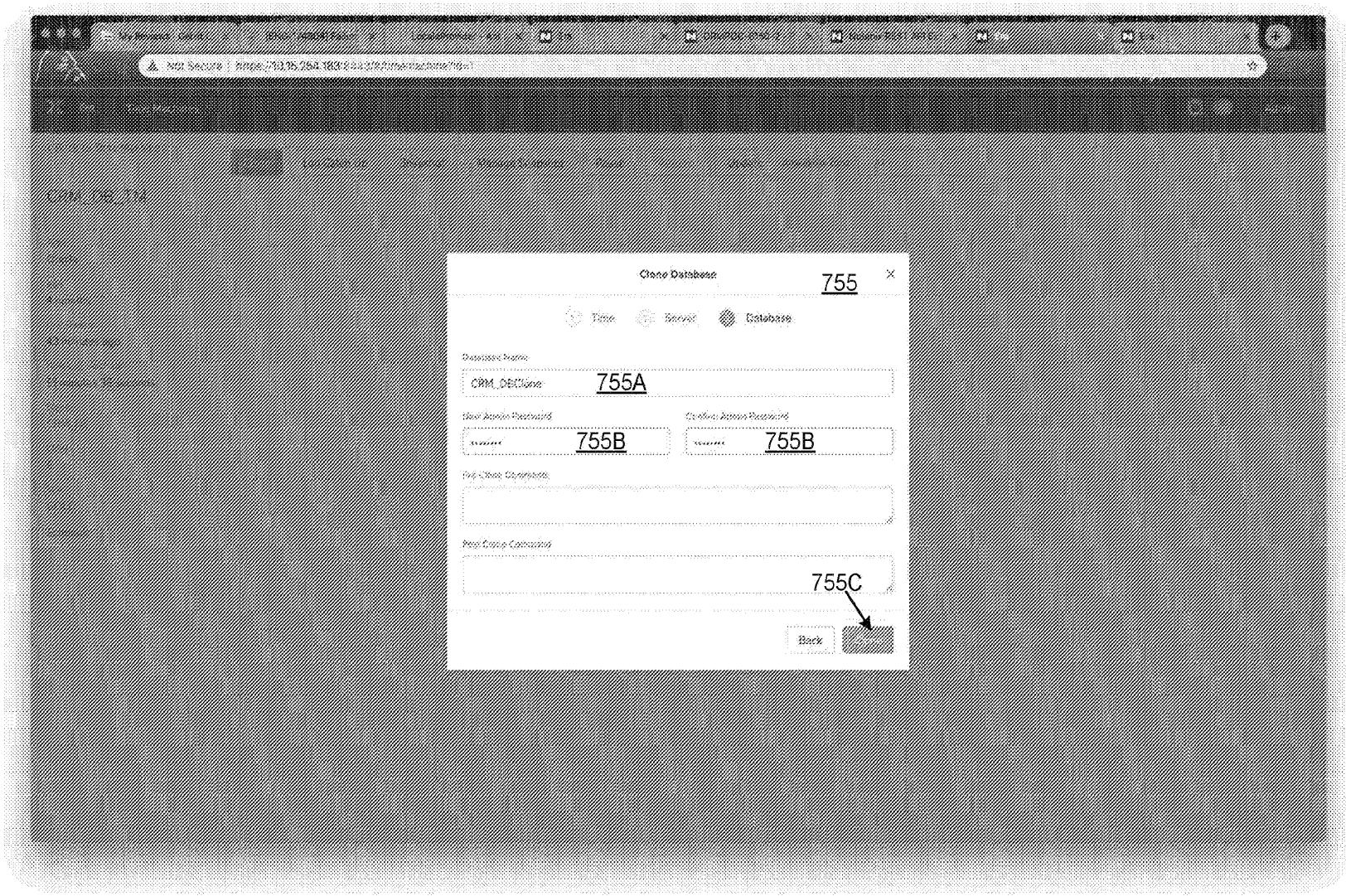

Clone Database
755
Time
Server
Database
CRM_DEVClone
755A
755B
755B
755C
Back

FIG. 7E

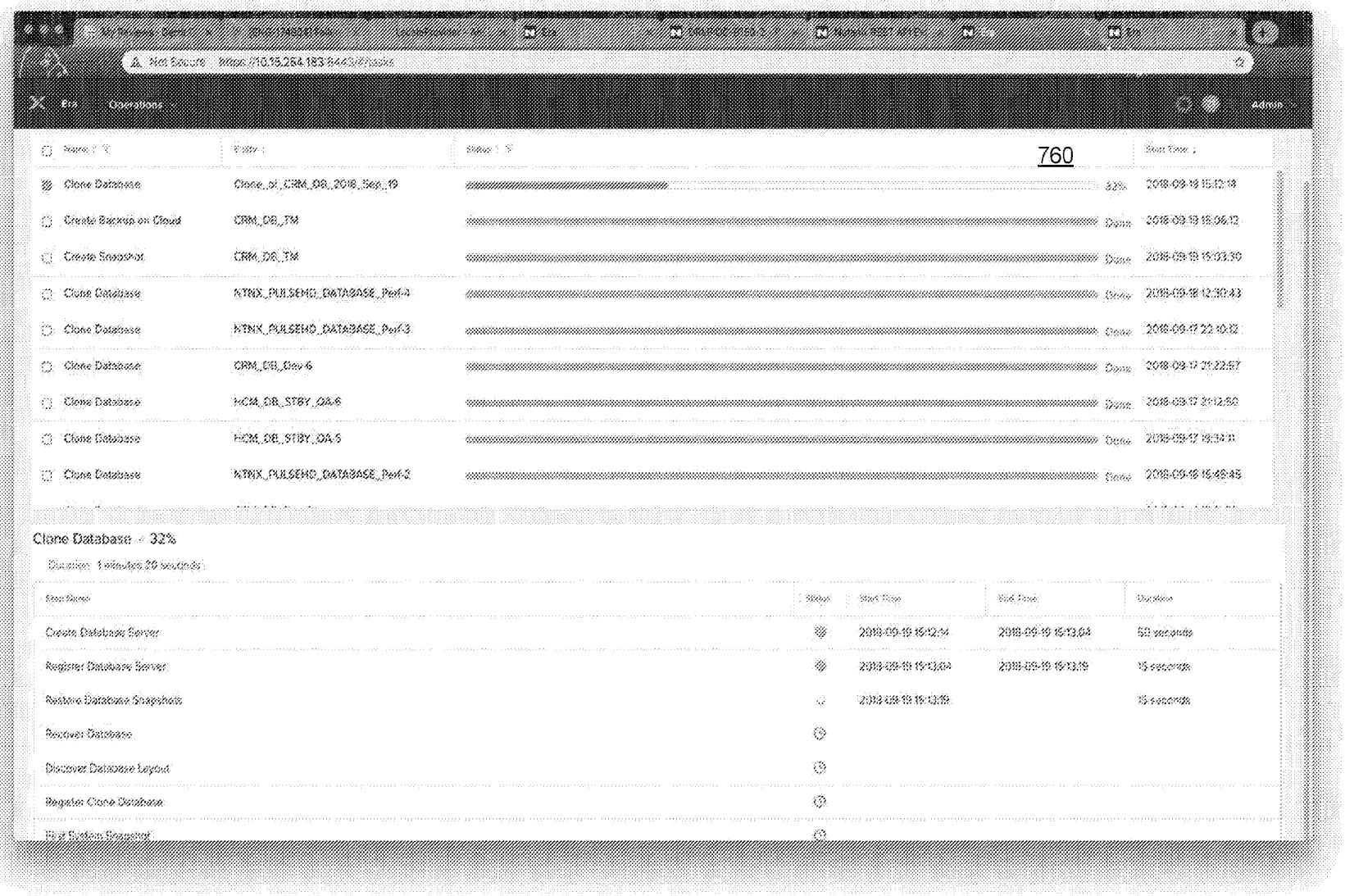

760
Clone Database
Clone_of_CRM_DB_2018_Sep_19
CRM_DB_TM
NTNX_PULSEHD_DATABASE_Perf-4
NTNX_PULSEHD_DATABASE_Perf-3
CRM_DB_Dev-6
HCM_DB_STBY_OA-6
HCM_DB_STBY_OA-5
NTNX_PULSEHD_DATABASE_Perf-2
Clone Database - 32%
Create Database Server
Register Database Server
Restore Database Snapshots
Recover Database
Discover Database Layout
Register Clone Database

FIG. 7F

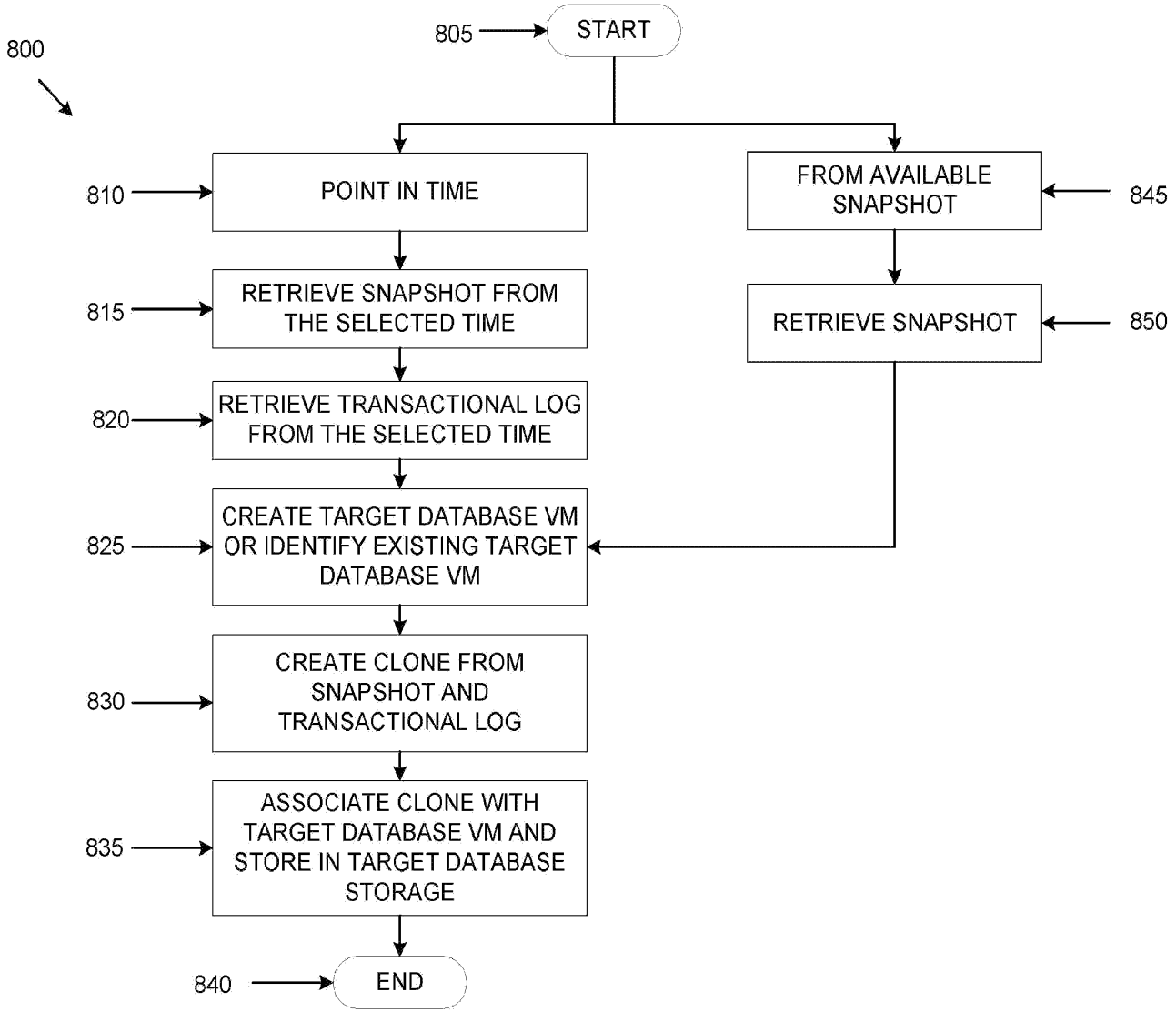

800
805
START
810
POINT IN TIME
815
RETRIEVE SNAPSHOT FROM THE SELECTED TIME
820
RETRIEVE TRANSACTIONAL LOG FROM THE SELECTED TIME
825
CREATE TARGET DATABASE VM OR IDENTIFY EXISTING TARGET DATABASE VM
830
CREATE CLONE FROM SNAPSHOT AND TRANSACTIONAL LOG
835
ASSOCIATE CLONE WITH TARGET DATABASE VM AND STORE IN TARGET DATABASE STORAGE
840
END
845
FROM AVAILABLE SNAPSHOT
850
RETRIEVE SNAPSHOT

FIG. 8

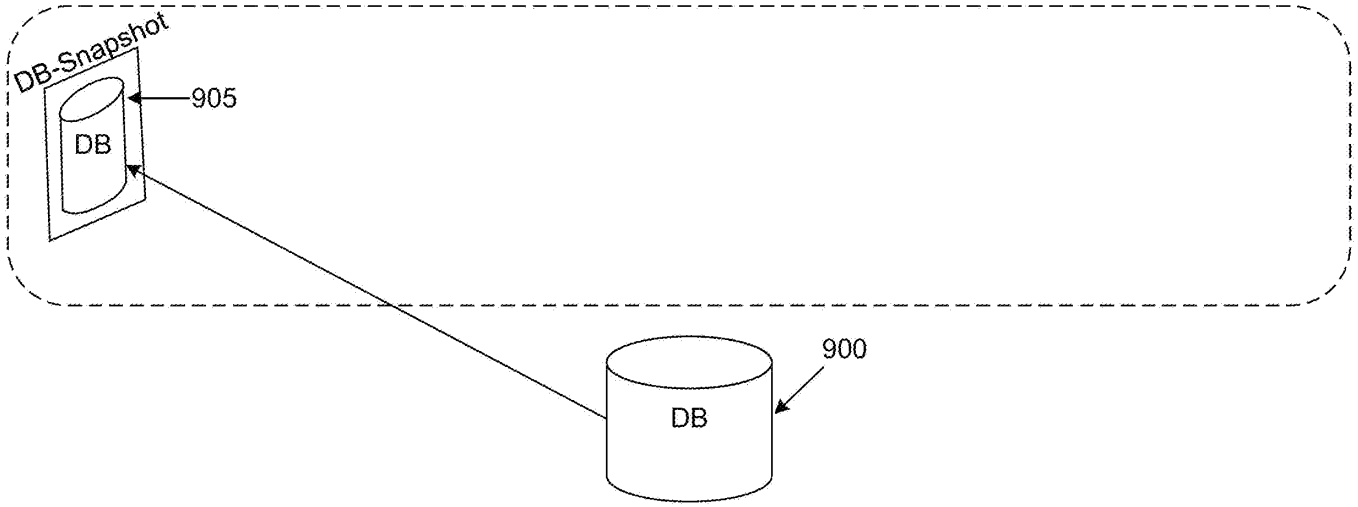


FIG. 9A

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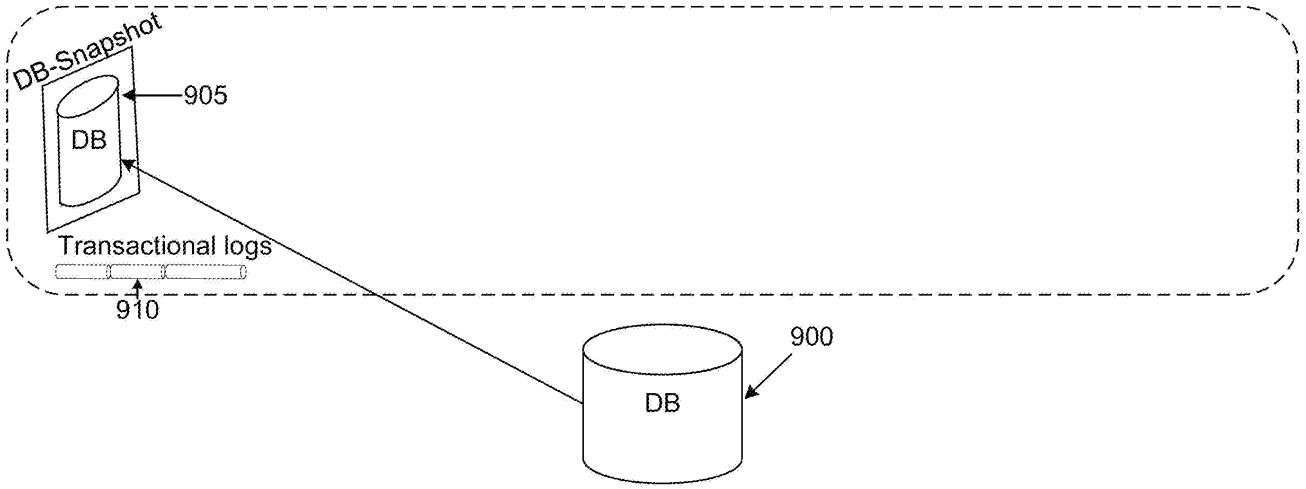


