

Figure 6B is a block diagram that illustrates an example embodiment of an architecture for user management that may be used; and

Figure 7A is a block diagram that illustrates an example embodiment of information processed by the permission data store (PDS); and

Figure 7B is a block diagrams that illustrates an example embodiment of relationships among different information entities; and

Figure 8A is a network diagram illustrating an example embodiment of a network environment that may be used; and

Figure 8B is a computing environment example embodiment that may be used; and

Figure 9 is an example flow diagram that illustrates a process enabling permissions and restrictions management, in accordance with some embodiments.

[007] While the invention is subject to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and will herein be described in detail. The invention should be understood to not be limited to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention.

CLAIMS

What is claimed is:

We claim:

1. A system for managing assets in a co-location facilities environment, the system comprising:
 - a central relational database containing information associated with assets of a service provider, wherein the assets are associated with one or more geographically distinct co-location facilities,
 - wherein a permissions model is configured to enable at least one user from a customer to be designated as having authority to grant permissions to access the assets, the permissions granted to other users of the same customer,
 - wherein an asset hierarchical model is configured to enable grouping of the assets in one or more asset groups, and a user group model is configured to enable grouping of the users of the customer in one or more user groups and according to the geographically distinct co-location facilities, the user groups and the asset groups managed independently of one another, and
 - wherein many-to-many relationships are established among the users in the user groups, the assets in the asset groups, and the permissions granted to the users to use the assets.

2. The system of claim 1, wherein the assets are provided by a service provider, and wherein the service provider is associated with the customer based on one or more agreements to enable the customer to access the assets.

3. The system of claim 1, wherein the at least one user from the customer to be designated as having the authority to grant permissions to the assets is an administrator responsible for managing the assets at an asset level, and wherein that designated user is authorized to administer over one of (1) a single asset group, (2) all of the asset groups, and (3) some subsets of all of the asset groups.

4. The system of claim 1, wherein the one or more asset groups are associated with one or more co-location facilities, and wherein permissions granted to an asset at a first level of the hierarchy model includes permissions granted to other assets at levels lower than the first level in the hierarchy model.

5. The system of claim 4, wherein the other assets at the levels lower than the first level in the hierarchy model is limitable to less than a total number of assets included in the levels lower than the first level.

6. The system of claim 2, wherein the agreements are grouped into one or more agreement groups, wherein each agreement group is associated with a logical customer organization, and wherein each logical customer organization is associated with at least one asset group and at least one user group.

7. The system of claim 6, wherein a first user is a member of at least one user group, and wherein an asset is a member of at least one asset group.

8. The system of claim 2, wherein the assets include logical and physical assets, and wherein a user interface is configured to display information related to logical assets granted to a first user according to permissions granted to the first user, the user interface associated with a portal of the service provider.

9. The system of claim 8, wherein the user interface is presented to the first user based on the first user logging into the portal of the service provider using a browser installed in a client computer system connected to a network in a client-server environment.

10. The system of claim 1, wherein the assets are associated with one or more data centers of the one or more geographically distinct co-

location facilities, and wherein the designated user is further authorized to revoke permissions to access the assets.

11. A method for managing assets in a co-location facilities environment, the method comprising:

applying a permissions model to enable at least one user from a customer to be designated as an asset administrator having authority to grant or restrict permissions to access assets in one or more geographically distinct co-location facilities, the permissions applied to other users of the same customer;

applying a logical customer organization model to enable grouping of one or more agreements between the customer and a service provider, the agreements enabling the users of the customer to access the assets of the service provider;

applying an asset hierarchical model to enable grouping of the assets in one or more asset groups and according to the logical customer organization model;

establishing relationships among the users in the user groups, the assets in the asset groups, and the permissions granted by the asset administrator to the users; and

presenting information related to the relationships to the users via a user interface associated with a portal of the service provider.

12. The method of claim 11, wherein information related to the assets, the users and the permissions is stored in a central relational database associated with the service provider, and wherein the presentation of the information related to the relationships to the users is based on the users logging on to the portal of the service provider.

