WHAT IS CLAIMED IS:

1. A method, comprising:

presenting a connectivity service to a client of a provider network, wherein said connectivity service includes a connectivity coordinator implementing a programmatic interface defining connectivity operations available to the client;

receiving, at the connectivity coordinator, a connectivity request for dedicated connectivity to a resource collection of the provider network, wherein the connectivity request is formatted in accordance with the interface;

in response to the connectivity request,

selecting a target endpoint router of a plurality of endpoint routers of the provider network, wherein the target endpoint router is configurable to provide a route over a private network to the resource collection in accordance with the connectivity request;

generating a notification comprising configuration information for a physical network link to be established to the target endpoint router to provide at least a portion of the dedicated connectivity; and

transmitting the notification.

2. The method as recited in claim 1, further comprising:

receiving identification information of a network device to be used to transmit network traffic of the client to the resource collection; and

providing one or more configuration instructions for the network device based on the identification information.

3. The method as recited in claim 1, wherein the resource collection comprises a plurality of resources, further comprising:

receiving one or more selection criteria identifying a subset of the plurality of resources to which an isolated connection is to be provided over the physical network link; and

routing network traffic in accordance with the selection criteria.

4. The method as recited in claim 3, wherein a selection criteria of the one or more selection criteria comprises a virtual local area network (VLAN) tag.

5. The method as recited in claim 1, wherein the target endpoint router is housed within a facility requiring authorization for physical access, and wherein the notification includes an indication of an authorization of physical access to the target endpoint router at the facility.

6. The method as recited in claim 1, wherein transmitting the notification comprises sending the notification to an operator of a facility at which the target endpoint router is housed.

7. A system, comprising:

one or more processors; and

a non-transitory computer-accessible storage medium storing program instructions that when executed on the one or more processors causes the system to:

implement a programmatic interface defining connectivity operations available to a client of a provider network; and

receive a connectivity request from the client for dedicated connectivity to a resource collection of the provider network, wherein the connectivity request is formatted in accordance with the interface;

in response to the connectivity request,

generate a notification comprising configuration information for a physical network link to be established to a target endpoint router of the provider network to provide at least a portion of the dedicated connectivity, wherein the target endpoint router is configurable to provide a route over a private network path to the resource collection in accordance with the connectivity request; and

transmit the notification.

8. The system of claim 7, wherein the program instructions when executed on the one or more processors further cause the system to:

after the physical network link has been established, transmit a confirmation message indicating that the dedicated connectivity has been provided.

9. The system of claim 7, wherein the configuration information comprises at least one of: a physical port of the target endpoint router, a rack identifier, a cage identifier or a patch panel identifier.

10. The system of claim 7, wherein the connectivity request comprises one or more of: a bandwidth requirement, an availability requirement, or a requirement for a plurality of physical paths to the resource collection.

11. The system of claim 7, wherein the program instructions when executed on the one or more processors further cause the system to:

receive identification information of a network device to be used to transmit network traffic of the client to the resource collection; and

provide one or more configuration instructions for the network device based on the identification information.

12. The system of claim 7, wherein the resource collection comprises a plurality of resources, wherein the program instructions when executed on the one or more processors further cause the system to:

receive one or more selection criteria identifying a subset of the plurality of resources to which an isolated connection is to be provided over the physical network link; and

generate routing information to route network traffic in accordance with the selection criteria.

13. The system of claim 12, wherein a selection criteria of the one or more selection criteria comprises a virtual local area network (VLAN) tag.

14. The system of claim 7, wherein the target endpoint router is housed within a facility requiring authorization for physical access, and wherein the notification includes an indication of an authorization of physical access to the target endpoint router at the facility.

15. The system of claim 7, wherein the configuration information comprises an identification of a physical location of the target endpoint router.

WHAT IS CLAIMED IS:

1. A system, comprising:

a data center including a resource collection designated to respond to service requests received from a client;

a plurality of endpoint routers linked to the data center by one or more private network paths; and

a connectivity coordinator;

wherein the connectivity coordinator is operable to:

implement an interface defining connectivity operations available to the client, wherein the connectivity operations pertain to network connectivity enabling the client to access the resource collection in the data center, wherein the connectivity operations include at least one of an operation to set up a connection, an operation to query about a connection, an operation to modify a connection, or an operation to take down a connection;

receive a connectivity request from the client for dedicated connectivity to the resource collection, wherein the connectivity request is formatted in accordance with the interface;

in response to the connectivity request,

select a target endpoint router of the plurality of endpoint routers, wherein the target endpoint router is configurable to provide a route over a private network path of the one or more private network paths in accordance with the connectivity request to provide the client access to the resource collection in the data center;

generate a reply comprising configuration instructions for a physical network link to be established to the target endpoint router to provide at least a portion of the dedicated connectivity for the client to access the resource collection in the data center; and

transmit the reply to the client including the configuration instructions for the physical network link.

2. The system as recited in claim 1, wherein the interface comprises at least one of: an application programming interface (API), a graphical user interface (GUI), or a command-line interface.