FIG. 9B

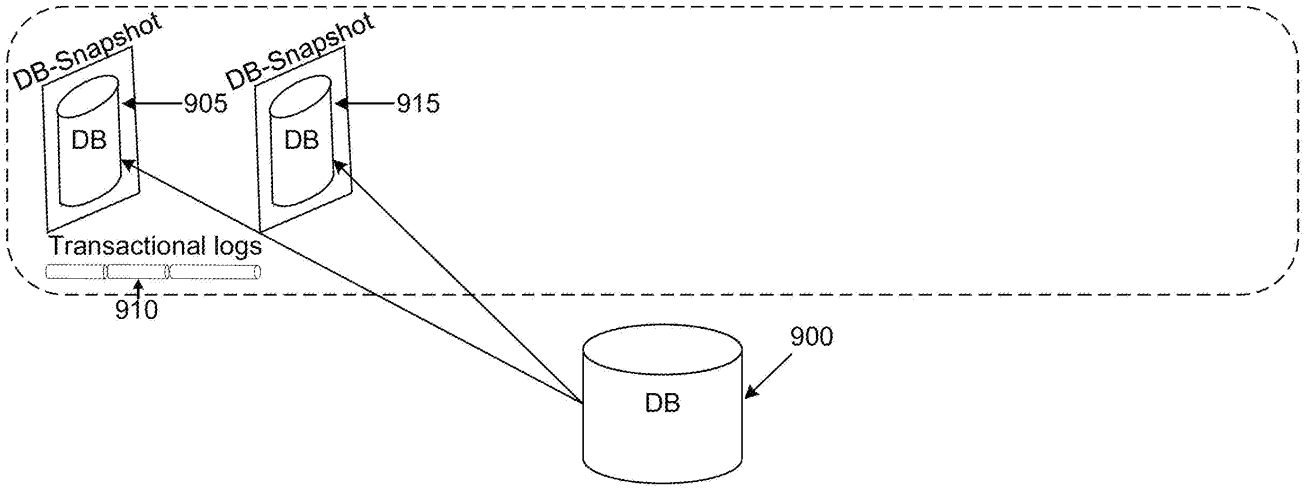

DB-Snapshot
905
DB
DB-Snapshot
915
DB
Transactional logs
910
900
DB

FIG. 9C

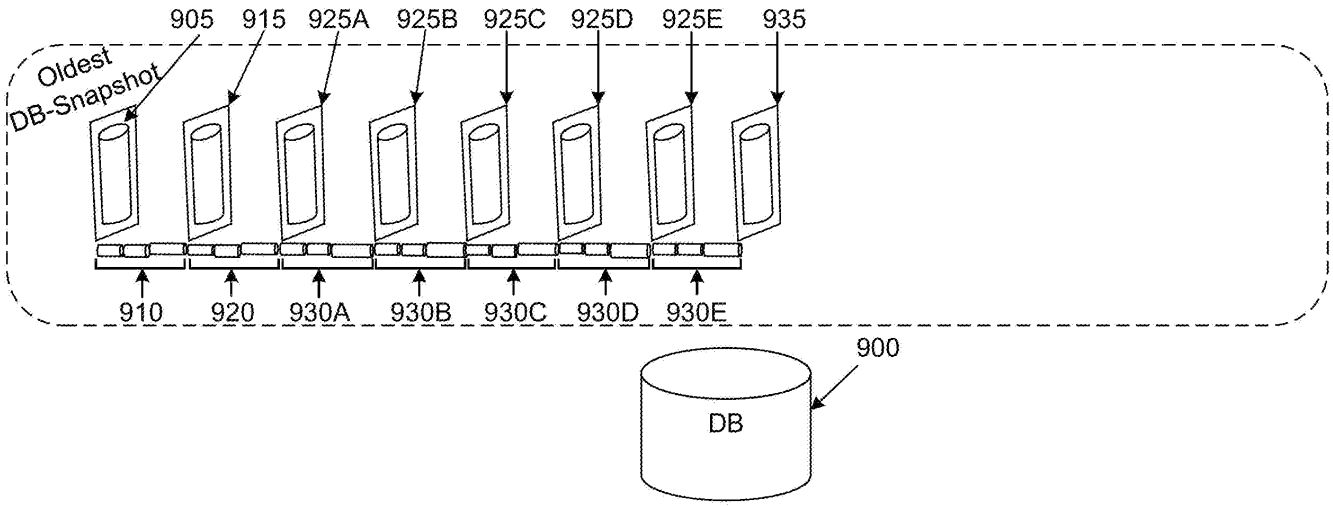

905
915
925A
925B
925C
925D
925E
935
Oldest
DB-Snapshot
910
920
930A
930B
930C
930D
930E
900
DB

FIG. 9D

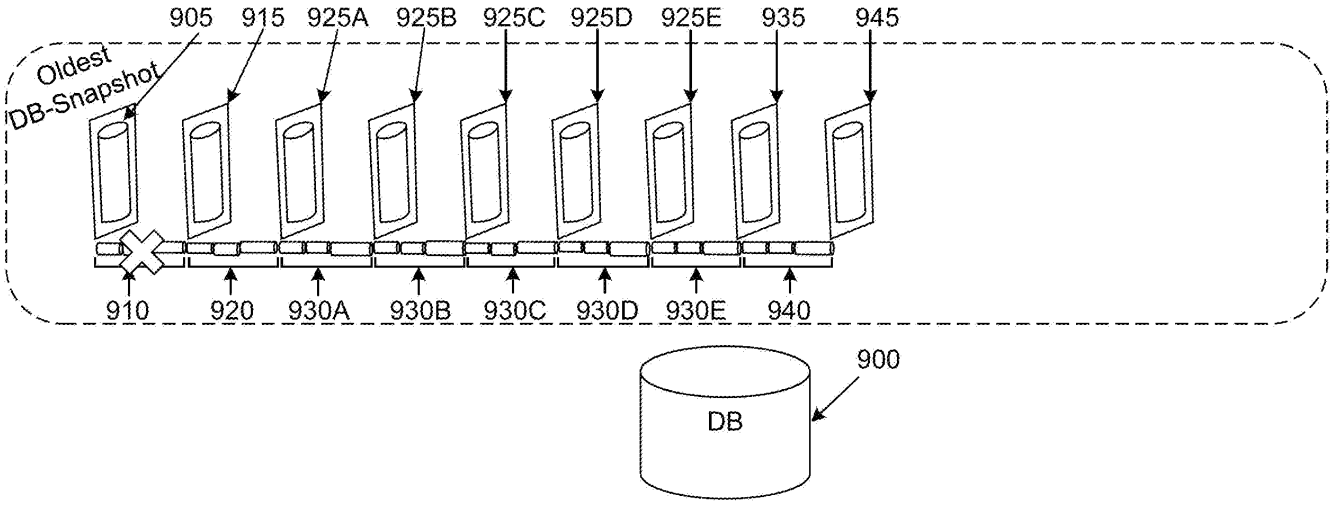

905
915
925A
925B
925C
925D
925E
935
945
Oldest
DB-Snapshot
910
920
930A
930B
930C
930D
930E
940
900
DB

FIG. 9E

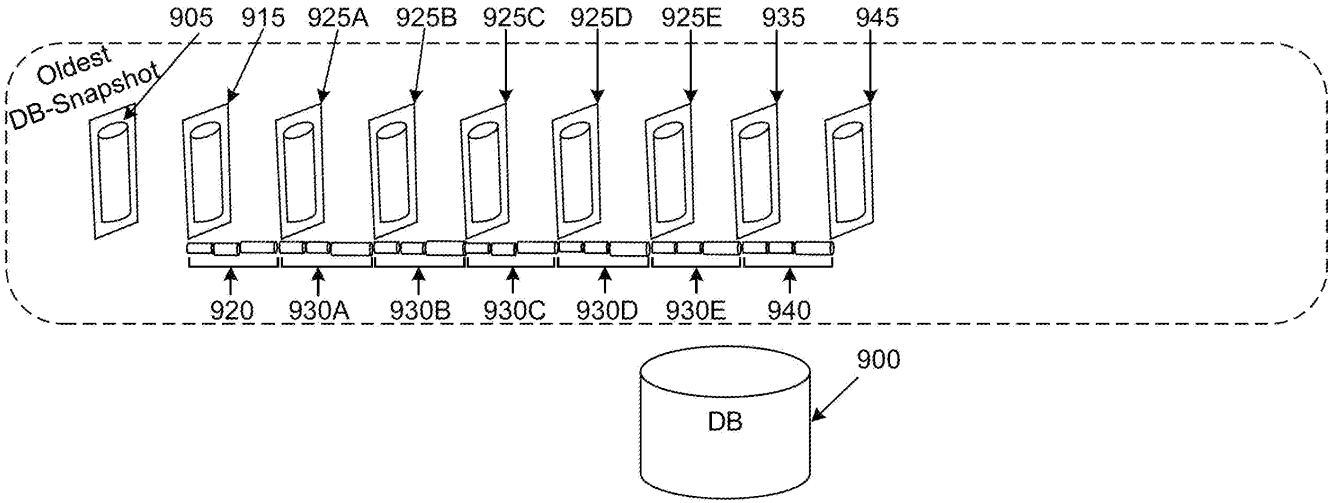

905
915
925A
925B
925C
925D
925E
935
945
Oldest
DB-Snapshot
920
930A
930B
930C
930D
930E
940
900
DB

FIG. 9F

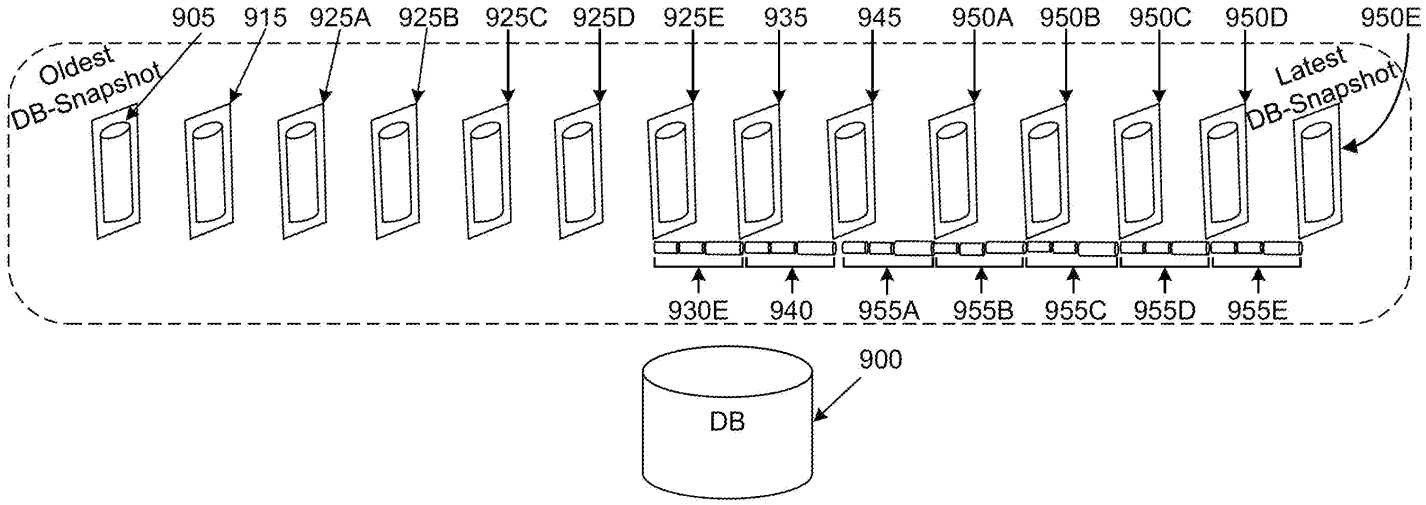

905
915
925A
925B
925C
925D
925E
935
945
950A
950B
950C
950D
950E
Oldest DB-Snapshot
Latest DB-Snapshot
930E
940
955A
955B
955C
955D
955E
900
DB

FIG. 9G

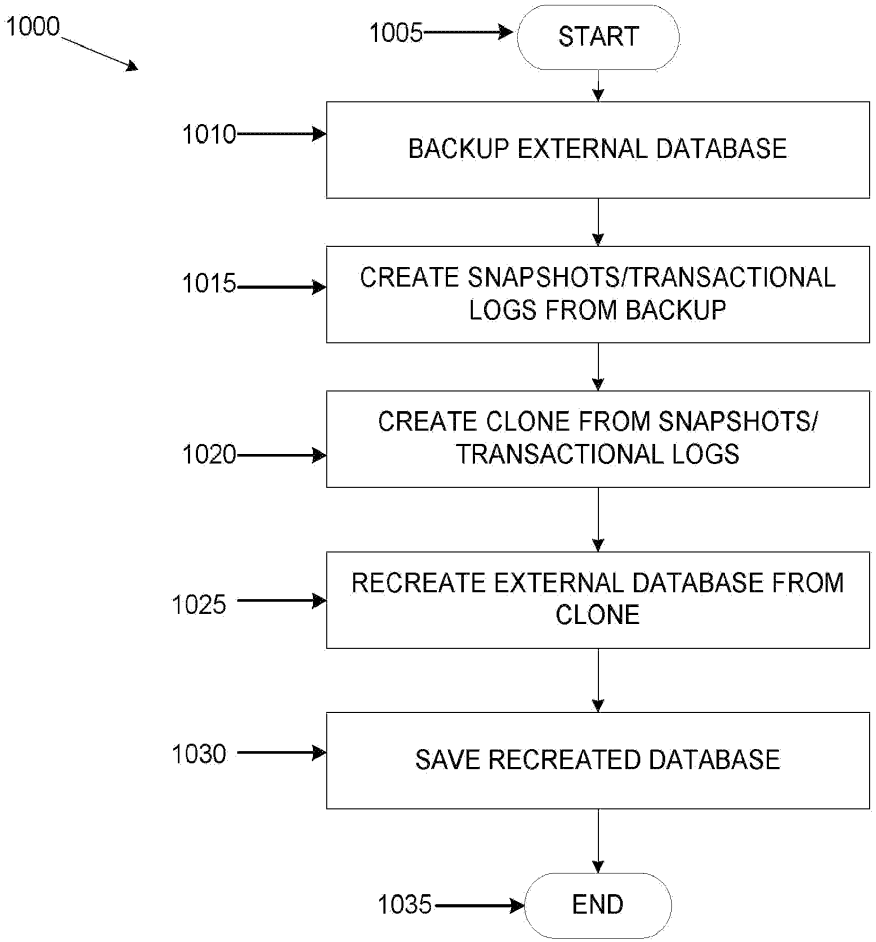

1000
1005
START
1010
BACKUP EXTERNAL DATABASE
1015
CREATE SNAPSHOTS/TRANSACTIONAL LOGS FROM BACKUP
1020
CREATE CLONE FROM SNAPSHOTS/ TRANSACTIONAL LOGS
1025
RECREATE EXTERNAL DATABASE FROM CLONE
1030
SAVE RECREATED DATABASE
1035
END

FIG. 10

Electronic Acknowledgement Receipt	
EFS ID:	47582764
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Emily Rogers
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	23-FEB-2023
Filing Date:	
Time Stamp:	19:06:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1920
RAM confirmation Number	E20232MJ07239200
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	115539-0436_ADS.pdf	2225981 e0076c65e78bdf1727931520d002722e56743ec9	no	9
Warnings:					
Information:					
2	Transmittal of New Application	115539-0436_New_App_Transmittal.pdf	125107 71b1c28f1f1394168754e860a7e76c81ab61d244	no	4
Warnings:					
Information:					
3	Power of Attorney	115539-0436_POA.pdf	1251592 32fc48844e1f943bba22a39bc5cd237e281bffa6	no	1
Warnings:					
Information:					
4	Transmittal Letter	115539-0436_A_IDS_transmittal.pdf	116919 fc6e746cbdb20c5f152ea1fc3faaa2d67d674c5b	no	2
Warnings:					
Information:					
5	Information Disclosure Statement (IDS) Form (SB08)	115539-0436_A_SB08.pdf	286179 2cd5b5a451a5f1cab271f4ce62d967b83047f7e5	no	22
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
6	Drawings-only black and white line drawings	115539-0436_Drawings.pdf	17374818 403aadf680ba9b9826102bf11f8c57aba7a6656c	no	31
Warnings:					

Information:					
7		115539-0436-CON_Specification.pdf	271343 ccf80b00f6ad669c347a7a7342e1f358e595d820	yes	76
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Specification		1	71	
	Claims		72	75	
	Abstract		76	76	
Warnings:					
Information:					
8	Oath or Declaration filed	115539-0436_Declarations.pdf	1656424 4be83c2ee767511512312e46b343e33b7354b7b6	no	5
Warnings:					
Information:					
9	Fee Worksheet (SB06)	fee-info.pdf	46829 9f0915a21cf2841da89e7be8d77918719d735357	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	23355192		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

ABSTRACT OF THE DISCLOSURE

A system and method include receiving, by a database engine of a database system associated with a virtual computing system, a user request via a dashboard for provisioning a source database with the database system, receiving, by the database engine via the dashboard, selection of a database engine type, and receiving, by the database engine via the dashboard, selection of a Service Level Agreement ("SLA") and a protection schedule. The system and method also include provisioning, by the database engine, the source database based upon the database engine type, creating, by the database engine, an instance of a database protection system based upon the SLA and the protection schedule, including associating the instance of the database protection system with the source database, and displaying, by the database engine, the source database within the dashboard.

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	1	of	22	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	625,315-A	05-23-1899	E. S. BRADFORD	
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	A13	8,150,808	04-03-2012	ZHA ET AL.	
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	A15	8,291,409-	10-16-2012	WINNER ET AL.	
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Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
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Examiner Signature		Date Considered	

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	20	of	22	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
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Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
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Sheet	21	of	22	Attorney Docket Number	115539-0436

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Examiner Signature		Date Considered	

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
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Examiner Signature		Date Considered	

CLAIMS

What is claimed is:

1. A non-transitory computer-readable media comprising computer-readable instructions stored thereon for provisioning a database, wherein the computer-readable instructions when executed by a processor cause the processor to:

receive a first selection of a database name for the database;

receive a second selection of a database description for the database;

receive a third selection of a database engine for the database;

receive a fourth selection indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determine an amount of storage for the database; and

create the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

2. The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

3. The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a cloud.

4. The non-transitory computer-readable media of claim 1, wherein the amount of storage for the database is determined based on a fifth selection indicative of a size of the database to be provisioned.

5. The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

6. The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to:

receive a fifth selection of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

7. The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to receive a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

8. A system comprising:

a memory having computer-readable instructions stored thereon to provision a database; and

a processor that executes the computer-readable instructions to:

receive a first selection of a database name for the database;

receive a second selection of a database description for the database;

receive a third selection of a database engine for the database;

receive a fourth selection indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determine an amount of storage for the database; and

create the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

9. The system of claim 8, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

10. The system of claim 8, wherein the location where the database is to be provisioned comprises a cloud.

11. The system of claim 8, wherein the amount of storage for the database is determined based on a fifth selection indicative of a size of the database to be provisioned.

