WHAT IS CLAIMED IS:

1. A method of increasing the size of a data transmission network, comprising:

determining an additional number of network devices to add to a data transmission network, the data transmission network including at least a first tier and a second tier of network devices each capable of receiving and transmitting data, each network device in the network devices of the first tier being connected to a first group of network connectors of a network transpose box using at least one respective first cable and each network device in the network devices of the second tier being connected to a second group of network connectors of the network transpose box using at least one respective second cable, at least a portion of the first group of network connectors each being connected to two or more of the second group of network connectors using a meshing of communication media, at least a portion of the second group of network connectors each being connected to two or more of the first group of network connectors using the meshing, the meshing of communication media implementing a selected network topology for connecting the network devices of the first and second tiers, each of the first tier of network devices connected to one of the first group of network connectors using a single network cable and each of the second tier of network devices connected to one of the second group of network connectors using a single network cable,

determining an additional number of network connectors for each of the first and second group of network connectors needed to support the additional number of network devices using the network topology; and

replacing the network transpose box with a different transpose box having at least the additional number of network connectors for each of the first and second group of network connectors,

wherein each of the additional network devices is able to be added to the network using a single cable connection to the network transpose box, and

wherein each previously connected device can be connected to any other previous network device and any additional network device according to the network topology using a single cable connection from the previously-connected device to the network transpose box.

2. The method of claim 1, wherein the different network transpose box implements a different network topology.

3. The method of claim 1, wherein the selected network topology is one of a Clos network topology, butterfly network topology, dragonfly network topology, or a combination or variant thereof.

4. The method of claim 1, wherein the different network transpose box includes at least one differently keyed network connector than the replaced network transpose box.

5. A method of increasing the size of a data transmission network, comprising:

determining an additional number of network devices to add to a data transmission network, the data transmission network including at least a first tier and a second tier of network devices each capable of receiving and transmitting data, each network device in the network devices of the first tier being connected to a first group of network connectors of a first network transpose box using at least one respective first cable and each network device in the network devices of the second tier being connected to a second group of network connectors of the first network transpose box using at least one respective second cable, at least a portion of the first group of network connectors each being connected to two or more of the second group of network connectors using a meshing of communication media, at least a portion of the second group of network connectors each being connected to two or more of the first group of network connectors using the meshing, the meshing of communication media implementing a selected network topology for connecting the network devices of the first and second tiers, each of the first tier of network devices connected to one of the first group of network connectors using a single network cable and each of the second tier of network devices connected to one of the second group of network connectors using a single network cable,

determining an additional number of network connectors for each of the first and second group of network connectors needed to support the additional number of network devices using the network topology;

adding at least a second network transpose box having at least the additional number of network connectors for each of the first and second group of network connectors; and

connecting the first network transpose box and the at least second network transpose box in order to connect the devices according to the selected network topology,

wherein each of the additional network devices is able to be added to the

network using a single cable connection to the at least second network transpose box, and

wherein each previously connected device can be connected to any other previous network device and any additional network device according to the network topology using a single cable connection from the previously-connected device to the first network transpose box.

6. The method of claim 5, further comprising:

adding at least a third network transpose box that, when connected to the first and second network transpose boxes, implements a different network topology.

7. The method of claim 5, wherein the selected network topology is one of a Clos network topology, butterfly network topology, dragonfly network topology, or a combination or variant thereof.

8. The method of claim 5, wherein the at least second network transpose box includes at least one differently keyed network connector than the first network transpose box.

9. A method of providing scalability in a data transmission network, comprising:

providing at least a first tier and a second tier of network devices, each network device capable of receiving and transmitting data; and

connecting each network device in the network devices of the first tier to a first group of network connectors of a first network transpose box using at least one respective first cable and a first group of network connectors of a second network transpose box;

connecting each network device in the network devices of the second tier to a second group of network connectors of the first network transpose box using at least one respective second cable and a second group of network connectors of the second network transpose box, at least a portion of the first group of network connectors in each of the first and second network transpose boxes each being connected to two or more of the second group of network connectors within the same network transpose box using a meshing of communication media, at least a portion of the second group of network connectors in each of the first and second network transpose boxes each being connected to two or more of the first group of network connectors in the same network transpose box using the meshing, the meshing of communication media

implementing a selected network topology in each network transpose box for connecting the network devices of the first and second tiers,