WHAT IS CLAIMED IS:

1. A data center, comprising:

a data center row infrastructure module positioned in a data center interior space and configured to direct intake air to at least two rows of server racks and direct exhaust air away from the at least two rows of server racks and into at least a portion of the data center interior space, the data center row infrastructure module comprising:

a cold aisle space comprising a long axis and at least two separate rows of rack computing systems, wherein each row of rack computing systems is positioned on an opposite side of the long axis, and each rack computing system is configured to receive intake air on a front side facing the long axis and to discharge exhaust air on a rear side that faces away from the long axis;

at least two free-standing exhaust plenum structures, each mounted on the floor element adjacent to rear sides of separate ones of the at least two rows of rack computing systems on opposite sides of the cold aisle space, wherein each free-standing exhaust plenum structure comprises:

a frame structure that is configured to provide structural support to the free-standing exhaust plenum structure,

an internal exhaust air plenum at least partially bounded by the frame structure, wherein the internal exhaust air plenum is configured to receive the exhaust air from the rear side of an adjacent row of rack computer systems and direct the exhaust air into the portion of the data center interior space,

at least one set of wall elements coupled to the frame structure and substantially encompassing at least a portion of an aisle-facing side of the free-standing exhaust plenum structure that faces the cold aisle space, the at least one set of wall elements is configured to restrict airflow into the internal exhaust air plenum to exhaust air discharged from the rear sides of the adjacent row of rack computer systems; and

a plenum module spanning the cold aisle space between the at least two free-standing exhaust plenum structures to establish a lower boundary of a cooling air plenum

above the plenum module and an upper boundary of the cold aisle space beneath the plenum module, wherein the plenum module comprises:

an intake air supply vent that is configured to direct at least a portion of cooling air circulating through the cooling air plenum into the cold aisle space to be supplied to the at least two rows of rack computing systems as intake air.

2. The data center of claim 1, the plenum module further comprising:

an air mixing plenum configured to mix cooling air received from the cooling air plenum with exhaust air received from the internal exhaust air plenum of at least one of the at least two free-standing exhaust plenum structures to provide intake air;

at least one set of dampers configured to direct the exhaust air from the internal exhaust air plenum of the at least one of the free-standing exhaust plenum structures into the air mixing plenum; and

an air moving device configured to supply the intake air from the air mixing plenum into the aisle space.

3. The data center of claim 1, wherein:

the data center interior space comprises an exhaust plenum configured to direct at least a portion of exhaust air discharged from the internal exhaust plenums of the at least two free-standing exhaust plenum structures to an ambient environment; and

the data center further comprises an air handling system coupled to the exhaust plenum and the cooling air plenum of the data center row infrastructure module, wherein the air handling system is configured to:

receive ambient air from the ambient environment;

receive at least another portion of the exhaust air from the exhaust plenum,

mix the other portion of the exhaust air and the ambient air to generate intake air; and

supply the intake air to the cooling air plenum of the data center row infrastructure module.

4. A data center row infrastructure module, comprising:

at least two free-standing exhaust plenum structures encompassing opposite side ends of an enclosure, wherein each free-standing exhaust plenum structure comprises:

an internal exhaust air plenum at least partially encompassed by wall elements, wherein the internal exhaust air plenum is configured to receive exhaust air from the enclosure and direct the received exhaust air through an exhaust air outlet on a top end of the free-standing exhaust plenum structure; and

a plenum module spanning a top end of the enclosure between the at least two free-standing exhaust plenum structures to establish a bottom end of a cooling air plenum above and separate from the enclosure, the plenum module comprising at least a intake air supply vent configured to supply intake air from the cooling air plenum to the enclosure.

5. The data center row infrastructure module of claim 4, wherein the intake air supply vent of the plenum module comprises an air moving device configured to induce an airflow from the cooling air plenum to the enclosure to supply the intake air into the enclosure.

6. The data center row infrastructure module of claim 5, the plenum module further comprising:

an air mixing plenum, configured to mix cooling air received from the cooling air plenum with a flow of exhaust air received from at least one of the at least two exhaust plenum structures to provide the intake air that is supplied into the enclosure by the air moving device; and

at least one set of dampers coupled to the at least one of the exhaust plenum structures and configured to direct the flow of exhaust air from the internal exhaust air plenum of the at least one of the exhaust plenum structures into the air mixing plenum.

7. The data center row infrastructure module of claim 6, wherein the at least one set of dampers are configured to be adjustably positioned to adjust a flow rate of the exhaust air into the air mixing plenum.

8. The data center row infrastructure module of claim 7, wherein the at least one set of dampers are configured to actively adjust the flow rate of the flow of exhaust air into the air mixing plenum based at least in part upon one or more characteristics of the intake air supplied into the enclosure.

9. The data center row infrastructure module of claim 4, wherein the wall elements comprise:

a particular wall element encompassing a particular portion of the internal exhaust air plenum at a common elevation with at least the cooling air plenum and at least partially at a greater elevation than the plenum module; and

another particular wall element encompassing another particular portion of the internal exhaust air plenum at a common elevation with a portion of the enclosure, at least partially at a reduced elevation than the plenum module, and at least partially at a greater elevation than at least one rack computing system positioned within the enclosure.