12. The system of claim 8, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

13. The system of claim 8, wherein the processor further executes computer-readable instructions to:

receive a fifth selection of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

14. The system of claim 8, wherein the processor further executes computer-readable instructions to receive a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

15. A method comprising:

receiving, by a processor executing computer-readable instructions to provision a database, a first selection of a database name for the database;

receiving, by the processor, a second selection of a database description for the database;

receiving, by the processor, a third selection of a database engine for the database;

receiving, by the processor, a fourth selection indicative of a location where the database is to be provisioned;

presenting, by the processor, at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determining, by the processor, an amount of storage for the database; and

creating, by the processor, the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

16. The method of claim 15, further comprising provisioning the database on a hyperconverged infrastructure system.

17. The method of claim 15, further comprising provisioning the database on a cloud.

18. The method of claim 15, further comprising receiving, by the processor, a fifth selection indicative of a size of the database to be provisioned, wherein the amount of storage for the database is determined based on the size.

19. The method of claim 15, further comprising capturing, by the processor, at least one of one or more snapshots or one or more transactional logs from the database that is created.

20. The method of claim 15, further comprising:

receiving, by the processor, a fifth selection of a service level agreement; and

setting up, by the processor, to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

21. The method of claim 15, further comprising receiving, by the processor, a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	Not yet assigned
Filing Date:	Herewith
Examiner:	Not yet assigned
Art Unit:	Not yet assigned
Confirmation No.:	Not yet assigned

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02(I), Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit

under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the filing date of the application.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date February 23, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
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Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 01/31/2018. OMB 0651-0035
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 147491

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

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OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

NUTANIX, INC.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	/James E Parsons/	Date (Optional)	December 3, 2018
Name	JAMES E PARSONS		
Title	Deputy General Counsel and Head of Worldwide IP, NUTANIX, INC.		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Prior Appl. No.:	17/237599
Prior Appl. Filing Date:	4/22/2021
Examiner:	Not yet assigned
Art Unit:	Not yet assigned

CONTINUING PATENT APPLICATION TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Transmitted herewith for filing under 37 C.F.R. § 1.53(b) is a:

[**X**] Continuation [ ] Division [ ] Continuation-In-Part (CIP)

of the above-identified copending prior application in which no patenting, abandonment, or termination of proceedings has occurred. Priority to the above-identified prior application is hereby claimed under 35 U.S.C. § 120 for this continuing application. The entire disclosure of the above-identified prior application is considered as being part of the disclosure of the accompanying continuing application and is hereby incorporated by reference therein.

Enclosed are:

[**X**] Description, Claim(s), and Abstract (76 pages).

[**X**] Drawings (31 sheets, Figures 1-10).

[**X**] Executed Declaration (5 pages).

[**X**] Power of Attorney (1 pages).

[**X**] Information Disclosure Statement.

[**X**] Form PTO-SB08 with copies of listed reference(s).

[**X**] Application Data Sheet (37 CFR 1.76).

The adjustment to the number of sheets for EFS-Web filing follows:

Number of Sheets		**EFS-Web Adjustment**	**Number of Sheets for EFS-Web**
107	x	75%	81

The filing fee is calculated below at the large entity rate:

	Number Filed		Included in Basic Fee		Extra		Rate		Fee Totals
Basic Filing Fee							$320.00	=	$320.00
Search Fee							$700.00		$700.00
Examination Fee							$800.00		$800.00
Sequence Listing fee									$0.00
Size Fee	81	-	100	= 0		x	$420.00		$0.00
Total Claims:	21	-	20	= 1		x	$100.00	=	$100.00
Independents:	3	-	3	= 0		x	$480.00	=	$0.00
If any Multiple Dependent Claim(s) present:						+	$860.00	=	$0.00
Surcharge under 37 CFR 1.16(e) for late filing of Executed Declaration or late payment of filing fee						+	$160.00	=	$0.00
Prioritized Examination fee (Track I) under 37 C.F.R. § 1.17 (c)									$0.00
Processing Fee (Track I) under 37 C.F.R. § 1.17 (i)									$0.00
TOTAL FILING FEE:								=	$1920.00
Assignment Recordation Fee:						+	$50.00	=	$0.00
Processing Fee under 37 CFR 1.17(i) for Late Filing of English Translation of Application:						+	$140.00	=	$0.00
TOTAL FEE								=	$1920.00

The above-identified fees of $1920.00 are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any fees required to secure a filing date and maintain pendency of this application to Deposit Account No. 19-0741.

Respectfully submitted,

Date February 23, 2023 By */Paul S. Hunter/*

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Application Number: 18113528 Document Date: 02/23/2023

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Form Revision Date: March 1, 2019

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 18/113,528

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	21 minus 20 =	* 1			OR	x 100 =	100
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x =	0
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1820

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
18/113,528	02/23/2023		1920	115539-0436	21	3

CONFIRMATION NO. 9429

147491
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

FILING RECEIPT

OC000000054901747

Date Mailed: 03/17/2023

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

Balasubrahmanyam Kuchibhotla, San Ramon, CA;
Kamaldeep Khanuja, Dublin, CA;
Jeremy Launier, San Jose, CA;
Sujit Menon, San Jose, CA;
Maneesh Rawat, San Jose, CA;

Applicant(s)

Nutanix, Inc., San Jose, CA;

Power of Attorney: The patent practitioners associated with Customer Number 147491

Domestic Priority data as claimed by applicant

This application is a CON of 17/237,599 04/22/2021 PAT 11,604,762
which is a CON of 16/234,553 12/27/2018 PAT 11,010,336

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 03/15/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/113,528**

Projected Publication Date: 06/22/2023

Non-Publication Request: No

Early Publication Request: No
Title

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	Not yet assigned
Art Unit:	2166
Confirmation No.:	9429

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit

under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 7, 2023 By */Paul S. Hunter/*

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**06/07/2023 02:57:32 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Emily Rogers
PATENT CENTER #	62224293	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 58

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436_B_IDS_transmittal.pdf	2	Transmittal Letter	132 KB
115539-0436_B_SB08.pdf	4	Information Disclosure Statement (IDS) Form (SB08)	125 KB
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NPL_B56--YouTube_Video_screenshots_for_Amazon_W.pdf	16	Non Patent Literature	3932 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: June 7, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	2166
				Examiner Name	
Sheet	1	of	4	Attorney Docket Number	115539-0436

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Examiner Signature		Date Considered	

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: June 7, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	4	of	4	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	B50	SINGH, Deepak. "Cluster Management with Amazon ECS" AWS Compute Blog. February 6, 2015. Retrieved from https://aws.amazon.com/blogs/compute/cluster-management-with-amazon-ecs/ (accessed 4/6/2023)	
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	B56	YouTube Video screenshots for Amazon Web Services. “Amazon ECS: Core Concepts” YouTube. August 31, 2017. https://www.youtube.com/watch?app=desktop&v=eq4wL2MiNqo&feature=youtu.be [youtube.com]	

Examiner Signature		Date Considered	

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436

CONFIRMATION NO. 9429

147491
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

PUBLICATION NOTICE

OC000000058585830

Date Mailed: 06/22/2023

Title:SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Publication No.US-2023-0195691-A1
Publication Date:06/22/2023

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Electronic Acknowledgement Receipt	
EFS ID:	48219829
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Emily Rogers
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	28-JUN-2023
Filing Date:	23-FEB-2023
Time Stamp:	12:47:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$600
RAM confirmation Number	E20236RC48218217
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		115539-0436_Preliminary_Amendment.pdf	146206 bb2829852948 5cecaf0d0e56c5412687c81802f0	yes	8
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Preliminary Amendment		1	1	
	Claims		2	6	
	Applicant Arguments/Remarks Made in an Amendment		7	8	
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	115539-0436_C_SB08.pdf	105115 b31a3786e8e10bbf38ef0f565eaee3c9b8f10cea	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Transmittal Letter	115539-0436_C_Transmittal.pdf	135093 b36ed507cc142e92e33aa62294fd8f1725f73c7d	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	38330 2d778936108ffadabf72e570a5ae30b9ea92a9de	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	424744		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	Not yet assigned
Art Unit:	2166
Confirmation No.:	9429

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit

under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 28, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: June 28, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	2166
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	C1	2007/0185922-A1	08-09-2007	KAPOOR ET AL.	
	C2	2017/0286517-A1	10-05-2017	HOROWITZ ET AL.	
	C3	2019/0087279-A1	03-21-2019	KUMAR ET AL.	
	C4	2019/0266268-A1	08-29-2019	POLINATI	
	C5	2019/0332582-A1	10-31-2019	KUMAR ET AL.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal

Application Number:	18113528
Filing Date:	23-Feb-2023
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Filer:	Paul S. Hunter/Emily Rogers
Attorney Docket Number:	115539-0436

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	6	100	600
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**600**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Appl. No.:	18/113,528
Filing Date:	2/23/2023
Examiner:	Not Yet Assigned
Art Unit:	2166
Confirmation Number:	9429

PRELIMINARY AMENDMENT UNDER 37 CFR 1.115

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Prior to examination of the present Continuing Application, Applicant respectfully requests that the application be amended as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on page 7 of this document.

Please amend the application as follows:

REMARKS

Applicant requests that the foregoing amendments be made prior to examination of the present application.

Status of Claims

Claims 22-27 have been newly added. No new matter has been added with the newly added claims. Support for the amendments can be found at least in FIGS. 1 and 2, as well as at paragraphs [0032] and [0062] of the specification, as originally filed. These amendments are made without prejudice or disclaimer.

After amending the claims as set forth above, claims 1-27 remain pending in this application. Applicant requests reconsideration of these claims.

Concluding Remarks

Applicant believes that the application is in condition for allowance. Favorable consideration is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extensions under 37 CFR § 1.136 and authorizes payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 28, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A non-transitory computer-readable media comprising computer-readable instructions stored thereon for provisioning a database, wherein the computer-readable instructions when executed by a processor cause the processor to:

receive a first selection of a database name for the database;

receive a second selection of a database description for the database;

receive a third selection of a database engine for the database;

receive a fourth selection indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determine an amount of storage for the database; and

create the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

2. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

3. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a cloud.

4. (Original) The non-transitory computer-readable media of claim 1, wherein the amount of storage for the database is determined based on a fifth selection indicative of a size of the database to be provisioned.

5. (Original) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

6. (Original) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to:

receive a fifth selection of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

7. (Original) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to receive a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

8. (Original) A system comprising:

a memory having computer-readable instructions stored thereon to provision a database; and

a processor that executes the computer-readable instructions to:

receive a first selection of a database name for the database;

receive a second selection of a database description for the database;

receive a third selection of a database engine for the database;

receive a fourth selection indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determine an amount of storage for the database; and

create the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

9. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

10. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a cloud.

11. (Original) The system of claim 8, wherein the amount of storage for the database is determined based on a fifth selection indicative of a size of the database to be provisioned.

12. (Original) The system of claim 8, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

13. (Original) The system of claim 8, wherein the processor further executes computer-readable instructions to:

receive a fifth selection of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

14. (Original) The system of claim 8, wherein the processor further executes computer-readable instructions to receive a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

15. (Original) A method comprising:

receiving, by a processor executing computer-readable instructions to provision a database, a first selection of a database name for the database;

receiving, by the processor, a second selection of a database description for the database;

receiving, by the processor, a third selection of a database engine for the database;

receiving, by the processor, a fourth selection indicative of a location where the database is to be provisioned;

presenting, by the processor, at least one user interface to receive the first selection, the second selection, the third selection, and the fourth selection;

determining, by the processor, an amount of storage for the database; and

creating, by the processor, the database at the location based on the first selection, the second selection, the third selection, the fourth selection, and the amount of storage.

16. (Original) The method of claim 15, further comprising provisioning the database on a hyperconverged infrastructure system.

17. (Original) The method of claim 15, further comprising provisioning the database on a cloud.

18. (Original) The method of claim 15, further comprising receiving, by the processor, a fifth selection indicative of a size of the database to be provisioned, wherein the amount of storage for the database is determined based on the size.

19. (Original) The method of claim 15, further comprising capturing, by the processor, at least one of one or more snapshots or one or more transactional logs from the database that is created.

20. (Original) The method of claim 15, further comprising:

receiving, by the processor, a fifth selection of a service level agreement; and

setting up, by the processor, to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

21. (Original) The method of claim 15, further comprising receiving, by the processor, a fifth selection of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

22. (New) The non-transitory computer-readable media of claim 1, wherein the database is associated with a direct attached storage and a network attached storage.

23. (New) The non-transitory computer-readable media of claim 1, wherein the database is associated with either a direct attached storage or a network attached storage.

24. (New) The system of claim 8, wherein the database is associated with a direct attached storage and a network attached storage.

25. (New) The system of claim 8, wherein the database is associated with either a direct attached storage or a network attached storage.

26. (New) The method of claim 15, wherein the database is associated with a direct attached storage and a network attached storage.

27. (New) The method of claim 15, wherein the database is associated with either a direct attached storage or a network attached storage.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A non-transitory computer-readable media comprising computer-readable instructions stored thereon for provisioning a database, wherein the computer-readable instructions when executed by a processor cause the processor to:

receive a first ~~selection~~ input of a database name for the database;

receive a second ~~selection~~ input of a database description for the database;

receive a third ~~selection~~ input of a database engine for the database;

receive a fourth ~~selection~~ input indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, and the fourth ~~selection~~ input;

determine an amount of storage for the database; and

create the database at the location based on the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, the fourth ~~selection~~ input, and the amount of storage.

2. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

3. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a cloud.

4. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the amount of storage for the database is determined based on a fifth ~~selection~~ input indicative of a size of the database to be provisioned.

5. (Original) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

6. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to:

receive a fifth ~~selection~~ input of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

7. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to receive a fifth ~~selection~~ input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

8. (Currently Amended) A system comprising:

a memory having computer-readable instructions stored thereon to provision a database; and

a processor that executes the computer-readable instructions to:

receive a first ~~selection~~ input of a database name for the database;

receive a second ~~selection~~ input of a database description for the database;

receive a third ~~selection~~ input of a database engine for the database;

receive a fourth ~~selection~~ input indicative of a location where the database is to be provisioned;

present at least one user interface to receive the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, and the fourth ~~selection~~ input;

determine an amount of storage for the database; and

create the database at the location based on the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, the fourth ~~selection~~ input, and the amount of storage.

9. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

10. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a cloud.

11. (Currently Amended) The system of claim 8, wherein the amount of storage for the database is determined based on a fifth ~~selection~~ input indicative of a size of the database to be provisioned.

12. (Original) The system of claim 8, wherein the processor further executes computer-readable instructions to capture at least one of one or more snapshots or one or more transactional logs from the database that is created.

13. (Currently Amended) The system of claim 8, wherein the processor further executes computer-readable instructions to:

receive a fifth ~~selection~~ input of a service level agreement; and

set up to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

14. (Currently Amended) The system of claim 8, wherein the processor further executes computer-readable instructions to receive a fifth ~~selection~~ input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

15. (Currently Amended) A method comprising:

receiving, by a processor executing computer-readable instructions to provision a database, a first ~~selection~~ input of a database name for the database;

receiving, by the processor, a second ~~selection~~ input of a database description for the database;

receiving, by the processor, a third ~~selection~~ input of a database engine for the database;

receiving, by the processor, a fourth ~~selection~~ input indicative of a location where the database is to be provisioned;

presenting, by the processor, at least one user interface to receive the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, and the fourth ~~selection~~ input;

determining, by the processor, an amount of storage for the database; and

creating, by the processor, the database at the location based on the first ~~selection~~ input, the second ~~selection~~ input, the third ~~selection~~ input, the fourth ~~selection~~ input, and the amount of storage.

16. (Original) The method of claim 15, further comprising provisioning the database on a hyperconverged infrastructure system.

17. (Original) The method of claim 15, further comprising provisioning the database on a cloud.

18. (Currently Amended) The method of claim 15, further comprising receiving, by the processor, a fifth ~~selection~~ input indicative of a size of the database to be provisioned, wherein the amount of storage for the database is determined based on the size.

19. (Original) The method of claim 15, further comprising capturing, by the processor, at least one of one or more snapshots or one or more transactional logs from the database that is created.

20. (Currently Amended) The method of claim 15, further comprising:

receiving, by the processor, a fifth ~~selection~~ input of a service level agreement; and

setting up, by the processor, to capture at least one of one or more snapshots or one or more transactional logs from the database that is created based on the service level agreement.

21. (Currently Amended) The method of claim 15, further comprising receiving, by the processor, a fifth ~~selection~~ input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

22. (Previously Presented) The non-transitory computer-readable media of claim 1, wherein the database is associated with a direct attached storage and a network attached storage.

23. (Previously Presented) The non-transitory computer-readable media of claim 1, wherein the database is associated with either a direct attached storage or a network attached storage.

24. (Previously Presented) The system of claim 8, wherein the database is associated with a direct attached storage and a network attached storage.

25. (Previously Presented) The system of claim 8, wherein the database is associated with either a direct attached storage or a network attached storage.

26. (Previously Presented) The method of claim 15, wherein the database is associated with a direct attached storage and a network attached storage.

27. (Previously Presented) The method of claim 15, wherein the database is associated with either a direct attached storage or a network attached storage.

REMARKS

Applicant requests that the foregoing amendments be made prior to examination of the present application.

Status of Claims

Claims 1, 4, 6-8, 11, 13-15, 18, 20, and 21 have been amended to increase clarity. No new matter has been added. These amendments are made without prejudice or disclaimer.

After amending the claims as set forth above, claims 1-27 remain pending in this application. Applicant requests reconsideration of these claims.