3. The system as recited in claim 1, wherein the target endpoint router is housed within a facility requiring authorization for physical access, and wherein the reply includes an indication of an authorization of physical access to the target endpoint router at the facility.

4. The system as recited in claim 1, wherein the connectivity coordinator is further operable to:

receive an isolation request from the client to establish a logically isolated network path to the resource collection via the physical link; and

implement a network isolation mechanism to establish the logically isolated network path in accordance with the isolation request.

5. The system as recited in claim 4, wherein the network isolation mechanism comprises at least one of: a virtual local area network (VLAN) mechanism or a Multi-Protocol Label Switching (MPLS) technique.

6. The system as recited in claim 1, wherein the connectivity coordinator is further operable to:

receive, from the client, identification information of a network device to be used to transmit network traffic of the client to the resource collection; and

provide, to the client, one or more configuration instructions for the network device based on the identification information.

7. A method, comprising:

presenting a connectivity service to a client of a provider network, wherein said connectivity service includes a connectivity coordinator implementing a programmatic interface defining connectivity operations available to the client, wherein the connectivity operations pertain to network connectivity enabling the client to access a resource collection of the provider network, wherein the connectivity operations include at least one of an operation to set up a connection, an operation to query about a connection, an operation to modify a connection, or an operation to take down a connection;

receiving, at the connectivity coordinator, a connectivity request for dedicated connectivity to the resource collection of the provider network, wherein the connectivity request is formatted in accordance with the interface;

in response to the connectivity request,

selecting a target endpoint router of a plurality of endpoint routers of the provider network, wherein the target endpoint router is configurable to provide a route over a private network to the resource collection in accordance with the connectivity request to provide the client access to the resource collection;

generating a notification comprising configuration information for a physical network link to be established to the target endpoint router to provide at least a portion of the dedicated connectivity for the client to access the resource collection; and

transmitting the notification including the configuration information for the physical network link.

8. The method as recited in claim 7, further comprising:

receiving identification information of a network device to be used to transmit network traffic of the client to the resource collection; and

providing one or more configuration instructions for the network device based on the identification information.

9. The method as recited in claim 7, wherein the resource collection comprises a plurality of resources, further comprising:

receiving one or more selection criteria identifying a subset of the plurality of resources to which an isolated connection is to be provided over the physical network link; and

routing network traffic in accordance with the selection criteria.

10. The method as recited in claim 9, wherein a selection criteria of the one or more selection criteria comprises a virtual local area network (VLAN) tag.

11. The method as recited in claim 7, wherein the target endpoint router is housed within a facility requiring authorization for physical access, and wherein the notification includes an indication of an authorization of physical access to the target endpoint router at the facility.

12. The method as recited in claim 7, wherein transmitting the notification comprises sending the notification to an operator of a facility at which the target endpoint router is housed.

13. A non-transitory computer-accessible storage medium storing program instructions that when executed on one or more processors:

implement a programmatic interface defining connectivity operations available to a client of a provider network, wherein the connectivity operations pertain to network connectivity enabling the client to access a resource collection of the provider network, wherein the connectivity operations include at least one of an operation to set up a connection, an operation to query about a connection, an operation to modify a connection, or an operation to take down a connection;

receive a connectivity request from the client for dedicated connectivity to the resource collection of the provider network, wherein the connectivity request is formatted in accordance with the interface;

in response to the connectivity request,

generate a notification comprising configuration information for a physical network link to be established to a target endpoint router of the provider network to provide at least a portion of the dedicated connectivity for the client to access the resource collection, wherein the target endpoint router is configurable to provide a route over a private network path to the resource collection in accordance with the connectivity request to provide the client access to the resource collection; and

transmit the notification including the configuration information for the physical network link.

14. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the program instructions when executed on the one or more processors:

after the physical network link has been established, transmit a confirmation message indicating that the dedicated connectivity has been provided.

15. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the configuration information comprises at least one of: a physical port of the target endpoint router, a rack identifier, a cage identifier or a patch panel identifier.

16. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the connectivity request comprises one or more of: a bandwidth requirement, an availability requirement, or a requirement for a plurality of physical paths to the resource collection.

17. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the program instructions when executed on the one or more processors:

receive identification information of a network device to be used to transmit network traffic of the client to the resource collection; and

provide one or more configuration instructions for the network device based on the identification information.

18. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the resource collection comprises a plurality of resources, wherein the program instructions when executed on the one or more processors:

receive one or more selection criteria identifying a subset of the plurality of resources to which an isolated connection is to be provided over the physical network link; and

generate routing information to route network traffic in accordance with the selection criteria.

19. The non-transitory computer-accessible storage medium as recited in claim 18, wherein a selection criteria of the one or more selection criteria comprises a virtual local area network (VLAN) tag.

20. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the target endpoint router is housed within a facility requiring authorization for physical access, and wherein the notification includes an indication of an authorization of physical access to the target endpoint router at the facility.

21. The non-transitory computer-accessible storage medium as recited in claim 13, wherein the configuration information comprises an identification of a physical location of the target endpoint router.