10. The data center row infrastructure module of claim 4, comprising:

a plenum duct module, separate from the plenum module, that spans a top end of the cooling air plenum between the at least two free-standing exhaust plenum structures to establish at least a top end of the cooling air plenum.

11. The data center row infrastructure module of claim 4, wherein:

each of the exhaust plenum structures comprises a support structure configured to structurally support the plenum module above the enclosure, each support structure comprising:

at least one sealing element mounted on an upper surface of the support structure and configured to seal an interface between the upper surface of the support structure and a lower surface of the plenum module resting upon the support structure to restrict airflow between the cooling air plenum and the enclosure via the interface.

12. The data center row infrastructure module of claim 11, wherein:

each free-standing exhaust plenum structure comprises a shelving rack of a shelving pallet rack system, comprising at least a plurality of load-bearing frame members, that is

adapted for encompassing the internal exhaust plenum and providing structural support to the free-standing exhaust plenum structure;

the support structure comprises a support structure of a drive-through pallet rack system that is adapted for coupling to an enclosure-facing side of the shelving rack of the shelving pallet rack system and for supporting at least a portion of a structural load of a plenum module resting upon the support structure.

13. The data center row infrastructure module of claim 4, comprising:

a data center infrastructure support module that hangs from at least a portion of the plenum module into the enclosure and structurally supports one or more of the following data center infrastructure components resting on at least a portion of an upper surface of the data center infrastructure support module:

one or more power transmission lines communicatively coupled to at least one rack computing system positioned within the enclosure;

one or more network cables communicatively coupled to at least one rack computing system positioned within the enclosure; and

one or more lighting elements configured to illuminate at least a portion of the enclosure.

14. The data center row infrastructure module of claim 4, comprising:

a data center infrastructure support module that hangs from at least a portion of an enclosure-facing side of at least one of the at least two free-standing exhaust plenum structures into the enclosure and structurally supports one or more of the following data center infrastructure components resting on at least a portion of an upper surface of the data center infrastructure support module:

one or more power transmission lines communicatively coupled to at least one rack computing system positioned within the enclosure;

one or more network cables communicatively coupled to at least one rack computing system positioned within the enclosure; and

one or more lighting elements configured to illuminate at least a portion of the enclosure.

15. A method, comprising:

mounting at least two free-standing exhaust plenum structures adjacent to opposite ends of a portion of a floor element, each of the at least two free-standing exhaust plenum structures encompassing an internal air plenum and extending substantially in parallel with a long axis of the portion of the floor element, to establish side ends of an enclosure;

mounting at least one plenum module on at least two separate support structures, each extending into the enclosure from an enclosure-facing side of a respective one of the at least two free-standing exhaust plenum structures, to establish a top end of the enclosure on a lower surface of the plenum module and to establish a bottom end of a cooling air plenum on an upper surface of the plenum module;

wherein the plenum module comprises at least one intake air supply vent and is configured to direct intake air from the cooling air plenum into the enclosure via the at least one intake air supply vent; and

wherein each of the at least two free-standing exhaust plenum structures is configured to receive exhaust air from the enclosure into the internal air plenum of the respective exhaust plenum structure and direct the exhaust air out of the internal air plenum and into an external environment via an exhaust air supply vent.

16. The method of claim 15, wherein the plenum module comprises:

an air moving device configured to induce an airflow from the cooling air plenum to the enclosure to supply the intake air into the enclosure via the intake air supply vent;

an air mixing plenum, configured to mix cooling air received from the cooling air plenum with a flow of exhaust air received from at least one of the at least two free-standing exhaust plenum structures to provide the intake air that is supplied into the enclosure by the air moving device; and

at least one set of dampers coupled to the at least one of the free-standing exhaust plenum structures and configured to direct the flow of exhaust air from the internal air plenum of the at least one of the exhaust plenum structures into the air mixing plenum.

17. The method of claim 16, comprising:

adjustably positioning or more of the at least one set of dampers to adjust a flow rate of the exhaust air into the air mixing plenum based at least in part upon one or more characteristics of the intake air supplied into the enclosure.

18. The method of claim 15, wherein mounting each of the at least two free-standing exhaust plenum structures adjacent to opposite ends of a portion of a floor element comprises:

coupling one or more wall elements to at least a particular side of a frame structure to at least partially encompass an interior space of the frame structure as the internal air plenum; and

mounting the frame structure adjacent to a particular end of a portion of a floor element, wherein the particular side of the frame structure faces the portion of the floor element and establishes at least one side end of the enclosure.

19. The method of claim 15, comprising:

mounting a plenum duct module that is separate from the plenum module on separate portions each of the at least two free-standing exhaust plenum structures, such that the plenum duct module spans a top end of the cooling air plenum between the at least two free-standing exhaust plenum structures and establishes a top end of the cooling air plenum.

20. The method of claim 15, wherein mounting each of the at least two free-standing exhaust plenum structures adjacent to opposite ends of a portion of a floor element comprises:

adapting a shelving rack of a shelving pallet rack system, comprising at least a plurality of load-bearing frame members, to encompass the internal air plenum and provide structural support to the free-standing plenum structure; and

adapting a support arm structure of a drive-through pallet rack system to couple to an enclosure-facing side of the shelving rack of the shelving pallet rack system and to support at least a portion of a structural load of a plenum module resting upon the support arm structure.