Concluding Remarks

Applicant believes that the application is in condition for allowance. Favorable consideration is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extensions under 37 CFR § 1.136 and authorizes payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date July 11, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
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Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Appl. No.:	18/113,528
Filing Date:	2/23/2023
Examiner:	Not Yet Assigned
Art Unit:	2166
Confirmation Number:	9429

PRELIMINARY AMENDMENT UNDER 37 CFR 1.115

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Prior to examination of the present Application, Applicant respectfully requests that the application be amended as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on 7 of this document.

Please amend the application as follows:

Electronic Acknowledgement Receipt	
EFS ID:	48276206
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Emily Rogers
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	11-JUL-2023
Filing Date:	23-FEB-2023
Time Stamp:	10:39:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		115539-0436_Second_Preliminary_Amendment.pdf	146144 2fcb04da8d201b77b9f5182cb19baf53ae02c9d5	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	7
Warnings:			
Information:			
	Total Files Size (in bytes):	146144	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 18/113,528	Filing Date 02/23/2023	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	07/11/2023	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 27	Minus	** 20	= 7		x $100 =	700
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	700

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/CARMEN D WILLIAMS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: August 8, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	D1	AWS. "Create a DB instance" Amazon Relational Database Service. January 2016. Retrieved from https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Tutorials.WebServerDB.CreateDBInstance.html (accessed 7/26/2023)	
	D2	AWS. "Creating and connecting to a MySQL DB instance" Amazon Relational Database Service. May 2014. Retrieved from https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_GettingStarted.CreatingConnectingMySQL.html (accessed 7/26/2023)	
	D3	JAIN, Viral. "How To Create SQL Database In AWS" C-Sharp Corner. May 4, 2018. Retrieved from https://www.c-sharpcorner.com/article/how-to-create-sql-database-in-aws/ (accessed 7/26/2023)	
	D4	SHARMA, Madhurkant. "Cloud Computing Platforms and Technologies" Geeks for Geeks. September 8, 2018. Retrieved from https://www.geeksforgeeks.org/cloud-computing-platforms-and-technologies/ (accessed 7/26/2023)	
	D5	YouTube Video screenshots for Alibaba Cloud. "How-to | Launch a MySQL Instance on Alibaba Cloud ApsaraDB for Relational Database Service" YouTube. February 27, 2017. https://youtu.be/E5wGolVFBuU [youtube.com]	
	D6	YouTube Video screenshots for Alibaba Cloud. "How-to | Launch a MySQL Instance on Alibaba Cloud ApsaraDB for Relational Database Service" YouTube. February 27, 2017. https://youtube.com/watch?v=E5wGolVFBuU [youtube.com]	
	D7	YouTube Video screenshots for Alibaba Cloud. "How-to | Set Up a Multi tier WordPress Site on Alibaba Cloud" YouTube. June 25, 2018. https://youtu.be/yWXhibylW6M [youtube.com]	

Examiner Signature		Date Considered	

4888-9050-7638.1

Electronic Acknowledgement Receipt	
EFS ID:	48413390
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	08-AUG-2023
Filing Date:	23-FEB-2023
Time Stamp:	19:34:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$900
RAM confirmation Number	E202388J36066293
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		115539-0436_Preliminary_Amendment.pdf	151918 1237720a9474288e6e8dcf58adfbb3834db970ed	yes	10
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Preliminary Amendment		1	1	
	Claims		2	8	
	Applicant Arguments/Remarks Made in an Amendment		9	10	
Warnings:					
Information:					
2	Transmittal Letter	115539-0436_IDS_Statement.pdf	134147 d3fe6dacb461ab8ff2d2e78fd410aeb713be0339	no	2
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	115539-0436_SB08.pdf	109154 f3770c3f36449e7d1f90055b92bfb5cfd5cf1b4b	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Non Patent Literature	NPL_D1--AWS___Create_a_DB_instance__Amazon_Rel.pdf	305280 9773d5488341227d1ad3999ebb544c57f4baf1de	no	6
Warnings:					
Information:					

5	Non Patent Literature	NPL_D2--AWS___Creating_and_connecting_to_a_MyS.pdf	849847 9b3c2b0e210d3a794d62dfe3471229abce28458f	no	18
Warnings:					
Information:					
6	Non Patent Literature	NPL_D3--JAIN__Viral___How_To_Create_SQL_Databa.pdf	820305 d10a3d2b436d8f6584fbc52b8974170dd5681e11	no	7
Warnings:					
Information:					
7	Non Patent Literature	NPL_D4--SHARMA__Madhurkant___Cloud_Computing_P.pdf	4244926 bae8aed06b746e8042e5d6c7b4fa9473c05b438c	no	7
Warnings:					
Information:					
8	Non Patent Literature	NPL_D5--YouTube_Video_screenshots_for_Alibaba_.pdf	2064652 ff485e6677bbcf8733625eb6784cda9c6ee111de	no	11
Warnings:					
Information:					
9	Non Patent Literature	NPL_D6--YouTube_Video_screenshots_for_Alibaba_.pdf	2064652 58afbe3ea4a2aaa0aeb6b86b0fe3feb1fc7490e3	no	11
Warnings:					
Information:					
10	Non Patent Literature	NPL_D7--YouTube_Video_screenshots_for_Alibaba_.pdf	1375542 d36f74982b0cc7ad6659231eae0be1a6c9af3b68	no	7
Warnings:					
Information:					
11	Fee Worksheet (SB06)	fee-info.pdf	38501 0f27180062796l8fd5238b6b7a8aaf92952e0317	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	12158924		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Patent Application Fee Transmittal

Application Number:	18113528
Filing Date:	23-Feb-2023
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Attorney Docket Number:	115539-0436

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	9	100	900
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**900**

REMARKS

Applicant requests that the foregoing amendments be made prior to examination of the present application.

Status of Claims

Claims 1, 4-8, 11-15, and 18-21 have been amended. Claims 28-36 are newly added. No new matter has been added. Support for the amendments can be found in the specification, as originally filed. These amendments are made without prejudice or disclaimer.

After amending the claims as set forth above, claims 1-36 remain pending in this application. Applicant requests consideration of these claims.

Concluding Remarks

Applicant believes that the application is in condition for allowance. Favorable consideration is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution.

Applicant is hereby submitting payment for nine additional dependent claim fees, authorization for a credit card payment of the filing fee is submitted herewith. However, the Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extensions under 37 CFR § 1.136 and authorizes payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date August 8, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
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Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	Not Yet Assigned
Art Unit:	2166
Confirmation No.:	9429

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon

for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date August 8, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Appl. No.:	18/113,528
Filing Date:	2/23/2023
Examiner:	Not Yet Assigned
Art Unit:	2166
Confirmation Number:	9429

PRELIMINARY AMENDMENT UNDER 37 CFR 1.115

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Prior to examination of the present Application, Applicant requests that the application be amended as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks begin on page 9 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A non-transitory computer-readable media comprising computer-readable instructions stored thereon for provisioning a database, wherein the computer-readable instructions when executed by a processor cause the processor to:

receive a first input of a database name for the database;

~~receive a second input of a database description for the database;~~

receive a [[third]] second input of a database engine for the database;

receive a third ~~fourth~~ input indicative of a location where the database is to be provisioned;

receive a fourth input comprising a selection of a level of a Service Level Agreement (SLA) from a plurality of levels of the SLA to protect the database after provisioning;

receive a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot;

present at least one user interface to receive the first input, the second input, the third input, [[and]] the fourth input, and the fifth input;

determine an amount of storage for the database; and

create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage.

2. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

3. (Original) The non-transitory computer-readable media of claim 1, wherein the location where the database is to be provisioned comprises a cloud.

4. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the amount of storage for the database is determined based on a [[fifth]] sixth input indicative of a size of the database to be provisioned.

5. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to capture ~~at least one of~~ one or more snapshots ~~or one or more transactional logs~~ from the database that is created based on the first frequency, the at least one period, and the SLA.

6. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to:

~~receive a fifth input of a service level agreement; and~~

~~set up to~~ capture ~~at least one of one or more snapshots or~~ one or more transactional logs from the database that is created based on the SLA and a second frequency for capturing a transactional log~~service level agreement~~.

7. (Currently Amended) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to receive a [[fifth]] sixth input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

8. (Currently Amended) A system comprising:

a memory having computer-readable instructions stored thereon to provision a database; and

a processor that executes the computer-readable instructions to:

receive a first input of a database name for the database;

~~receive a second input of a database description for the database;~~

receive a [[third]] second input of a database engine for the database;

receive a third ~~fourth~~ input indicative of a location where the database is to be provisioned;

receive a fourth input comprising a selection of a level of a Service Level Agreement (SLA) from a plurality of levels of the SLA to protect the database after provisioning;

receive a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot;

present at least one user interface to receive the first input, the second input, the third input, [[and]] the fourth input, and the fifth input;

determine an amount of storage for the database; and

create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage.

9. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a hyperconverged infrastructure system.

10. (Original) The system of claim 8, wherein the location where the database is to be provisioned comprises a cloud.

11. (Currently Amended) The system of claim 8, wherein the amount of storage for the database is determined based on a [[fifth]] sixth input indicative of a size of the database to be provisioned.

12. (Currently Amended) The system of claim 8, wherein the processor further executes computer-readable instructions to capture ~~at least one of~~ one or more snapshots ~~or one or more transactional logs~~ from the database that is created based on the first frequency, the at least one period, and the SLA.

13. (Currently Amended) The system of claim 8, wherein the processor further executes computer-readable instructions to:

~~receive a fifth input of a service level agreement; and~~

~~set up to~~ capture ~~at least one of one or more snapshots or~~ one or more transactional logs from the database that is created based on the SLA and a second frequency for capturing a transactional logs ~~service level agreement~~.

14. (Currently Amended) The system of claim 8, wherein the processor further executes computer-readable instructions to receive a [[fifth]] sixth input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

15. (Currently Amended) A method comprising:

receiving, by a processor executing computer-readable instructions to provision a database, a first input of a database name for the database;

~~receiving, by the processor, a second input of a database description for the database;~~

receiving, by the processor, a [[third]] second input of a database engine for the database;

receiving, by the processor, a third ~~fourth~~ input indicative of a location where the database is to be provisioned;

receiving, by the processor, a fourth input comprising a selection of a level of a Service Level Agreement (SLA) from a plurality of levels of the SLA to protect the database after provisioning;

receiving, by the processor, a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot;

presenting, by the processor, at least one user interface to receive the first input, the second input, the third input, [[and]] the fourth input, and the fifth input;

determining, by the processor, an amount of storage for the database; and

creating, by the processor, the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage.

16. (Original) The method of claim 15, further comprising provisioning the database on a hyperconverged infrastructure system.

17. (Original) The method of claim 15, further comprising provisioning the database on a cloud.

18. (Currently Amended) The method of claim 15, further comprising receiving, by the processor, a [[fifth]] sixth input indicative of a size of the database to be provisioned, wherein the amount of storage for the database is determined based on the size.

19. (Currently Amended) The method of claim 15, further comprising capturing, by the processor, ~~at least one of~~ one or more snapshots ~~or one or more transactional logs~~ from the database that is created based on the first frequency, the at least one period, and the SLA.

20. (Currently Amended) The method of claim 15, further comprising:

~~receiving, by the processor, a fifth input of a service level agreement; and~~

~~setting up~~ capturing, by the processor, ~~to capture at least one of one or more snapshots or~~ one or more transactional logs from the database that is created based on the SLA and a second frequency for capturing a transactional log~~service level agreement~~.

21. (Currently Amended) The method of claim 15, further comprising receiving, by the processor, a [[fifth]] sixth input of a compute profile indicative of a number of vCPUs and memory for provisioning the database.

22. (Previously Presented) The non-transitory computer-readable media of claim 1, wherein the database is associated with a direct attached storage and a network attached storage.

23. (Previously Presented) The non-transitory computer-readable media of claim 1, wherein the database is associated with either a direct attached storage or a network attached storage.

24. (Previously Presented) The system of claim 8, wherein the database is associated with a direct attached storage and a network attached storage.

25. (Previously Presented) The system of claim 8, wherein the database is associated with either a direct attached storage or a network attached storage.

26. (Previously Presented) The method of claim 15, wherein the database is associated with a direct attached storage and a network attached storage.

27. (Previously Presented) The method of claim 15, wherein the database is associated with either a direct attached storage or a network attached storage.

28. (New) The non-transitory computer-readable media of claim 1, wherein the processor further executes computer-readable instructions to receive a sixth input of a database description for the database.

29. (New) The non-transitory computer-readable media of claim 1, wherein each of the plurality of levels of the SLA defines one or more of a first duration for a continuous protection of the database, a second duration of protecting the database using a daily snapshot, a third duration of protecting the database using a weekly snapshot, a fourth duration of protecting the database using a monthly snapshot, and a fifth duration of protecting the database using a quarterly snapshot.

30. (New) The non-transitory computer-readable media of claim 29, wherein the at least one time period comprises one or more of a time of day for capturing the daily snapshot, a day of a week for capturing the weekly snapshot, a day of a month for capturing a monthly snapshot, or a group of months for capturing a quarterly snapshot.

31. (New) The system of claim 8, wherein the processor further executes computer-readable instructions to receive a sixth input of a database description for the database.

32. (New) The system of claim 8, wherein each of the plurality of levels of the SLA defines one or more of a first duration for a continuous protection of the database, a second duration of protecting the database using a daily snapshot, a third duration of protecting the database using a weekly snapshot, a fourth duration of protecting the database using a monthly snapshot, and a fifth duration of protecting the database using a quarterly snapshot.

33. (New) The system of claim 32, wherein the at least one time period comprises one or more of a time of day for capturing the daily snapshot, a day of a week for capturing the weekly snapshot, a day of a month for capturing a monthly snapshot, or a group of months for capturing a quarterly snapshot.

34. (New) The method of claim 15, further comprising receiving, by the processor, a sixth input of a database description for the database.

35. (New) The method of claim 15, wherein each of the plurality of levels of the SLA defines one or more of a first duration for a continuous protection of the database, a second duration of protecting the database using a daily snapshot, a third duration of protecting the database using a weekly snapshot, a fourth duration of protecting the database using a monthly snapshot, and a fifth duration of protecting the database using a quarterly snapshot.

36. (New) The method of claim 35, wherein the at least one time period comprises one or more of a time of day for capturing the daily snapshot, a day of a week for capturing the weekly snapshot, a day of a month for capturing a monthly snapshot, or a group of months for capturing a quarterly snapshot.

UNITED STATES PATENT AND TRADEMARK OFFICE
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Alexandria, VA 22313 - 1450
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**09/01/2023 06:48:20 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	62727618	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436_Information_Disclosure_Statement.pdf	2	Transmittal Letter	132 KB
115539-0436_SB08.pdf	2	Information Disclosure Statement (IDS) Form (SB08)	115 KB

Warning: This is not a USPTO supplied IDS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
115539-0436_Information_Disclosure_Statement.pdf	11D3621E36465FD69C6BC1B5BC99FA52D4CD2E558B82D006E77044A83BCBE273677CA72BA9DA5E73CC99C4C12E97DCD0C0381ECC9FEEBA1588592584F11584B0
115539-0436_SB08.pdf	FA2DE73A88DE14ABB50D5ACB747321AC3601BB2060B9A41A5AFC37780A579C7BAB781FEDE3A8B85929DC043CE293A0B2BAC65CF77F810ACE1C4A77C236C85D50

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: September 1, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	E1	9,733,958-B2	08-15-2017	CUI ET AL.	
	E2	9,740,472-B1	08-22-2017	SOHI ET AL.	
	E3	11,275,573-B1	03-15-2022	SHRINAND JAVADEKAR	
	E4	2019/0034240-A1	01-31-2019	NABI ET AL.	
	E5	2020/0081704-A1	03-12-2020	BAFNA ET AL.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	E6	AWS. "Create a custom Windows AMI" Amazon Elastic Compute Cloud. January 15, 2013. Retrieved from https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/Creating_EBSbacked_WinAMI.html (accessed 8/30/2023)	
	E7	AWS. "Creating and connecting to an Oracle DB instance" Amazon Relational Database Service. June 6, 2014. Retrieved from https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_GettingStarted.CreatingConnecting.Oracle.html (accessed 8/30/2023)	
	E8	AWS. "Maintaining a DB instance" Amazon Relational Database Service. September 5, 2015. Retrieved from https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_UpgradeDBInstance.Maintenance.html#OS_Updates (accessed 8/30/2023)	
	E9	CLOUDTHAT. "Virtualization in Amazon Web Services" CloudThat. October 16, 2014. Retrieved from https://www.cloudthat.com/resources/blog/virtualization-in-amazon-web-services (accessed 8/30/2023)	
	E10	HAVEWALA, Porus. "Back Up a Thousand Databases Using Enterprise Manager Cloud Control 12c" Technical Article. January 2014. Retrieved from https://www.oracle.com/technical-resources/articles/enterprise-manager/havewala-rman-em12c.html (accessed 8/30/2023)	
	E11	Kolasa, Konrad, "Date Picker." Dribbble, published February 28, 2017 (Retrieved from the Internet 4/7/2020). Internet URL: <https:// dribbble.com/shots/3326020-Date-Picker> (Year: 2017)	
	E12	Matijaca, Ante, "Dashboard" Dribbble, published December 21, 2015, retrieved 2/11/2022 from <https://dribbble.com/shots/2417233-Dashboard> (Year: 2015)	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 1, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Not Yet Assigned
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	E13	MONGODB. "mongodb" GitHub. March 2015. Retrieved from https://github.com/mongodb/docs/blob/v4.2/source/core/replica-set-priority-0-member.txt (accessed 8/30/2023)	
	E14	Non-Final Office Action on US 17/694964 DTD 08/09/2023	
	E15	NUTANIX "Nutanix announces Flow, Era and Beam and .NEXT 2018" (published 5/9/2018) Nutanix Youtube, from https://www.youtube.com/watch?v=w40asaGtrkU (accessed 12/19/2019)	
	E16	ORACLE. "About Managed Targets" Enterprise Manager Cloud Control Extensibility Programmer's Guide. May 2014. Retrieved from https://docs.oracle.com/cd/E24628_01/doc.121/e25159/managed_targets.htm#EMPRG140 (accessed 8/30/2023)	
	E17	ORACLE. "Managing Groups" Enterprise Manager Cloud Control Administrator's Guide. February 2016. Retrieved from https://docs.oracle.com/cd/E24628_01/doc.121/e24473/group_management.htm#EMADM9216 (accessed 8/30/2023)	
	E18	Palmer, Brent, "Date Range." Dribbble, published October 21, 2015 (Retrieved from the Internet 4/7/2020). Internet URL: <https://dribbble.com/shots/2306949-Date-Range> (Year: 2015)	
	E19	QUEST. "Creating custom User-defined Database Groups" Support. August 16, 2017. Retrieved from https://support.quest.com/kb/4229519/creating-custom-user-defined-database-groups (accessed 8/30/2023)	
	E20	REINERO, Bryan. "Your Ultimate Guide to Rolling Upgrades" MongoDB. May 1, 2018. Retrieved from https://www.mongodb.com/blog/post/your-ultimate-guide-to-rolling-upgrades (accessed 8/30/2023)	
	E21	Steven Tom, Idaho National Laboratory, "Recommended Practice for Patch Management of Control Systems", December 2008, Cybersecurity Infrastructure Security Agency (CISA), U.S. Department of Homeland Security. (Year: 2008)	
	E22	YouTube Video for Delphix Corp., "How To Create Database Copies with Delphix," YouTube, April 3, 2018, https://www.youtube.com/watch?v=1EjR-k4EJ68 [youtube.com]	
	E23	YouTube Video for Rubrik, "Item-level Recovery with Rubrik SQL Server Live Mount," YouTube, July 12, 2018, https://www.youtube.com/watch?app=desktop&v=Upp4Ume03P0&feature=youtu.be [youtube.com]	
	E24	YouTube Video screenshots for Alibaba Cloud. "How-to | Launch a MySQL Instance on Alibaba Cloud ApsaraDB for Relational Database Service" YouTube. February 27, 2017. https://youtu.be/E5wGolVFBuU [youtube.com]	
	E25	YouTube Video screenshots for Alibaba Cloud. "How-to | Set Up a Multi tier WordPress Site on Alibaba Cloud" YouTube. June 25, 2018. https://youtu.be/yWXhibylW6M [youtube.com]	
	E26	YouTube Video screenshots for Amazon Web Services. "Amazon ECS: Core Concepts" YouTube. August 31, 2017. https://www.youtube.com/watch?app=desktop&v=eq4wL2MiNqo&feature=youtu.be [youtube.com]	

