CLAIMS

What is claimed is:

1. A method to alter how source data is displayed within a user interface, the method comprising:

obtaining source data that is representative of a cloud infrastructure that performs cloud computing activities that are associated with a user of the cloud infrastructure, the source data organized into a plurality of layers of information that each describe a different categorizable aspect of the cloud infrastructure, the source data also including:

use information describing particular components of the cloud infrastructure that are used in relation to the cloud computing activities, and

containment information that describes relationships between the particular components;

displaying, via a display screen, a visualization of source data within a user interface, the visualization including a top-level structure view representative of the cloud infrastructure as indicated by the use information and the containment information of the source data~~the source data comprises a plurality of layers of information~~;

receiving, via the user interface, a first user input effective to select portions of the source data to be included in the visualization of the source data displayed within the user interface, the portions to be included relating to one or more aspects of the cloud infrastructure and corresponding to at least two layers of the plurality of layers of information, wherein the plurality of layers includes at least one layer disposed between the at least two layers and wherein the first user input indicates to hide the at least one layer;

receiving, via the user interface, a second user input effective to select a type of connection between the particular components that are part of the selected portions of the source data, wherein the second user input indicates that the type of connection is~~one or more subsets of the plurality of layers of information~~ to be included in the visualization of the source data displayed within the user interface; ~~and~~

identifying a plurality of connections between the particular components, wherein:

the plurality of connections are identified based on the containment information associated with the portions of the source data selected according to the first user input, the type of connection between the particular components selected according to the second user input, and the layers of the plurality of layers of information to be included in the visualization corresponding to the selected portions of the source data;

a particular connection of the plurality of connections between a first particular component and a second particular component of the particular components is based on a first intermediary connection and a second intermediary connection;

the first intermediary connection is between the first particular component and an intermediary component of the at least one layer indicated to be hidden by the first user input; and

the second intermediary connection is between the second particular component and the intermediary component; and

altering the visualization of the source data within the user interface based on the first user input and according to the second user input, the altering including:~~including hiding one or more portions of the source data and one or more subsets of the plurality of layers of information that are not to be included in the visualization displayed within the user interface.~~

depicting the particular components and the identified plurality of connections;

depicting the particular connection while hiding the intermediary component, the first intermediary connection, and the second intermediary connection, wherein hiding the intermediary component, the first intermediary connection, and the second intermediary connection is based on the intermediary component being included in the at least one layer indicated to be hidden by first user input; and

hiding one or more other portions of the source data that, as indicated by the first user input and the second user input, are not to be included in the visualization displayed within the user interface, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.

2. The method of claim 1 further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers~~source data~~ that are to be added to the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

3. The method of claim 1 further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers~~source data~~ to be hidden in the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

4. The method of claim 2~~1~~, ~~wherein the source data further comprises information indicating relationships between all of the portions of the source data, the method~~ further comprising:

determining one or more portions of the source data to be hidden in the visualization of the source data within the user interface according to the third~~second~~ user input~~; and~~

~~determining one or more portions of the source data to be visible in the visualization of the source data within the user interface according to the relationships between all of the portions of the source data~~.

5. The method of claim 1 further comprising associating, in the visualization of the source data within the user interface, two or more portions of the source data in two or more layers of the source data based on information in one or more layers of information that are hidden in the visualization of the source data.

6. The method of claim 1, wherein the source data further comprises a plurality of perspectives including paths associating all of the portions of the source data and altering the visualization of the source data comprises altering which of the associations of the portions of the source data are included in the visualization of the source data being displayed.

~~7. The method of claim 6, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.~~

8~~7~~. ~~A~~One or more non-transitory computer-readable storage media~~um~~ having computer-executable instructions stored thereon that are executable by a processor device to perform or control performance of operations comprising:

obtaining source data that is representative of a cloud infrastructure that performs cloud computing activities that are associated with a user of the cloud infrastructure, the source data organized into a plurality of layers of information that each describe a different categorizable aspect of the cloud infrastructure, the source data also including:

use information describing particular components of the cloud infrastructure that are used in relation to the cloud computing activities, and

containment information that describes relationships between the particular components;

displaying, via a display screen, a visualization of source data within a user interface, the visualization including a top-level structure view representative of the cloud infrastructure as indicated by the use information and the containment information of the source data~~the source data comprises a plurality of layers of information~~;

receiving, via the user interface, a first user input effective to select portions of the source data to be included in the visualization of the source data displayed within the user interface, the portions to be included relating to one or more aspects of the cloud infrastructure and corresponding to at least two layers of the plurality of layers of information, wherein the plurality of layers includes at least one layer disposed between the at least two layers and wherein the first user input indicates to hide the at least one layer;

receiving, via the user interface, a second user input effective to select a type of connection between the particular components that are part of the selected portions of the source data, wherein the second user input indicates that the type of connection is~~one or more subsets of the plurality of layers of information~~ to be included in the visualization of the source data displayed within the user interface; ~~and~~

identifying a plurality of connections between the particular components, wherein:

the plurality of connections are identified based on the containment information associated with the portions of the source data selected according to the first user input, the type of connection between the particular components selected according to the second user input, and the layers of the plurality of layers of information to be included in the visualization corresponding to the selected portions of the source data;

a particular connection of the plurality of connections between a first particular component and a second particular component of the particular components is based on a first intermediary connection and a second intermediary connection;

the first intermediary connection is between the first particular component and an intermediary component of the at least one layer indicated to be hidden by the first user input; and

the second intermediary connection is between the second particular component and the intermediary component; and

altering the visualization of the source data within the user interface based on the first user input and according to the second user input, the altering including: ~~hiding one or more portions of the source data and one or more subsets of the plurality of layers of information that are not to be included in the visualization displayed within the user interface~~

depicting the particular components and the identified plurality of connections;

depicting the particular connection while hiding the intermediary component, the first intermediary connection, and the second intermediary connection, wherein hiding the intermediary component, the first intermediary connection, and the second intermediary connection is based on the intermediary component being included in the at least one layer indicated to be hidden by first user input; and

hiding one or more other portions of the source data that, as indicated by the first user input and the second user input, are not to be included in the visualization displayed within the user interface, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.