13. The method of claim 11, wherein the administrator is responsible for managing the assets at an asset level and authorized to administer over a single asset group, all of the asset groups, or some subsets of all of the asset groups.

14. The method of claim 11, wherein the one or more asset groups are associated with one or more co-location facilities, and wherein permissions granted to an asset at a first level of the hierarchy model includes permissions granted to other assets at levels lower than the first level in the hierarchy model.

15. The method of claim 14, wherein the other assets at the levels lower than the first level in the hierarchy model is limitable to less than a total number of assets included in the levels lower than the first level.

16. The method of claim 11, wherein a first user is a member of at least one user group, and wherein an asset is a member of at least one

asset group, wherein the agreements are grouped into one or more agreement groups, wherein each agreement group is associated with a logical customer organization, and wherein each logical customer organization is associated with at least one asset group and at least one user group.

17. The method of claim 16, wherein the first user is to use a first login identification (ID) to access a first asset and a second asset in a first asset group and a third asset in a third asset group, wherein the first asset group and the third asset group are associated with a similar logical customer organization, and wherein the first user is to use a second login ID to access an asset in a second asset group, wherein the second asset group is associated with a logical customer organization different than the logical customer organization associated with the first and third asset groups.

18. The method of claim 11, wherein the assets include physical and logical assets associated with one or more data centers of the one or more geographically distinct co-location facilities, and wherein the user interface is presented to a first user based on the first user logging into the portal of the service provider using a browser installed in a client computer system connected to a network in a client-server environment.

19. A computer-readable media that stores instructions, which when executed by a machine, cause the machine to perform operations comprising:

applying a permissions model to enable at least one user from a customer to be designated as an administrator having authority to grant or restrict permissions to access assets in one or more geographically distinct co-location facilities, the permissions applied to other users of the same customer, wherein the administrator is responsible for managing the assets at an asset level and authorized to administer over a single asset group, all of the asset groups, or some subsets of all of the asset groups;

applying a logical customer organization model to enable grouping of one or more agreements between the customer and a service provider, the agreements enabling the users of the customer to access the assets of the service provider;

applying an asset hierarchical model to enable grouping of the assets in one or more asset groups and according to the logical customer organization model; and

establishing relationships among the users in the user groups, the assets in the asset groups, and the permissions granted by the asset administrator to the users.

20. The computer readable medium of claim 19, wherein information related to the relationships among the users in the user

groups, the assets in the asset groups, and the permissions granted by the asset administrator to the users is presented to the users via a user interface associated with a portal of the service provider, and wherein information related to the assets, the users and the permissions is stored in a central relational database associated with the service provider.

Figure 6B is a block diagram that illustrates an example embodiment of an architecture for user management that may be used; and

Figure 6C is a block diagram that illustrates an example embodiment of association between users and agreements.

Figure 7A is a block diagram that illustrates an example embodiment of information processed by the permission data store (PDS); and

Figure 7B is a block diagrams that illustrates an example embodiment of relationships among different information entities; and

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 - a central relational database containing information associated with assets of a service provider, wherein the assets are associated with one or more geographically distinct co-location facilities,
 - wherein a permissions model is configured to enable at least one user from a customer to be designated as having authority to grant permissions to access the assets, the permissions granted to other users of the same customer,
 - wherein an asset hierarchical model is configured to enable grouping of the assets in one or more asset groups, and a user group model is configured to enable grouping of the users of the customer in one or more user groups and according to the geographically distinct co-location facilities, the user groups and the asset groups managed independently of one another, and
 - wherein many-to-many relationships are established among the users in the user groups, the assets in the asset groups, and the permissions granted to the users to use the assets,
 - wherein the assets are provided by a service provider, and wherein the service provider is associated with the customer based on one or more agreements to enable the customer to access the assets,

wherein the agreements are grouped into one or more agreement groups, wherein each agreement group is associated with a logical customer organization, and wherein each logical customer organization is associated with at least one asset group and at least one user group,

wherein a first user is a member of at least one user group, and wherein an asset is a member of at least one asset group.