Examiner Signature		Date Considered	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	Not Yet Assigned
Art Unit:	Not Yet Assigned
Confirmation No.:	9429

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date September 1, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
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Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

Electronic Patent Application Fee Transmittal

Application Number:	18113528
Filing Date:	23-Feb-2023
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Attorney Docket Number:	115539-0436

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**170**

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	18113528
Filing Date	23-Feb-2023
First Named Inventor	Balasubrahmanyam Kuchibhotla
Attorney Docket Number	115539-0436
Title of Invention	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
Nutanix, Inc.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

11604762

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ○ Small Entity ○ Micro Entity ◉ Regular Undiscounted I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 44787 ○ A sole inventor ○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ○ A joint inventor; all of whom are signing this request	
Signature	/Paul S. Hunter/
Name	Paul S. Hunter

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 18113528

Filing Date: 23-Feb-2023

Applicant/Patent under Reexamination: Kuchibhotla

Electronic Terminal Disclaimer filed on September 6, 2023

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt	
EFS ID:	48545024
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	06-SEP-2023
Filing Date:	23-FEB-2023
Time Stamp:	13:26:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$170
RAM confirmation Number	E202396D26006327
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	41278 844dbea4db006119f43e6a470487e70f9abfcc8d	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	38378 8aa7b4d0cd0d0fb3c68c0d2f0f97d5a6c13b6d19	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	79656		

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New Applications Under 35 U.S.C. 111
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National Stage of an International Application under 35 U.S.C. 371
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**09/06/2023 01:17:49 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	62742853	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 7

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436_Information_Disclosure_Statement.pdf	2	Transmittal Letter	132 KB
115539-0436_SB08.pdf	1	Information Disclosure Statement (IDS) Form (SB08)	105 KB
Warning: This is not a USPTO supplied IDS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.			
NPL_F4--GOOGLE_CLOUD___Creating_Instances__Dat.pdf	5	Non Patent Literature	311 KB

NPL_F5--MYSQL___Creating_a_MySQL_Server_Deploy.pdf	6	Non Patent Literature	208 KB
NPL_F3--AWS___Regions_and_Availability_Zones__.pdf	3	Non Patent Literature	195 KB
NPL_F2--AWS___Creating_a_MySQL_DB_Instance_and.pdf	9	Non Patent Literature	658 KB
NPL_F1--AWS___Amazon_Relational_Database_Servi.pdf	5	Non Patent Literature	1013 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
115539-0436_Information_Disclosure_Statement.pdf	287ACC0F25F99088F00678F6B8C88BCE5E2A20B9F6C305249680597A1A65493F5EDEE5A7CAEA2118669F17DCAD13CA92BD40D05042977103179D520492D22D9E
115539-0436_SB08.pdf	9DA737061988235C859262D9F878163E388E8BAEDB89F32BDF937D3939D82C61BA930A17F2ED432E2164E3CC605442BC1CFD23C788D9429BF97ADF02AFB2C2D7
NPL_F4--GOOGLE_CLOUD___Creating_Instances__Dat.pdf	810370BFBCB6A6512645201646A695527D8CA456704DFAE8FA486BE636265A7F623683945DE11247E32550A9BC9DB33B34F9AE7D09B91C79DA45D38C15781F88
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NPL_F3--AWS___Regions_and_Availabili	B9C55B2986E44DC90EFFF82795D4DC99E79EAAB973F7D0B68C3559605EBD0598958E994C842314B4125CBD3B9D1F53CEE

ty_Zones__.pdf	EFC99C833AC6DC08F57E1ABF917E6EB
NPL_F2--AWS___Creating_a_MySQL_DB_Instance_and.pdf	2F0B3E4DF248BA0C632CFC0F271CEB369887F7FDA1F4B9106744BFC57D8DB8E25FDDA1D93596D886A5CC91BD7E93610CBA2931DFD5F647971F8B419CB003999D
NPL_F1--AWS___Amazon_Relational_Database_Servi.pdf	7C32224AFD5E11603F1611D7F29227EE17BFDDFD6F4FBBE10347B58381A5140D8D726858243964805C5391C2CF7FC07FB89D76A38F57B2D2EBBEE3A20930FBE1

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: September 6, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	2166
				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	F1	AWS. "Amazon Relational Database Service (RDS)" Amazon Relational Database Service. December 24, 2017. Retrieved from https://web.archive.org/web/20171224182936/https:/aws.amazon.com/rds/#features (accessed 9/6/2023)	
	F2	AWS. "Creating a MySQL DB Instance and Connecting to a Database on a MySQL DB Instance" Amazon Relational Database Service. December 22, 2017. Retrieved from https://web.archive.org/web/20171222204154/https:/docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_GettingStarted.CreatingConnecting.MySQL.html (accessed 9/6/2023)	
	F3	AWS. "Regions and Availability Zones" Amazon Relational Database Service. December 22, 2017. Retrieved from https://web.archive.org/web/20171222195304/http:/docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.RegionsAndAvailabilityZones.html (accessed 9/6/2023)	
	F4	GOOGLE CLOUD. "Creating Instances" Database Products. September 18, 2018. Retrieved from https://web.archive.org/web/20180918103721/https:/cloud.google.com/sql/docs/mysql/create-instance (accessed 9/6/2023)	
	F5	MYSQL. "Creating a MySQL Server Deployment" Documentation. March 13, 2017. Retrieved from https://web.archive.org/web/20170313043247/http:/docs.oracle.com/cloud/latest/mysql-cloud/UOMCS/GUID-D03FE523-AD8D-4C53-935C-D5D6513D2A24.htm#GUID-D03FE523-AD8D-4C53-935C-D5D6513D2A24 (accessed 9/6/2023)	

Examiner Signature		Date Considered	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	HARPER, ELIYAH STONE
Art Unit:	2166
Confirmation No.:	9429

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed Non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date September 6, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 18/113,528	Filing Date 02/23/2023	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	09/08/2023	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 36	Minus	** 27	= 9		x $100 =	900
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	900

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/PAULA D MCCRAY STANLEY/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**09/14/2023 06:46:36 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	62801256	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 3

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436_SB08.pdf	1	Information Disclosure Statement (IDS) Form (SB08)	103 KB
Warning: This is not a USPTO supplied IDS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.			
115539-0436_Information_Disclosure_Statement.pdf	2	Transmittal Letter	131 KB
NPL_G1--Non_Final_Office_Action_on_US_17_95163.pdf	17	Non Patent Literature	1029 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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New International Application Filed with the USPTO as a Receiving Office

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Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 14, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	G1	Non-Final Office Action on US 17/951632 DTD 09/14/2023	

Examiner Signature		Date Considered	

4886-9381-8751.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	HARPER, ELIYAH STONE
Art Unit:	2166
Confirmation No.:	9429

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

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TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date September 14, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
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Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L100	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/07 11:53 AM
L101	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L102	121	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L103	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L104	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L105	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L106	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L107	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L108	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L109	3	((service NEAR level NEAR agreement) NEAR select$3) AND	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2023/09/07 11:53 AM

		(cluster$1 SAME size) AND @ad<"20181227"	IBM_TDB)				
L110	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L111	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L112	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L113	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L114	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L115	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L116	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L117	69	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L118	3	((service NEAR level NEAR agreement) SAME selection SAME	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2023/09/07 11:53 AM

		levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	IBM_TDB)				
L119	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L120	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L121	424	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L122	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/07 11:53 AM
L123	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L124	121	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L125	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L126	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L127	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L128	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L129	1584	((service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	ON	2023/09/07 11:53 AM

		SAME selection) AND @ad<"20181227"	JPO; DERWENT; IBM_TDB)				
L130	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L131	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L132	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L133	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L134	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L135	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L136	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L137	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L138	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM

		AND @ad<"20181227"					
L139	69	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L140	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L141	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L142	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L143	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L144	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L145	424	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L146	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/07 11:53 AM
L147	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L148	121	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L149	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM

L150	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L151	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L152	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L153	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L154	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L155	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L156	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L157	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L158	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L159	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L160	2	((service NEAR level NEAR agreement) SAME levels SAME	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2023/09/07 11:53 AM

		selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	IBM_TDB)				
L161	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L162	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L163	69	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L164	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L165	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L166	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L167	424	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L168	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/09/07 11:53 AM
L169	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM

L170	121	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L171	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L172	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L173	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L174	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L175	1584	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L176	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L177	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L178	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L179	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L180	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM

L181	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L182	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L183	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L184	69	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L185	69	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L186	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L187	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L188	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L189	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L190	250	("0000002" OR "10146848" OR "10606578" OR "10938924" OR "10951496" OR	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 11:53 AM

		"11386058" OR "20150301814" OR "20160337473" OR "20190089597" OR "20210144060" OR "20210406717" OR "8448170" OR "0000001" OR "11243971" OR "0000011" OR "20060143412" OR "20150358417" OR "20160092535" OR "20210064512" OR "20210200643" OR "9213727" OR "20150074054" OR "20170374136" OR "H000001" OR "10719407" OR "20070234115" OR "20110022882" OR "20140201171" OR "20170235758" OR "20170235950" OR "20180157561" OR "20190310926" OR "11126426" OR "20170115978" OR "9753713" OR "9960963" OR "D947216" OR "D947239" OR "D947240" OR "20140282256" OR "20150347987" OR "20180253676" OR "20190018738" OR "20200110675" OR "D000001" OR "D508248" OR "D521521" OR "D625315" OR "D656948" OR "D684160" OR "D684161" OR "D733745" OR "D749117" OR "D761288" OR "D771102" OR "D777747" OR "D778296" OR "D781887" OR "D794666" OR "D794667" OR "D797116" OR "D802608" OR "D809530" OR				

		"D815652" OR "D817976" OR "D843388" OR "D911356" OR "D926200" OR "D927507" OR "10725866" OR "10817157" OR "11010336" OR "20120123999" OR "20150227435" OR "20190155699" OR "20200034178" OR "20200099692" OR "20200210378" OR "20200210379" OR "20200250046" OR "10013313" OR "10033833" OR "10055300" OR "10108685" OR "10212195" OR "10282201" OR "10339110" OR "10372329" OR "10379963" OR "10445298" OR "10476955" OR "10503612" OR "10613938" OR "10637914" OR "10757036" OR "10776329" OR "10812582" OR "10959098" OR "10999165" OR "11010487" OR "20020104376" OR "20020174098" OR "20150052108" OR "20150143064" OR "20150227602" OR "20150331923" OR "20160321339" OR "20170351716" OR "20180181469" OR "20190102257" OR "20190158605" OR "20190384496" OR "20200104375" OR "20200104376" OR "20200104377" OR "20200285608" OR "20200349018" OR "20200379793" OR "20210117293" OR "8468174" OR "8677085" OR					

		"8849850" OR "9372758" OR "9495435" OR "9600193" OR "9639429" OR "9760396" OR "9778992" OR "9858155" OR "9881168" OR "10185627" OR "10210048" OR "10248657" OR "10346431" OR "10447806" OR "10509798" OR "10599423" OR "10700991" OR "10728255" OR "10785029" OR "20010014867" OR "20020073089" OR "20030147309" OR "20050149757" OR "20070100793" OR "20070183224" OR "20070185852" OR "20070185937" OR "20080126945" OR "20080256311" OR "20090022285" OR "20090028082" OR "20090037914" OR "20090125858" OR "20090132543" OR "20110004586" OR "20110071981" OR "20110093435" OR "20120011378" OR "20120271797" OR "20130117441" OR "20130290180" OR "20140189685" OR "20140229698" OR "20150019495" OR "20150121453" OR "20150142610" OR "20150195347" OR "20160041997" OR "20160048408" OR "20160077923" OR "20160125059" OR "20160162845" OR "20160197835" OR "20160267105" OR "20160274981" OR "20160292358" OR "20160335369" OR "20160380809" OR					

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		"9529551" OR "9652265" OR "9740723" OR "9747287" OR "9772866" OR "D753135" OR "D753140" OR "D763890" OR "D779514" OR "D803231" OR "D807902" OR "D838288" OR "D839913").pn.					
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L192	3	L92 AND (first SAME second SAME third SAME selection$1)	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 11:53 AM
L193	14	G06F11/1461.cpc. AND (delphix) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM
L194	76	G06F16/128.cpc. AND (delphix) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/09/07 11:53 AM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N25	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N39	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N40	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N42	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N43	335	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N44	39	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
N45	8	(service AND level AND	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07

		agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.					02:04 PM
N46	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/07 02:04 PM
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N68	39	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/09/08 09:35 AM
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Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 6, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	**Art Unit**
	ELIYAH S HARPER	2166

CPC						
Symbol					**Type**	**Version**
G06F	/	16	/	128	F	2019-01-01
G06F	/	11	/	1461	I	2013-01-01
G06F	/	9	/	45558	I	2013-01-01
G06F	/	2009	/	45562	A	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	14 January 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office — Part of Paper No.: 20230907

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	**Art Unit**
	ELIYAH S HARPER	2166

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F	/	11	/	14

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
707	639

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	14 January 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office — Part of Paper No.: 20230907

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	**Art Unit**
	ELIYAH S HARPER	2166

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	14 January 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office Part of Paper No.: 20230907

Bibliographic Data

Application No: 18/113,528

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /Eliyah S. Harper/ Examiner's Signature | Initials

Title: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/23/2023	707	2166	115539-0436
RULE			

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Sujit Menon, San Jose, CA, UNITED STATES

Maneesh Rawat, San Jose, CA, UNITED STATES

CONTINUING DATA

This application is a CON of 17237599 04/22/2021 PAT 11604762

17237599 is a CON of 16234553 12/27/2018 PAT 11010336

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

03/15/2023

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UNITED STATES

FILING FEE RECEIVED

$1,920

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: August 8, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

4888-9050-7638.1

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Notice of References Cited	Application/Control No. 18/113,528	Applicant(s)/Patent Under Reexamination Kuchibhotla et al.	
	Examiner ELIYAH S HARPER	Art Unit 2166	Page 1 of 1

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
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*	D	US-8924974-B1	12-2014	Ruggiero; Jonathan	G06F9/466	718/101
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	N					
	O					
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	Q					
	R					
	S					
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: June 7, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	2166
				Examiner Name	
Sheet	1	of	4	Attorney Docket Number	115539-0436

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: June 7, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	2	of	4	Attorney Docket Number	115539-0436

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: June 7, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	3	of	4	Attorney Docket Number	115539-0436

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	Application Number	18/113528
	Filing Date	2/23/2023
	First Named Inventor	Balasubrahmanyam Kuchibhotla
	Art Unit	2166
	Examiner Name	
	Attorney Docket Number	115539-0436

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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: June 28, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
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				Art Unit	Unassigned
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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	21	of	22	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	22	of	22	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: September 1, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	E1	9,733,958-B2	08-15-2017	CUI ET AL.	
	E2	9,740,472-B1	08-22-2017	SOHI ET AL.	
	E3	11,275,573-B1	03-15-2022	SHRINAND JAVADEKAR	
	E4	2019/0034240-A1	01-31-2019	NABI ET AL.	
	E5	2020/0081704-A1	03-12-2020	BAFNA ET AL.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 1, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Not Yet Assigned
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
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Examiner Signature	/Eliyah S. Harper/	Date Considered	09/08/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
inventor/assignee search	09/07/2023	ESH
considered references from information disclosure statement	09/05/2023	ESH

/ESH/ Primary Examiner, Art Unit 2166	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06F	16/128	09/07/2023	ESH
G06F	9/45558	09/07/2023	ESH
G06F	11/1461	09/07/2023	ESH
G06F	16/128	09/07/2023	ESH
G06F	9/45558	09/07/2023	ESH
G06F	11/1461	09/07/2023	ESH

/ESH/ Primary Examiner, Art Unit 2166	

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NOTICE OF ALLOWANCE AND FEE(S) DUE

147491 7590 09/19/2023

FOLEY & LARDNER LLP
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SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER
HARPER, ELIYAH STONE

ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 09/19/2023

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

TITLE OF INVENTION: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	12/19/2023

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

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Commissioner for Patents
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

147491 7590 09/19/2023
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(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

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nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	12/19/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
HARPER, ELIYAH STONE	2166	707-639000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via Patent Center or EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

147491 7590 09/19/2023

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
HARPER, ELIYAH STONE	
ART UNIT	**PAPER NUMBER**
2166	

DATE MAILED: 09/19/2023

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 18/113,528	Applicant(s) Kuchibhotla et al.	
	Examiner ELIYAH S HARPER	Art Unit 2166	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 2/23/2023.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-36 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date See Continuation Sheet.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Eliyah S. Harper/
Primary Examiner, Art Unit 2166

Continuation of Attachment(s) 2. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 2/23 /2023,,6/7/2023,6/28/2023,8/8/2023,9/6/2023, 9/1.2023

DETAILED ACTION

1. This communication is in response to application 18/113,528 filed on 2/23/2023 and subsequent preliminary amendment filed on 8/8/2023. After a thorough search and examination of the present application and in light of the prior art made of record, claims 1-36 are allowed.

