CLAIMS

1. A method comprising: receiving, by a programmable network platform (PNP) and via an interface that receives service requests for configuration of interconnection services within network infrastructure of one or more network data centers that are controlled by the PNP and administered by a communication facility provider, a service request to configure an interconnection service within the network infrastructure of the one or more network data centers, wherein the network infrastructure within the one or more network data centers connect through one or more switching fabrics of the one or more network data centers; generating, by the PNP and based on the service request, configuration data defining a connection between at least one port of a first plurality of network interface ports of a cable patch panel and at least one port of a second plurality of network interface ports of the cable patch panel; and sending, by the PNP, the configuration data to the cable patch panel to configure the cable patch panel with the connection.

2. The method of claim 1, wherein the configuration data includes first data that identifies the at least one port of the first plurality of network interface ports and second data that identifies at least one port of the second plurality of network interface ports.

3. The method of claim 1, wherein the first plurality of network interface ports comprises at least one Ethernet port and at least one optical port, and wherein the second plurality of network interface ports comprises at least one Ethernet port and at least one optical port.

4. The method of claim 1, wherein the cable patch panel comprises: a software-configurable network interface device having a first side, a second side, a switch, and the configuration interface, the first side comprising the first plurality of network interface ports and accessible only to a communication facility provider for a communication facility having an infrastructure network configured to interconnect a plurality of customer networks, the second side comprising the second plurality of network interface ports and accessible only to a customer of the communication facility provider, and wherein the configuration interface, in response to receiving the configuration from the PNP, configures the switch to create the connection between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports.

5. The method of claim 4, wherein the configuration data defines a connection between multiple ports of the first plurality of network interface ports and a port of the second plurality of network interface ports, and wherein to create the connection the configuration interface configures the switch to connect the multiple ports of the first plurality of network interface ports and the port of the second plurality of network interface ports.

6. The method of claim 4, wherein the configuration data defines a port of the second plurality of network interface ports as associated with a second virtual network and defines a port of the first plurality of network interface ports as associated with a first virtual network, and wherein to create the connection the configuration interface configures the switch to

forward packets received via the second virtual network to the first virtual network.

7. The method of claim 6, wherein the second virtual network comprises a customer virtual local area network (VLAN) and the first virtual network comprises one of a provider VLAN and a provider VxLAN.

8. The method of claim 4, wherein the switch comprises an optical switch, wherein to create the connection the configuration interface configures the optical switch to establish a transmission path for optical signals between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports.

9. The method of claim 8, wherein the optical switch comprises a photonic switch.

10. The method of claim 1, wherein the at least one port of the second plurality of network interface ports are coupled to a customer network for the customer, and wherein the connection between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports is part of a virtual circuit between the customer network and another customer network.

11. A programmable network platform comprising: one or more processors coupled to a memory, wherein the one or more processors are configured to receive, via a software interface that receives service requests for configuration of interconnection services within network infrastructure of one or more network data centers that are controlled by the PNP and administered by a communication facility provider, a service request to configure an interconnection service within the network infrastructure of the one or more network data centers, wherein the network infrastructure within the one or more network data centers connect through one or more switching fabrics of the one or more network data centers, wherein the one or more processors are configured to generate, based on the service request, configuration data defining a connection between at least one port of a first plurality of network interface ports of a first side of a cable patch panel and at least one port of a second plurality of network interface ports of a second, opposite side of the cable patch panel, and wherein the one or more processors are configured to send the configuration data to the cable patch panel to configure the cable patch panel with the connection.

12. The programmable network platform of claim 11, wherein the configuration data includes first data that identifies the at least one port of the first plurality of network interface ports and second data that identifies at least one port of the second plurality of network interface ports.

13. A system comprising: a cable patch panel comprising a software-configurable network interface device having a first side, a second side, a switch, and a configuration interface; the first side comprising a first plurality of network interface ports accessible only to a communication facility provider for a communication facility having an infrastructure

network configured to interconnect a plurality of customer networks; the second side comprising a second plurality of network interface ports accessible only to a customer of the communication facility provider; and the configuration interface configured to, in response to receiving configuration data defining a connection between at least one port of the first plurality of network interface ports and at least one port of the second plurality of network interface ports, configure the switch to create the connection between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports; and a programmable network platform configured to receive, via an interface that receives service requests for configuration of interconnection services within network infrastructure of one or more network data centers that are controlled by the programmable network platform and administered by a communication facility provider, a service request to configure an interconnection service within the network infrastructure of the one or more network data centers, wherein the network infrastructure within the one or more network data centers connect through one or more switching fabrics of the one or more network data centers, wherein the programmable network platform is configured to generate, based on the service request, the configuration data defining the connection, and wherein the programmable network platform is configured to send the configuration data to the cable patch panel to configure the cable patch panel with the connection.

14. The system of claim 13, wherein the configuration data includes first data that identifies the at least one port of the first plurality of network interface ports and second data that identifies at least one port of the second plurality of network interface ports.

15. The system of claim 13, wherein the first plurality of network interface ports comprises at least one Ethernet port and at least one optical port, and wherein the second plurality of network interface ports comprises at least one Ethernet port and at least one optical port.

16. The system of claim 13, wherein the configuration data defines a connection between multiple ports of the first plurality of network interface ports and a port of the second plurality of network interface ports, and wherein to create the connection the configuration interface is configured to configure the switch to connect the multiple ports of the first plurality of network interface ports and the port of the second plurality of network interface ports.

17. The system of claim 13, wherein the configuration data defines a port of the second plurality of network interface ports as associated with a second virtual network and defines a port of the first plurality of network interface ports as associated with a first virtual network, and wherein to create the connection the configuration interface is configured to configure the switch to forward packets received via the second virtual network to the first virtual network.

18. The system of claim 17, wherein the second virtual network comprises a customer virtual local area network (VLAN) and the first virtual network comprises one of a provider VLAN and a provider VxLAN.

19. The system of claim 13, wherein the switch comprises an optical switch, wherein to create the connection the configuration interface is configured to configure the optical switch to establish a transmission path for optical signals between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports.

20. The system of claim 19, wherein the optical switch comprises a photonic switch.

21. The system of claim 13, wherein the at least one port of the second plurality of network interface ports are coupled to a customer network for the customer, and wherein the connection between the at least one port of the first plurality of network interface ports and the at least one port of the second plurality of network interface ports is part of a virtual circuit between the customer network and another customer network.