8~~9~~. The one or more non-transitory computer-readable storage media~~um~~ of claim 7~~8~~, the operations further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers~~source data~~ that are to be added to the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

9~~10~~. The one or more non-transitory computer-readable storage media~~um~~ of claim 7~~8~~, the operations further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers~~source data~~ to be hidden in the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

10~~11~~. The one or more non-transitory computer-readable storage media~~um~~ of claim 7~~8~~, ~~wherein the source data further comprises information indicating relationships between all of the portions of the source data,~~ the operations further comprising:

determining one or more portions of the source data to be hidden in the visualization of the source data within the user interface according to the second user input~~; and~~

~~determining one or more portions of the source data to be visible in the visualization of the source data within the user interface according to the relationships between all of the portions of the source data~~.

11~~12~~. The one or more non-transitory computer-readable storage media~~um~~ of claim 7~~8~~, the operations further comprising associating, in the visualization of the source data within the user interface, two or more portions of the source data in two or more layers of the source data based on information in one or more layers of information that are hidden in the visualization of the source data.

12~~13~~. The one or more non-transitory computer-readable storage media~~um~~ of claim 7~~8~~, wherein the source data further comprises a plurality of perspectives including paths associating all of the portions of the source data and altering the visualization of the source data comprises altering which of the associations of the portions of the source data are included in the visualization of the source data being displayed.

~~14. The non-transitory computer-readable storage medium of claim 13, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.~~

13~~15~~. A system comprising:

one or more ~~a~~ processors configured to cause performance of operations comprising:

obtaining source data that is representative of a cloud infrastructure that performs cloud computing activities that are associated with a user of the cloud infrastructure, the source data organized into a plurality of layers of information that

each describe a different categorizable aspect of the cloud infrastructure, the source data also including:

use information describing particular components of the cloud infrastructure that are used in relation to the cloud computing activities, and

containment information that describes relationships between the particular components;

displaying, via a display screen, a visualization of source data within a user interface, the visualization including a top-level structure view representative of the cloud infrastructure as indicated by the use information and the containment information of the source data~~the source data comprises a plurality of layers of information~~;

receiving, via the user interface, a first user input effective to select portions of the source data to be included in the visualization of the source data displayed within the user interface, the portions to be included relating to one or more aspects of the cloud infrastructure and corresponding to at least two layers of the plurality of layers of information, wherein the plurality of layers includes at least one layer disposed between the at least two layers and wherein the first user input indicates to hide the at least one layer;

receiving, via the user interface, a second user input effective to select a type of connection between the particular components that are part of the selected portions of the source data, wherein the second user input indicates that the type of connection~~one or more subsets of the plurality of layers of information~~ is to be included in the visualization of the source data displayed within the user interface; ~~and~~

identifying a plurality of connections between the particular components, wherein:

the plurality of connections are identified based on the containment information associated with the portions of the source data selected according to the first user input, the type of connection between the particular components selected according to the second user input, and the layers of the plurality of layers of information to be included in the visualization corresponding to the selected portions of the source data;

a particular connection of the plurality of connections between a first particular component and a second particular component of the particular components is based on a first intermediary connection and a second intermediary connection;

the first intermediary connection is between the first particular component and an intermediary component of the at least one layer indicated to be hidden by the first user input; and

the second intermediary connection is between the second particular component and the intermediary component; and

altering the visualization of the source data within the user interface based on the first user input and according to the second user input, the altering including: ~~including hiding one or more portions of the source data and one or more subsets of the plurality of layers of information that are not to be included in the visualization displayed within the user interface~~

depicting the particular components and the identified plurality of connections;

depicting the particular connection while hiding the intermediary component, the first intermediary connection, and the second intermediary connection, wherein hiding the intermediary component, the first intermediary connection, and the second intermediary connection is based on the intermediary component being included in the at least one layer indicated to be hidden by first user input; and

hiding one or more other portions of the source data that, as indicated by the first user input and the second user input, are not to be included in the visualization displayed within the user interface, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.

14~~16~~. The system of claim 13~~15~~, the operations further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers ~~source data~~ that are to be added to the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

15~~17~~. The system of claim 13~~15~~, the operations further comprising:

receiving, via the user interface, a third user input effective to select one or more ~~additional~~ subsets of the at least two layers~~source data~~ to be hidden in the visualization of the source data being displayed; and

further altering the visualization of the source data within the user interface according to the third user input.

16~~18~~. The system of claim 13~~15~~, ~~wherein the source data further comprises information indicating relationships between all of the portions of the source data,~~ the operations further comprising:

determining one or more portions of the source data to be hidden in the visualization of the source data within the user interface according to the second user input~~; and~~

~~determining one or more portions of the source data to be visible in the visualization of the source data within the user interface according to the relationships between all of the portions of the source data~~.

17~~19~~. The system of claim 13~~15~~, wherein the source data further comprises a plurality of perspectives including paths associating all of the portions of the source data and altering the visualization of the source data comprises altering which of the associations of the portions of the source data are included in the visualization of the source data being displayed.

~~20. The system of claim 19, wherein the second user input indicates a first portion of the source data is to be a start point and a second portion of the source data is to be an end point for displaying the associations of the portions of the source data within the visualization of the source data.~~