Relevant documents

2. The following documents are relevant to the current invention but do not constitute prior art.

A. US 2019/0324865 Weissman discloses provisioning a database cluster based on policy and capturing snapshots based on a service level agreement. Weissman however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

B. US 2016/0335369 Picard discloses user selections of service level agreements. Picard however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage

for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

C. US 11,308,114 Moghe discloses receiving selections from users to determine the size of partitions. Moghe however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

Reasons for allowance

3. The prior art does not teach or fairly suggest receive/receiving a fourth input comprising a selection of a level of a Service Level Agreement (SLA) from a plurality of levels of the SLA to protect the database after provisioning; receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage.

Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIYAH STONE HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Monday-Friday 10:00 am - 6:00 pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Featherstone can be reached on (571)270-3750. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eliyah S. Harper/
Primary Examiner, Art Unit 2166
September 8, 2023

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 14, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	G1	Non-Final Office Action on US 17/951632 DTD 09/14/2023	

Examiner Signature	/Eliyah S. Harper/	Date Considered	09/21/2023

4886-9381-8751.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

147491 7590 09/25/2023

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
HARPER, ELIYAH STONE	

ART UNIT	PAPER NUMBER
2166	

MAIL DATE	DELIVERY MODE
09/25/2023	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES DEPARTMENT OF COMMERCE
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Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR/ PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
18/113,528	02/23/2023	Kuchibhotla et al.	115539-0436

		EXAMINER	
FOLEY & LARDNER LLP 3000 K STREET N.W. SUITE 600 WASHINGTON, DC 20007-5109		ELIYAH S HARPER	
		ART UNIT	PAPER
		2166	20230921

DATE MAILED: _____

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Attached is the information disclosure statement filed on 9/14/2023	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	

PTO-90C (Rev.04-03)

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 14, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	G1	Non-Final Office Action on US 17/951632 DTD 09/14/2023	

Examiner Signature	/Eliyah S. Harper/	Date Considered	10/09/2023

4886-9381-8751.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

UNITED STATES
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Alexandria, VA 22313 - 1450
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**10/19/2023 10:57:10 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	63039503	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 10

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
NPL_H9--TABBARA__Bassam__et_al___Introducing_C.pdf	1	Non Patent Literature	179 KB
NPL_H8--PROGRESS___What_is_multi_tenancy___Pro.pdf	2	Non Patent Literature	236 KB
NPL_H10--TEN_SIX___How_to_Assign_a_Task_Calenda.pdf	12	Non Patent Literature	474 KB
NPL_H4--PROGRESS___Multi_tenant	2	Non Patent Literature	218 KB

_features__Prog.pdf			
NPL_H6--PROGRESS___Tenant_ID__Progress_Documen.pdf	2	Non Patent Literature	126 KB
NPL_H5--PROGRESS___Simple_tenancy__Progress_Do.pdf	2	Non Patent Literature	228 KB
NPL_H3--KUBERNETES___Operating_etcd_clusters_f.pdf	8	Non Patent Literature	588 KB
NPL_H2--KUBERNETES___Nodes__Kubernetes_Documen.pdf	10	Non Patent Literature	839 KB
NPL_H1--KUBERNETES___Authenticating__Kubernete.pdf	24	Non Patent Literature	1748 KB
NPL_H7--PROGRESS___Tenant_ID__method__Progres.pdf	55	Non Patent Literature	817 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C.

371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Decision Date : October 19, 2023

In re Application of :

Balasubrahmanyam Kuchibhotla

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No : 18113528

Filed : 23-Feb-2023

Attorney Docket No : 115539-0436

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed October 19, 2023 , to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED.**

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2166 for processing of the request for continuing examination under 37 CFR 1.114 .

Office of Petitions

Electronic Patent Application Fee Transmittal

Application Number:	18113528
Filing Date:	23-Feb-2023
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Attorney Docket Number:	115539-0436

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
PETITION FEE- 37 CFR 1.17(H) (GROUP III)	1464	1	140	140
RCE- 1ST REQUEST	1801	1	1360	1360
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1500**

Doc Code: PET.AUTO Document Description: Petition automatically granted by EFS-Web	PTO/SB/140 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)**
Application Number	18113528
Filing Date	23-Feb-2023
First Named Inventor	Balasubrahmanyam Kuchibhotla
Art Unit	2166
Examiner Name	ELIYAH HARPER
Attorney Docket Number	115539-0436
Title	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary.

APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c).

A grantable petition requires the following items:
(1) Petition fee; and
(2) One of the following reasons:
(a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable;
(b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or
(c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).

Petition Fee

- ○ Small Entity
- ○ Micro Entity
- ◉ Regular Undiscounted

Reason for withdrawal from issue

◯ One or more claims are unpatentable ◉ Consideration of a request for continued examination (RCE) (List of Required Documents and Fees) ◯ Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).
RCE request,submission, and fee. ☐ I certify, in accordance with 37 CFR 1.4(d)(4) that : The RCE request ,submission, and fee have already been filed in the above-identified application on ☒ Are attached.
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application. ◯ An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity. ◯ A sole inventor ◯ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ◯ A joint inventor; all of whom are signing this e-petition

Signature	/Paul S. Hunter/
Name	Paul S. Hunter
Registration Number	44787

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: October 19, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	2	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	H1	KUBERNETES. "Authenticating" Kubernetes Documentation. July 12, 2018. Retrieved from https://kubernetes.io/docs/reference/access-authn-authz/authentication/ (accessed 10/11/2023)	
	H2	KUBERNETES. "Nodes" Kubernetes Documentation. July 14, 2017. Retrieved from https://kubernetes.io/docs/concepts/architecture/nodes/ (accessed 10/11/2023)	
	H3	KUBERNETES. "Operating etcd clusters for Kubernetes" Kubernetes Documentation. September 27, 2018. Retrieved from https://kubernetes.io/docs/tasks/administer-cluster/configure-upgrade-etcd/ (accessed 10/11/2023)	
	H4	PROGRESS. "Multi-tenant features" Progress Documentation. April 12, 2017. Retrieved from https://docs.progress.com/bundle/openedge-database-management-117/page/Multi-tenant-features.html (accessed 9/28/2023)	
	H5	PROGRESS. "Simple tenancy" Progress Documentation. April 12, 2017. Retrieved from https://docs.progress.com/bundle/openedge-database-management-117/page/Simple-tenancy.html (accessed 9/28/2023)	
	H6	PROGRESS. "Tenant ID" Progress Documentation. April 12, 2017. Retrieved from https://docs.progress.com/bundle/openedge-database-multitenancy-117/page/Tenant-ID.html (accessed 9/28/2023)	
	H7	PROGRESS. "Tenant-ID() method" Progress Documentation. June, 2011. Retrieved from https://docs.progress.com/bundle/abl-reference/page/TENANT-ID-method.html# (accessed 9/28/2023)	
	H8	PROGRESS. "What is multi-tenancy?" Progress Documentation. April 12, 2017. Retrieved from https://docs.progress.com/bundle/openedge-database-multitenancy-117/page/What-is-multi-tenancy.html (accessed 9/28/2023)	
	H9	TABBARA, Bassam, et al. "Introducing Crossplane - An Open Source Multi-Cloud Control-Plane" December 4, 2018. Retrieved from https://docs.google.com/document/d/1whncqdUeU2cATGEJhHvzXWC9xdK29Er45NJeoemxebo/mobilebasic (accessed 9/28/2023)	

Examiner Signature		Date Considered	

4878-2782-9896.1

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** Date Submitted: October 19, 2023 *(use as many sheets as necessary)* Sheet 2 of 2	***Complete if Known***	
	Application Number	18/113528
	Filing Date	2/23/2023
	First Named Inventor	Balasubrahmanyam Kuchibhotla
	Art Unit	2166
	Examiner Name	HARPER, ELIYAH STONE
	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	H10	TEN SIX. "How to Assign a Task Calendar in Microsoft Project" Ten Six Consulting. February 27, 2018. Retrieved from https://tensix.com/how-to-assign-a-task-calendar-in-microsoft-project/ (accessed 9/28/2023)	
	H11	YouTube Video screenshots for Progress User Assistance. "Creating tenants, domains, and users in a Progress OpenEdge multi tenant database" YouTube. May 23, 2016. Retrieved from https://youtu.be/3kGL2afVV_E [youtube.com] (accessed 9/28/2023)	
	H12	YouTube Video screenshots for Progress. "Data Management: Table Partitioning and Multi-tenancy" YouTube. October 8, 2018. Retrieved from https://www.youtube.com/watch?v=NbEuNmSazh8 [youtube.com] (accessed 9/28/2023)	

Examiner Signature		Date Considered	

Electronic Acknowledgement Receipt	
EFS ID:	48742759
Application Number:	18113528
International Application Number:	
Confirmation Number:	9429
Title of Invention:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
First Named Inventor/Applicant Name:	Balasubrahmanyam Kuchibhotla
Customer Number:	147491
Filer:	Paul S. Hunter/Maria Lopes-Carvalho
Filer Authorized By:	Paul S. Hunter
Attorney Docket Number:	115539-0436
Receipt Date:	19-OCT-2023
Filing Date:	23-FEB-2023
Time Stamp:	22:50:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1500
RAM confirmation Number	E20230IM50486914
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	ePetition Request Form	petition-request.pdf	39955 a7a24915783de19fd9063ed35159e26c79192cdb	no	2
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	115539-0436_RCE_Transmittal.pdf	100311 4aab174f811c1608a55d039e01f2b6867735a542	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3	Transmittal Letter	115539-0436_Information_Disclosure_Statement.pdf	136331 6227f715264992c2685a5d2715775edb17b78e51	no	2
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Form (SB08)	115539-0436_SB08.pdf	112757 28421766933010b6867e8e641247ddd58ab1fdad	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
5	Fee Worksheet (SB06)	fee-info.pdf	40716 7830d7385a199815150a6d03bea283f0a4ada464	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	430070		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/30EFS (01-22)
Approved for use through 05/31/2024. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	18/113528	Filing Date	2023-02-23	Docket Number (if applicable)	115539-0436	Art Unit	2166
First Named Inventor	Balasubrahmanyam Kuchibhotla			Examiner Name	HARPER, ELIYAH STONE		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 190741

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature
☐ Applicant Signature

PTO/SB/30EFS (01-22)
Approved for use through 05/31/2024. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Paul S. Hunter/	Date (YYYY-MM-DD)	2023-10-19
Name	Paul S. Hunter	Registration Number	44787

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	02/23/2023
Examiner:	HARPER, ELIYAH STONE
Art Unit:	2166
Confirmation No.:	9429

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits herewith documents for the Examiner's consideration in accordance with 37 CFR §§1.56, 1.97 and 1.98.

Applicant respectfully requests that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

In accordance with MPEP 609.02, Applicant understands the Examiner will consider all information considered in the following applications to which this application claims benefit under 35 U.S.C. § 120: U.S. Application No. 16/234553, filed 12/27/2018; Application No. 17/237599, filed 4/22/2021.

In accordance with 37 CFR §1.98(d), copies of listed non-U.S. patent/application items previously submitted to, or cited by, the Office in the foregoing application which is relied upon for

an earlier effective filing date under 35 U.S.C. § 120, are not provided herewith. Nevertheless, Applicant would be pleased to provide copies of any such documents at the Examiner's request.

The submission of any document herewith is not an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action, which would be appropriate to antedate or otherwise remove as a competent reference any document submitted herewith.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing of a first Office action after the filing of an RCE.

STATEMENT UNDER 37 CFR §1.97(b)

The undersigned hereby states in accordance with 37 CFR §1.97(b) that no item of information contained in this supplemental information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the supplemental information disclosure statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of the supplemental information disclosure statement.

FEE

No additional fees are believed to be due; however, the Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account Number 19-0741.

Respectfully submitted,

Date October 19, 2023 By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**10/18/2023 11:34:58 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	63029321	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436 - Comments on Statement Notice of Allowance.pdf	2	Post Allowance Communication - Incoming	114 KB
115539-0436 - Issue Fee Transmittal.pdf	1	Issue Fee Payment (PTO-85B)	1662 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
115539-0436 - Comments on	181F67AC6990B70F53FDD2F562D0BCB77CFEBE2927169BE5B

Statement Notice of Allowance.pdf	1A9A1A81BCBCF7468B13A458DB95483332E415A065E8D4E04484733C67A2B3122500D1EA63948BF
115539-0436 - Issue Fee Transmittal.pdf	AA3C5F357A1A62DA4DC56D14CC2D20460B415C1586BB8247CC6F263C3C61A1B7AC497F97C4B68141D18A061BAF2275210A85A874C7BB9A98373AB1968C0893C7

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Atty. Dkt. No. 115539-0436

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	HARPER, ELIYAH STONE
Art Unit:	2166
Confirmation No.:	9429

ISSUE FEE TRANSMITTAL AND COMMENTS ON THE STATEMENT OF THE NOTICE OF ALLOWANCE UNDER 37 C.F.R.§ 1.104

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Enclosed herewith please find Issue Fee Transmittal Form PTOL-85(B).

Fees in the amount of $1,200.00 for payment of the Issue Fee are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741.

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

While Applicant agrees that the allowed claims include a combination of subject matter that is patentable over the cited references, Applicant does not necessarily agree with or acquiesce in the reasoning of the Examiner. Moreover, Applicant notes that various other subject matter and/or combinations of subject matter may be patentable for other reasons than those given by the Examiner. Applicant expressly reserves the right to set forth additional and/or alternative reasons for patentability and/or allowance in connection with the present Application or any future proceeding. These comments on Statement of Reasons for Allowance under 37 C.F.R. § 1.104 are intended to be responsive to the Notice of Allowance dated September 19, 2023.

Respectfully submitted,

Date October 18, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**10/18/2023 11:34:58 PM ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	63029321	AUTHORIZED BY	Paul Hunter
CUSTOMER #	147491	FILING DATE	02/23/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 8914	**E20230HN36198804**	**Maria Lopes-Carvalho**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
			TOTAL AMOUNT:	**$1,200.00**

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C.

371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

147491 7590 09/19/2023
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

TITLE OF INVENTION: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	12/19/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
HARPER, ELIYAH STONE	2166	707-639000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Foley & Lardner LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Nutanix, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): San Jose, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via Patent Center or EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 19-0741

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Paul S. Hunter/ Date October 18, 2023

Typed or printed name Paul S. Hunter Registration No. 44,787

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(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

TITLE OF INVENTION: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

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EXAMINER	ART UNIT	CLASS-SUBCLASS
HARPER, ELIYAH STONE	2166	707-639000

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NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Paul S. Hunter/ Date November 15, 2023

Typed or printed name Paul S. Hunter Registration No. 44,787

UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/113,528	**11/15/2023 12:24:57 PM Z ET**	**115539-0436**

Title of Invention

SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9429	FILED BY	Maria Lopes-Carvalho
PATENT CENTER #	63257294	FILING DATE	02/23/2023
CUSTOMER #	147491	FIRST NAMED INVENTOR	Balasubrahmanyam Kuchibhotla
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Paul Hunter

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
115539-0436 - Comments on the Statement of Notice of Allowance.pdf	2	Post Allowance Communication - Incoming	114 KB
115539-0436 - Issue Fee Transmittal PTOL-85.pdf	1	Issue Fee Payment (PTO-85B)	181 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
115539-0436 - Comments on	2FA97DB468F0145CFD84A607AA788B96C2010DA514D62225B

the Statement of Notice of Allowance.pdf	57EC9EF5A14D8F33E16E16167983892BB7689FA4BFFF4CB2B F6EC31DDB3A0E04743F895B5A5DE28
115539-0436 - Issue Fee Transmittal PTOL-85.pdf	0FC9D2AD4DC26B3EE7A8D7D77F753FF8B29836B0F8BE3B86 63C5306ADF514F44B5B32EB3F59C5577150AC482F902443E51 4B5E4DF86A0EEAF51C035A1035E429

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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New International Application Filed with the USPTO as a Receiving Office

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Inventor Name:	Balasubrahmanyam Kuchibhotla
Title:	SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM
Application No.:	18/113528
Filing Date:	2/23/2023
Examiner:	HARPER, ELIYAH STONE
Art Unit:	2166
Confirmation No.:	9429

ISSUE FEE TRANSMITTAL AND COMMENTS ON THE STATEMENT OF THE NOTICE OF ALLOWANCE UNDER 37 C.F.R.§ 1.104

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Enclosed herewith please find Issue Fee Transmittal Form PTOL-85(B).

Applicant had previously paid the Issue Fees due in the amount of $1,200.00 on October 18, 2023 via credit card/Patent Center. No additional fees are believed to be due, however, the Commissioner is hereby authorized to charge any additional fees which may be required for this application to Deposit Account No. 19-0741.

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

While Applicant agrees that the allowed claims include a combination of subject matter that is patentable over the cited references, Applicant does not necessarily agree with or acquiesce in the reasoning of the Examiner. Moreover, Applicant notes that various other subject matter and/or combinations of subject matter may be patentable for other reasons than those given by the Examiner. Applicant expressly reserves the right to set forth additional and/or alternative reasons for patentability and/or allowance in connection with the present Application or any future proceeding. These comments on Statement of Reasons for Allowance under 37 C.F.R. § 1.104 are intended to be responsive to the Notice of Allowance dated September 19, 2023.

Respectfully submitted,

Date November 15, 2023

By */Paul S. Hunter/*

FOLEY & LARDNER LLP
Customer Number: 147491
Telephone: (858) 847-6733
Facsimile: (858) 792-6773

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787

Notice of References Cited	Application/Control No. 18/113,528	Applicant(s)/Patent Under Reexamination Kuchibhotla et al.	
	Examiner ELIYAH S HARPER	Art Unit 2166	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110252420-A1	10-2011	TUNG; Teresa S.	G06F9/5072	718/1
*	B	US-11308114-B1	04-2022	Moghe; Pratyush	G06F16/254	1/1
*	C	US-20200201526-A1	06-2020	Kuchibhotla; Balasubrahmanyam	G06F16/188	1/1
*	D	US-8924974-B1	12-2014	Ruggiero; Jonathan	G06F9/466	718/101
*	E	US-8769537-B1	07-2014	Ruggiero; Jonathan	G06F9/46	718/100
*	F	US-20130091285-A1	04-2013	Devarakonda; Murthy V.	G06F9/4856	709/226
*	G	US-20100023564-A1	01-2010	Yerneni; Ramana	G06F16/27	707/E17.007
*	H	US-10824956-B1	11-2020	Natanzon; Assaf	G06Q30/0201	1/1
*	I	US-10013313-B2	07-2018	Zhang; Xiangdong	G06F11/1435	1/1
*	J	US-9858155-B2	01-2018	Ashutosh; Ashutosh	G06F11/1453	1/1
*	K	US-20060161444-A1	07-2006	Lubrecht; Michael D.	G06Q10/06395	705/7.41
*	L	US-9665437-B2	05-2017	Bhargava; Ankur	G06F11/1446	1/1
*	M	US-9384254-B2	07-2016	Tekade; Uday	G06F11/1451	1/1

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

147491 7590 11/15/2023

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
HARPER, ELIYAH STONE	
ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 11/15/2023

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

TITLE OF INVENTION: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$1200.00	$0	02/15/2024

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

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(Typed or printed name)
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EXAMINER	ART UNIT	CLASS-SUBCLASS
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❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via Patent Center or EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

147491 7590 11/15/2023

FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109

EXAMINER	
HARPER, ELIYAH STONE	
ART UNIT	**PAPER NUMBER**
2166	

DATE MAILED: 11/15/2023

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	**Application No.** 18/113,528	**Applicant(s)** Kuchibhotla et al.	
	Examiner ELIYAH S HARPER	**Art Unit** 2166	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 10/19/2023.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-36 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date See Continuation Sheet.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Eliyah S. Harper/
Primary Examiner, Art Unit 2166

Continuation of Attachment(s) 2. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 2/23 /2023,,6/7/2023,6/28/2023,8/8/2023,9/6/2023, 9/1/2023, 10/19/2023

DETAILED ACTION

1. This communication is in response to the request for continued examination filed on 10/19/2023. After a thorough search and examination of the present application and in light of the prior art made of record, claims 1-36 are allowed.

Relevant documents

2. The following documents are relevant to the current invention but do not constitute prior art.

A. US 2019/0324865 Weissman discloses provisioning a database cluster based on policy and capturing snapshots based on a service level agreement. Weissman however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

B. US 2016/0335369 Picard discloses user selections of service level agreements. Picard however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage

for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

C. US 11,308,114 Moghe discloses receiving selections from users to determine the size of partitions. Moghe however does not disclose "receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage."

Reasons for allowance

3. The prior art does not teach or fairly suggest receive/receiving a fourth input comprising a selection of a level of a Service Level Agreement (SLA) from a plurality of levels of the SLA to protect the database after provisioning; receive/receiving a fifth input of a protection schedule comprising a first frequency of capturing a snapshot of the database after provisioning and at least one time period for capturing the snapshot; present at least one user interface to receive the first input, the second input, the third input, the fourth input, and the fifth input; determine an amount of storage for the database and create the database at the location based on the first input, the second input, the third input, the fourth input, the fifth input, and the amount of storage.

Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIYAH STONE HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Monday-Friday 10:00 am - 6:00 pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Featherstone can be reached on (571)270-3750. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eliyah S. Harper/
Primary Examiner, Art Unit 2166
November 4, 2023

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH
G06F 16/128	09/07/2023	ESH
G06F 9/45558	09/07/2023	ESH
G06F 11/1461	09/07/2023	ESH
G06F 16/128 or G06F 9/45558 or G06F 11/1461	11/03/2023	ESH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

/ESH/ Primary Examiner, Art Unit 2166	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

Search Notes		
Search Notes	**Date**	**Examiner**
inventor/assignee search	09/07/2023	ESH
considered references from information disclosure statement	09/05/2023	ESH
considered references from information disclosure statement	11/02/2023	ESH
updated search	11/04/2023	ESH

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06F	16/128	09/07/2023	ESH
G06F	9/45558	09/07/2023	ESH
G06F	11/1461	09/07/2023	ESH
G06F	16/128	09/07/2023	ESH
G06F	9/45558	09/07/2023	ESH
G06F	11/1461	09/07/2023	ESH
G06F	16/128, 9/45558, 11/1461	11/04/2023	ESH

/ESH/ Primary Examiner, Art Unit 2166	

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	1	of	22	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	625,315-A	05-23-1899	E. S. BRADFORD	
	A2	749,117-A	01-05-1904	J. WAGNER	
	A3	5,594,859	01-14-1997	PALMER ET AL.	
	A4	6,064,975	05-16-2000	MOON ET AL.	
	A5	6,243,715	06-05-2001	BOGANTZ ET AL.	
	A6	7,225,189	05-29-2007	MCCORMACK ET AL.	
	A7	7,389,300-B1	06-17-2008	SHAH ET AL.	
	A8	7,725,671	05-25-2010	PRAHLAD ET AL.	
	A9	7,814,057	10-12-2010	KATHURIA ET AL.	
	A10	7,840,533	11-23-2010	PRAHLAD ET AL.	
	A11	7,953,764	05-31-2011	BAFFIER ET AL.	
	A12	8,117,165	02-14-2012	WINCKELMANN ET AL.	
	A13	8,150,808	04-03-2012	ZHA ET AL.	
	A14	8,250,033-B1	08-21-2012	DE SOUTER ET AL.	
	A15	8,291,409-	10-16-2012	WINNER ET AL.	
	A16	8,364,648	01-29-2013	SIM-TANG, SIEW YONG	
	A17	8,429,630-B2	04-23-2013	NICKOLOV ET AL.	
	A18	8,447,728	05-21-2013	PRAHLAD ET AL.	
	A19	8,448,170-B2	05-21-2013	WIPFEL ET AL.	
	A20	8,468,174	06-18-2013	YUEH ET AL.	
	A21	8,549,518-B1	10-01-2013	ARON ET AL.	
	A22	8,601,473-B1	12-03-2013	ARON ET AL.	
	A23	8,612,396-B1	12-17-2013	MCALISTER ET AL.	
	A24	8,635,421	01-21-2014	GUPTA ET AL.	
	A25	8,677,085	03-18-2014	VAGHANI ET AL.	
	A26	8,762,335	06-24-2014	PRAHLAD ET AL.	
	A27	8,769,537-B1	07-01-2014	RUGGIERO ET AL.	
	A28	8,832,028	09-09-2014	SUSAIRAJ ET AL.	
	A29	8,849,850	09-30-2014	BAFFIER ET AL.	
	A30	8,850,130-B1	09-30-2014	ARON ET AL.	
	A31	8,863,124-B1	10-14-2014	ARON, MOHIT	
	A32	8,874,749-B1	10-28-2014	VITTAL ET AL.	
	A33	8,914,567	12-16-2014	MIROSHNICHENKO ET AL.	
	A34	8,924,974-B1	12-30-2014	RUGGIERO ET AL.	
	A35	8,972,347	03-03-2015	SIM-TANG, SIEW YONG	
	A36	9,009,106-B1	04-14-2015	ARON ET AL.	
	A37	9,069,708-B2	06-30-2015	GILL ET AL.	
	A38	9,116,737	08-25-2015	ASWATHANARAYANA ET AL.	
	A39	9,213,727-B1	12-15-2015	ESPOSITO, JEFFREY DANIEL	
	A40	9,244,717	01-26-2016	PISSAY ET AL.	
	A41	9,256,383	02-09-2016	DE SPIEGELEER ET AL.	
	A42	9,336,060	05-10-2016	NORI ET AL.	
	A43	9,336,132-B1	05-10-2016	ARON ET AL.	
	A44	9,372,758	06-21-2016	ASHUTOSH ET AL.	
	A45	9,389,962-B1	07-12-2016	YUEH ET AL.	
	A46	9,413,810	08-09-2016	REZVANI ET AL.	
	A47	9,436,556	09-06-2016	SIDEN ET AL.	

Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	2	of	22	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A48	9,495,435-B2	11-15-2016	ZHANG ET AL.	
	A49	9,507,579	11-29-2016	GAMBARDELLA ET AL.	
	A50	9,529,551	12-27-2016	KESAVAN ET AL.	
	A51	9,600,193	03-21-2017	AHRENS ET AL.	
	A52	9,639,429	05-02-2017	STEWART ET AL.	
	A53	9,652,265-B1	05-16-2017	NARAYANASAMY ET AL.	
	A54	9,740,723-B2	08-22-2017	PRAHLAD ET AL.	
	A55	9,747,287-B1	08-29-2017	BHARDWAJ ET AL.	
	A56	9,753,713-	09-05-2017	MANI ET AL.	
	A57	9,760,396	09-12-2017	APTE ET AL.	
	A58	9,772,866-B1	09-26-2017	ARON ET AL.	
	A59	9,778,992	10-03-2017	YUEH ET AL.	
	A60	9,858,155	01-02-2018	ASHUTOSH ET AL.	
	A61	9,881,168	01-30-2018	CHARI ET AL.	
	A62	9,960,963-	05-01-2018	SELVARAJ ET AL.	
	A63	D 508,248	08-09-2005	ORDING, BAS	
	A64	D 521,521	05-23-2006	JEWITT ET AL.	
	A65	D 625,315	10-12-2010	JEWITT ET AL.	
	A66	D 656,948	04-03-2012	KUNDSEN ET AL.	
	A67	D 684,160	06-11-2013	TRUELOVE ET AL.	
	A68	D 684,161	06-11-2013	TRUELOVE ET AL.	
	A69	D 733,745	07-07-2015	HUANG, SONG	
	A70	D 749,117	02-09-2016	HUANG, SONG	
	A71	D 753,135-S	04-05-2016	VAZQUEZ, SERAFIN	
	A72	D 753,140-S	04-05-2016	KOUVAS ET AL.	
	A73	D 761,288	07-12-2016	CIANFLONE ET AL.	
	A74	D 763,890-S	08-16-2016	PAN, CHONGGUANG	
	A75	D 771,102	11-08-2016	PROTZMAN ET AL.	
	A76	D 777,747	01-31-2017	DERBY ET AL.	
	A77	D 778,296	02-07-2017	BELKIN ET AL.	
	A78	D 779,514-S	02-21-2017	BARIS ET AL.	
	A79	D 781,887	03-21-2017	DZIUBA ET AL.	
	A80	D 794,666	08-15-2017	HAVALDAR ET AL.	
	A81	D 794,667	08-15-2017	HAVALDAR ET AL.	
	A82	D 797,116	09-12-2017	CHAPMAN ET AL.	
	A83	D 802,608	11-14-2017	HICKS ET AL.	
	A84	D 803,231-S	11-21-2017	GUINNESS ET AL.	
	A85	D 807,902-S	01-16-2018	CONG ET AL.	
	A86	D 809,530-S	02-06-2018	MATHESON ET AL.	
	A87	D 815,652	04-17-2018	PROTZMAN ET AL.	
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Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	21	of	22	Attorney Docket Number	115539-0436

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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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PTO/SB/08 (modified)

Substitute for form 1449/PTO				*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	Unassigned
				Filing Date	Herewith
Date Submitted: February 23, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Unassigned
(use as many sheets as necessary)				Examiner Name	Unassigned
Sheet	22	of	22	Attorney Docket Number	115539-0436

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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

CPC						
Symbol					Type	Version
G06F	/	16	/	128	F	2019-01-01
G06F	/	11	/	1461	I	2013-01-01
G06F	/	9	/	45558	I	2013-01-01
G06F	/	2009	/	45562	A	2013-01-01

CPC Combination Sets							
Symbol					Type	Set	Ranking	Version
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	04 November 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office — Part of Paper No.: 20231104

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	18/113,528	Kuchibhotla et al.
	Examiner	Art Unit
	ELIYAH S HARPER	2166

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F	/	11	/	14

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
707	639

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	04 November 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office — Part of Paper No.: 20231104

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	Examiner	**Art Unit**
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☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	36	
/Eliyah S. Harper/ Primary Examiner, Art Unit 2166	04 November 2023	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

U.S. Patent and Trademark Office — Part of Paper No.: 20231104

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: June 7, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	1	of	4	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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(use as many sheets as necessary)				Examiner Name	
Sheet	3	of	4	Attorney Docket Number	115539-0436

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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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PTO/SB/08 (modified)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** Date Submitted: June 7, 2023 *(use as many sheets as necessary)* Sheet 4 of 4	***Complete if Known***	
	Application Number	18/113528
	Filing Date	2/23/2023
	First Named Inventor	Balasubrahmanyam Kuchibhotla
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: September 1, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	E1	9,733,958-B2	08-15-2017	CUI ET AL.	
	E2	9,740,472-B1	08-22-2017	SOHI ET AL.	
	E3	11,275,573-B1	03-15-2022	SHRINAND JAVADEKAR	
	E4	2019/0034240-A1	01-31-2019	NABI ET AL.	
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Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	E6	AWS. "Create a custom Windows AMI" Amazon Elastic Compute Cloud. January 15, 2013. Retrieved from https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/Creating_EBSbacked_WinAMI.html (accessed 8/30/2023)	
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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 1, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	Not Yet Assigned
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	E13	MONGODB. "mongodb" GitHub. March 2015. Retrieved from https://github.com/mongodb/docs/blob/v4.2/source/core/replica-set-priority-0-member.txt (accessed 8/30/2023)	
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				**Complete if Known**	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: August 8, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
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	D4	SHARMA, Madhurkant. "Cloud Computing Platforms and Technologies" Geeks for Geeks. September 8, 2018. Retrieved from https://www.geeksforgeeks.org/cloud-computing-platforms-and-technologies/ (accessed 7/26/2023)	
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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

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PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: June 28, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	115539-0436

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	C1	2007/0185922-A1	08-09-2007	KAPOOR ET AL.	
	C2	2017/0286517-A1	10-05-2017	HOROWITZ ET AL.	
	C3	2019/0087279-A1	03-21-2019	KUMAR ET AL.	
	C4	2019/0266268-A1	08-29-2019	POLINATI	
	C5	2019/0332582-A1	10-31-2019	KUMAR ET AL.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]

Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
Date Submitted: September 6, 2023				**Filing Date**	2/23/2023
				First Named Inventor	Balasubrahmanyam Kuchibhotla
(use as many sheets as necessary)				Art Unit	2166
				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number: Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document: Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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	F1	AWS. "Amazon Relational Database Service (RDS)" Amazon Relational Database Service. December 24, 2017. Retrieved from https://web.archive.org/web/20171224182936/https:/aws.amazon.com/rds/#features (accessed 9/6/2023)	
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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L195	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L196	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L197	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
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L199	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
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L217	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L218	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L219	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L220	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L221	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L222	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L223	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L224	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L225	0	G06F11/1461.cpc. AND	(US-PGPUB; USPAT;	OR	ON	ON	2023/11/04

		((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:27 AM
L226	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L227	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L228	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L229	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L230	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L231	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L232	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L233	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L234	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

		size) AND @ad<"20181227"					
L235	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L236	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L237	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L238	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L239	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L240	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L241	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L242	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L243	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L244	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L245	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2023/11/04 11:27 AM

			IBM_TDB)				
L246	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L247	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L248	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L249	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L250	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L252	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L253	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L254	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L255	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L256	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L257	2	((service NEAR level	(US-PGPUB; USPAT;	OR	ON	ON	2023/11/04

		NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:27 AM
L258	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L259	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L260	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L261	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L262	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L263	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L264	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L265	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L266	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	ON	2023/11/04 11:27 AM

			JPO; DERWENT; IBM_TDB)				
L267	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L268	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L269	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L270	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L271	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L272	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L273	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L274	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L275	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L276	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L277	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

		SAME size) AND @ad<"20181227"					
L278	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L279	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L280	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L281	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L282	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L283	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L284	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L285	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L286	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L287	250	("0000002" OR "10146848" OR "10606578" OR	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM

		"10938924" OR "10951496" OR "11386058" OR "20150301814" OR "20160337473" OR "20190089597" OR "20210144060" OR "20210406717" OR "8448170" OR "0000001" OR "11243971" OR "0000011" OR "20060143412" OR "20150358417" OR "20160092535" OR "20210064512" OR "20210200643" OR "9213727" OR "20150074054" OR "20170374136" OR "H000001" OR "10719407" OR "20070234115" OR "20110022882" OR "20140201171" OR "20170235758" OR "20170235950" OR "20180157561" OR "20190310926" OR "11126426" OR "20170115978" OR "9753713" OR "9960963" OR "D947216" OR "D947239" OR "D947240" OR "20140282256" OR "20150347987" OR "20180253676" OR "20190018738" OR "20200110675" OR "D000001" OR "D508248" OR "D521521" OR "D625315" OR "D656948" OR "D684160" OR "D684161" OR "D733745" OR "D749117" OR "D761288" OR "D771102" OR "D777747" OR "D778296" OR "D781887" OR "D794666" OR "D794667" OR "D797116" OR					

		"D802608" OR "D809530" OR "D815652" OR "D817976" OR "D843388" OR "D911356" OR "D926200" OR "D927507" OR "10725866" OR "10817157" OR "11010336" OR "20120123999" OR "20150227435" OR "20190155699" OR "20200034178" OR "20200099692" OR "20200210378" OR "20200210379" OR "20200250046" OR "10013313" OR "10033833" OR "10055300" OR "10108685" OR "10212195" OR "10282201" OR "10339110" OR "10372329" OR "10379963" OR "10445298" OR "10476955" OR "10503612" OR "10613938" OR "10637914" OR "10757036" OR "10776329" OR "10812582" OR "10959098" OR "10999165" OR "11010487" OR "20020104376" OR "20020174098" OR "20150052108" OR "20150143064" OR "20150227602" OR "20150331923" OR "20160321339" OR "20170351716" OR "20180181469" OR "20190102257" OR "20190158605" OR "20190384496" OR "20200104375" OR "20200104376" OR "20200104377" OR "20200285608" OR "20200349018" OR "20200379793" OR "20210117293" OR					

		"8468174" OR "8677085" OR "8849850" OR "9372758" OR "9495435" OR "9600193" OR "9639429" OR "9760396" OR "9778992" OR "9858155" OR "9881168" OR "10185627" OR "10210048" OR "10248657" OR "10346431" OR "10447806" OR "10509798" OR "10599423" OR "10700991" OR "10728255" OR "10785029" OR "20010014867" OR "20020073089" OR "20030147309" OR "20050149757" OR "20070100793" OR "20070183224" OR "20070185852" OR "20070185937" OR "20080126945" OR "20080256311" OR "20090022285" OR "20090028082" OR "20090037914" OR "20090125858" OR "20090132543" OR "20110004586" OR "20110071981" OR "20110093435" OR "20120011378" OR "20120271797" OR "20130117441" OR "20130290180" OR "20140189685" OR "20140229698" OR "20150019495" OR "20150121453" OR "20150142610" OR "20150195347" OR "20160041997" OR "20160048408" OR "20160077923" OR "20160125059" OR "20160162845" OR "20160197835" OR "20160267105" OR "20160274981" OR "20160292358" OR					

		"20160335369" OR "20160380809" OR "20170060699" OR "20170220777" OR "20170264684" OR "20170286518" OR "20170351584" OR "20180025007" OR "20180121494" OR "20180285201" OR "20180307728" OR "20190065322" OR "20190075031" OR "20190102411" OR "20190125828" OR "20190129799" OR "20190138631" OR "20190155936" OR "20190230156" OR "20190235904" OR "20190324865" OR "20190339870" OR "20190340091" OR "20200034245" OR "20200050522" OR "20200106737" OR "20200137157" OR "20200193388" OR "20200201526" OR "7225189" OR "7725671" OR "7814057" OR "7840533" OR "7953764" OR "8117165" OR "8150808" OR "8364648" OR "8429630" OR "8447728" OR "8549518" OR "8601473" OR "8612396" OR "8635421" OR "8762335" OR "8832028" OR "8850130" OR "8863124" OR "8914567" OR "8972347" OR "9009106" OR "9069708" OR "9116737" OR "9244717" OR "9256383" OR "9336060" OR "9336132" OR "9389962" OR "9413810" OR					

		"9436556" OR "9507579" OR "9529551" OR "9652265" OR "9740723" OR "9747287" OR "9772866" OR "D753135" OR "D753140" OR "D763890" OR "D779514" OR "D803231" OR "D807902" OR "D838288" OR "D839913").pn.					
L288	3	("D862512" OR "D875108" OR "D877753").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L289	3	L92 AND (first SAME second SAME third SAME selection$1)	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L290	14	G06F11/1461.cpc. AND (delphix) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L291	76	G06F16/128.cpc. AND (delphix) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L292	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L293	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L294	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L295	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L296	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

L297	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L298	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L299	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L300	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L301	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L302	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L303	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L304	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L305	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L306	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L307	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

		size) AND @ad<"20181227"					
L308	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L309	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L310	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L311	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L312	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L313	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L314	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L315	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L316	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM

		("Maneesh"))).INV.					
L317	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L318	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L319	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L320	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L322	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L323	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L324	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L325	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L326	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L327	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L328	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

L329	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L330	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L331	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L332	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L333	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L334	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L335	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L336	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L337	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L338	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L339	432	((("NUTANIX") near3	(USPAT)	OR	ON	ON	2023/11/04

		("INC"))).AS,AANM.					11:27 AM
L340	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L341	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L342	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L343	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L344	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L345	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L346	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L347	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L348	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L349	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L350	2	"20190324865".pn.	(US-PGPUB; USPAT;	OR	ON	ON	2023/11/04

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:27 AM
L351	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L352	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L353	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L354	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L355	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L356	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L357	70	((service NEAR level NEAR agreement) SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L358	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

		@ad<"20181227"					
L359	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L360	141	G06F16/128.cpc. AND (service NEAR level NEAR agreement) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L361	432	((("NUTANIX") near3 ("INC"))).AS,AANM.	(USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L362	67	((("KUCHIBHOTLA") near3 ("Balasubrahmanyam")) OR (("KHANUJA") near3 ("Kamaldeep")) OR (("LAUNIER") near3 ("Jeremy")) OR (("MENON") near3 ("Sujit")) OR (("RAWAT") near3 ("Maneesh"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2023/11/04 11:27 AM
L363	29	L3 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L364	122	L2 AND (service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L365	0	G06F16/128.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L366	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L367	32	G06F9/45558.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L368	0	G06F11/1461.cpc. AND ((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L369	1587	((service NEAR level NEAR agreement) SAME selection) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L370	70	((service NEAR level	(US-PGPUB; USPAT;	OR	ON	ON	2023/11/04

		NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)				11:27 AM
L371	3	((service NEAR level NEAR agreement) NEAR select$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L372	2	"20190324865".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L373	142	((service NEAR level NEAR agreement) SAME database$3) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L374	5	((service NEAR level NEAR agreement) SAME database$3) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L375	22	((service NEAR level NEAR agreement) SAME levels) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L376	2	((service NEAR level NEAR agreement) SAME levels SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L377	2	((service NEAR level NEAR agreement) SAME selection) AND (database NEAR size) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L378	70	((service NEAR level NEAR agreement) SAME selection) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L379	70	((service NEAR level NEAR agreement)	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	ON	2023/11/04 11:27 AM

		SAME selection SAME levels) AND (cluster$1 SAME size) AND @ad<"20181227"	JPO; DERWENT; IBM_TDB)				
L380	3	((service NEAR level NEAR agreement) SAME selection SAME levels SAME database) AND (cluster$1 SAME size) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L381	2	"20160335369".pn.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L382	2	("0000001" OR "11243971").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L383	20	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM
L384	250	("0000002" OR "10146848" OR "10606578" OR "10938924" OR "10951496" OR "11386058" OR "20150301814" OR "20160337473" OR "20190089597" OR "20210144060" OR "20210406717" OR "8448170" OR "0000001" OR "11243971" OR "0000011" OR "20060143412" OR "20150358417" OR "20160092535" OR "20210064512" OR "20210200643" OR "9213727" OR "20150074054" OR "20170374136" OR "H000001" OR "10719407" OR "20070234115" OR "20110022882" OR "20140201171" OR "20170235758" OR "20170235950" OR "20180157561" OR "20190310926" OR "11126426" OR "20170115978" OR "9753713" OR	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM

		"9960963" OR "D947216" OR "D947239" OR "D947240" OR "20140282256" OR "20150347987" OR "20180253676" OR "20190018738" OR "20200110675" OR "D000001" OR "D508248" OR "D521521" OR "D625315" OR "D656948" OR "D684160" OR "D684161" OR "D733745" OR "D749117" OR "D761288" OR "D771102" OR "D777747" OR "D778296" OR "D781887" OR "D794666" OR "D794667" OR "D797116" OR "D802608" OR "D809530" OR "D815652" OR "D817976" OR "D843388" OR "D911356" OR "D926200" OR "D927507" OR "10725866" OR "10817157" OR "11010336" OR "20120123999" OR "20150227435" OR "20190155699" OR "20200034178" OR "20200099692" OR "20200210378" OR "20200210379" OR "20200250046" OR "10013313" OR "10033833" OR "10055300" OR "10108685" OR "10212195" OR "10282201" OR "10339110" OR "10372329" OR "10379963" OR "10445298" OR "10476955" OR "10503612" OR "10613938" OR					

		"10637914" OR "10757036" OR "10776329" OR "10812582" OR "10959098" OR "10999165" OR "11010487" OR "20020104376" OR "20020174098" OR "20150052108" OR "20150143064" OR "20150227602" OR "20150331923" OR "20160321339" OR "20170351716" OR "20180181469" OR "20190102257" OR "20190158605" OR "20190384496" OR "20200104375" OR "20200104376" OR "20200104377" OR "20200285608" OR "20200349018" OR "20200379793" OR "20210117293" OR "8468174" OR "8677085" OR "8849850" OR "9372758" OR "9495435" OR "9600193" OR "9639429" OR "9760396" OR "9778992" OR "9858155" OR "9881168" OR "10185627" OR "10210048" OR "10248657" OR "10346431" OR "10447806" OR "10509798" OR "10599423" OR "10700991" OR "10728255" OR "10785029" OR "20010014867" OR "20020073089" OR "20030147309" OR "20050149757" OR "20070100793" OR "20070183224" OR "20070185852" OR "20070185937" OR "20080126945" OR "20080256311" OR "20090022285" OR					

		"20090028082" OR "20090037914" OR "20090125858" OR "20090132543" OR "20110004586" OR "20110071981" OR "20110093435" OR "20120011378" OR "20120271797" OR "20130117441" OR "20130290180" OR "20140189685" OR "20140229698" OR "20150019495" OR "20150121453" OR "20150142610" OR "20150195347" OR "20160041997" OR "20160048408" OR "20160077923" OR "20160125059" OR "20160162845" OR "20160197835" OR "20160267105" OR "20160274981" OR "20160292358" OR "20160335369" OR "20160380809" OR "20170060699" OR "20170220777" OR "20170264684" OR "20170286518" OR "20170351584" OR "20180025007" OR "20180121494" OR "20180285201" OR "20180307728" OR "20190065322" OR "20190075031" OR "20190102411" OR "20190125828" OR "20190129799" OR "20190138631" OR "20190155936" OR "20190230156" OR "20190235904" OR "20190324865" OR "20190339870" OR "20190340091" OR "20200034245" OR "20200050522" OR "20200106737" OR "20200137157" OR "20200193388" OR "20200201526" OR "7225189" OR "7725671" OR "7814057" OR					

		"7840533" OR "7953764" OR "8117165" OR "8150808" OR "8364648" OR "8429630" OR "8447728" OR "8549518" OR "8601473" OR "8612396" OR "8635421" OR "8762335" OR "8832028" OR "8850130" OR "8863124" OR "8914567" OR "8972347" OR "9009106" OR "9069708" OR "9116737" OR "9244717" OR "9256383" OR "9336060" OR "9336132" OR "9389962" OR "9413810" OR "9436556" OR "9507579" OR "9529551" OR "9652265" OR "9740723" OR "9747287" OR "9772866" OR "D753135" OR "D753140" OR "D763890" OR "D779514" OR "D803231" OR "D807902" OR "D838288" OR "D839913").pn.						
L385	3	("D862512" OR "D875108" OR "D877753").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L386	3	L92 AND (first SAME second SAME third SAME selection$1)	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:27 AM
L387	14	G06F11/1461.cpc. AND (delphix) AND @ad<"20181227"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2023/11/04 11:27 AM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp

N83	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N84	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N85	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N86	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N87	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N88	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N89	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N90	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N91	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N92	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N93	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N94	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N95	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

N96	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N97	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N98	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N99	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N100	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N101	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N102	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N103	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N104	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N105	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N106	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N107	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N108	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

N109	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N110	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N111	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N112	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N113	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N114	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N115	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N116	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N117	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N118	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N119	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N120	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N121	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

N122	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N123	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N124	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N125	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N126	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N127	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N128	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N129	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N130	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N131	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N132	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N133	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N134	5	G06F11/1461.cpc. AND (service AND level AND agreement AND	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

		cluster$1).clm.					
N135	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N136	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N137	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N138	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N139	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N140	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N141	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N142	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N143	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N144	370	G06F9/45558.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N145	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N146	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N147	3	G06F16/128.cpc. AND (service AND level AND	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

		agreement AND cluster$1).clm.					
N148	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N149	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N150	40	(service AND level AND agreement AND cluster$1 AND selection$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N151	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N152	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N153	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N154	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N155	15	G06F16/128.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N156	56	G06F11/1461.cpc. AND (service AND level AND agreement).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N157	5	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N158	0	G06F9/4558.cpc. AND (service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N159	339	(service AND level AND agreement AND cluster$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N160	40	(service AND level AND	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04

		agreement AND cluster$1 AND selection$1).clm.					11:58 AM
N161	8	(service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N162	3	G06F16/128.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM
N163	2	G06F11/1461.cpc. AND (service AND level AND agreement AND cluster$1 AND selection$1 AND snapshot$1).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2023/11/04 11:58 AM

Substitute for form 1449/PTO				***Complete if Known***	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: September 14, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	1	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	G1	Non-Final Office Action on US 17/951632 DTD 09/14/2023	

Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

4886-9381-8751.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: October 19, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	1	of	2	Attorney Docket Number	115539-0436

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Application Document Serial Number-Kind Code[2] (*if known*)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	H1	KUBERNETES. "Authenticating" Kubernetes Documentation. July 12, 2018. Retrieved from https://kubernetes.io/docs/reference/access-authn-authz/authentication/ (accessed 10/11/2023)	
	H2	KUBERNETES. "Nodes" Kubernetes Documentation. July 14, 2017. Retrieved from https://kubernetes.io/docs/concepts/architecture/nodes/ (accessed 10/11/2023)	
	H3	KUBERNETES. "Operating etcd clusters for Kubernetes" Kubernetes Documentation. September 27, 2018. Retrieved from https://kubernetes.io/docs/tasks/administer-cluster/configure-upgrade-etcd/ (accessed 10/11/2023)	
	H4	PROGRESS. "Multi-tenant features" Progress Documentation. April 12, 2017. Retrieved from https://docs.progress.com/bundle/openedge-database-management-117/page/Multi-tenant-features.html (accessed 9/28/2023)	
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Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

4878-2782-9896.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PTO/SB/08 (modified)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application Number**	18/113528
				Filing Date	2/23/2023
Date Submitted: October 19, 2023				**First Named Inventor**	Balasubrahmanyam Kuchibhotla
				Art Unit	2166
(use as many sheets as necessary)				Examiner Name	HARPER, ELIYAH STONE
Sheet	2	of	2	Attorney Docket Number	115539-0436

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	H10	TEN SIX. "How to Assign a Task Calendar in Microsoft Project" Ten Six Consulting. February 27, 2018. Retrieved from https://tensix.com/how-to-assign-a-task-calendar-in-microsoft-project/ (accessed 9/28/2023)	
	H11	YouTube Video screenshots for Progress User Assistance. "Creating tenants, domains, and users in a Progress OpenEdge multi tenant database" YouTube. May 23, 2016. Retrieved from https://youtu.be/3kGL2afVV_E [youtube.com] (accessed 9/28/2023)	
	H12	YouTube Video screenshots for Progress. "Data Management: Table Partitioning and Multi-tenancy" YouTube. October 8, 2018. Retrieved from https://www.youtube.com/watch?v=NbEuNmSazh8 [youtube.com] (accessed 9/28/2023)	

Examiner Signature	/Eliyah S. Harper/	Date Considered	11/04/2023

4878-2782-9896.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ESH/

PART B - FEE(S) TRANSMITTAL

EFW

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

147491 7590 11/15/2023
FOLEY & LARDNER LLP
3000 K STREET N.W.
SUITE 600
WASHINGTON, DC 20007-5109



Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

TITLE OF INVENTION: SYSTEM AND METHOD FOR PROVISIONING DATABASES IN A HYPERCONVERGED INFRASTRUCTURE SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$1200.00	$0	02/15/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
HARPER, ELIYAH STONE	2166	707-639000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Foley & Lardner LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Nutanix, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): San Jose, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☐ Electronic Payment via Patent Center or EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 19-0741

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Paul S. Hunter/ Date November 15, 2023

Typed or printed name Paul S. Hunter Registration No. 44,787

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



United States Patent and Trademark Office

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Document Code:WFEE

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Sale Accounting Date:11/17/2023

Sale Item Reference Number	Effective Date
18113528	11/15/2023

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I2023AG816158102	1501	UTILITY APPL ISSUE FEE	$1,200.00	Salea

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	01/02/2024	11860818	115539-0436	9429

147491 7590 12/13/2023

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ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at https://patentcenter.uspto.gov/. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at https://certifiedcopycenter.uspto.gov/index.html. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Center (https://patentcenter.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

IR103 (Rev. 10/09)

INVENTOR(s) (Please see PATENT CENTER site https://patentcenter.uspto.gov for additional inventors):

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/113,528	02/23/2023	Balasubrahmanyam Kuchibhotla	115539-0436	9429

147491 7590 01/02/2024

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EXAMINER	
HARPER, ELIYAH STONE	

ART UNIT	PAPER NUMBER
2166	

NOTIFICATION DATE	DELIVERY MODE
01/02/2024	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketing@foley.com

PTOL-90A (Rev. 04/07)

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APPLICATION NO.	ISSUE DATE	PATENT NO.
18/113,528	02-Jan-2024	11860818

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3000 K STREET N.W.
WASHINGTON, DC 20007-5109

EGRANT NOTIFICATION

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