WHAT IS CLAIMED IS:

1. A data storage module, comprising:

a chassis;

two or more backplanes coupled to the chassis in a primarily horizontal orientation;

two or more hard disk drives coupled to each of at least two of the backplanes; and

one or more cables configured to couple hard disk drives on at least two of the backplanes to a common data controller.

2. The data storage module of claim 1, further comprising one or more air passages under at least one of the backplanes, wherein at least one of the air passages comprises one or more air inlets and one or more air outlets, wherein the at least one passage is configured to allow air to move from the at least one air inlet to at least one of the air outlets to remove heat from at least one of the hard disk drives.

3. The data storage module of claim 1, further comprising one or more power supply units configured to supply electrical power to hard disk drives on at least two of the backplanes and

wherein the power supply unit is transversely mounted at the front of the chassis.

4. The data storage module of claim 1, wherein the two or more backplanes comprise at least six backplanes coupled to the chassis, wherein each of the backplanes supports two or more hard disk drives, wherein the hard disk drives are configured to couple with a data control module external to the data storage module.

5. The data storage module of claim 1, further comprising one or more cross members between at least two of the backplanes.

6. The data storage module of claim 5, wherein at least one of the cross members comprises at least one guide for at least one of the hard disk drives.

7. The data storage module of claim 5, wherein at least one of the cross members comprises one or more openings located at least partially between two adjacent hard disk drives

on at least one of the backplanes, wherein the one or more openings are configured to allow air to pass from the front of the cross member to the back of the cross member.

8. The data storage module of claim 1, further comprising one or more guide rails coupled to at least one of the hard disk drives, wherein the guide rail is configured to couple with at least one guide on at least one of the cross members, wherein the at least one guide rail is configured to at least partially isolate the hard disk drive from external vibration loads.

9. A data storage module, comprising:

a chassis;

one or more backplanes coupled to the chassis in a primarily horizontal orientation;

two or more mass storage devices coupled to each of at least one of the backplanes; and

one or more air passages under at least one of the backplanes, wherein at least one of the air passages comprises one or more air inlets and one or more air outlets, wherein the at least one passage is configured to allow air to move from the at least one air inlet to at least one of the air outlets to remove heat from at least one of the mass storage devices.

10. The data storage module of claim 9, wherein the one or more backplanes comprise two or more backplanes coupled to the chassis, wherein at least one row of mass storage devices is coupled to each of the two or more backplanes.

11. The data storage module of claim 9, wherein at least one of the mass storage devices is a hard disk drive, wherein at least one of the hard disk drives is installed on the backplane such that the installed height is the largest dimension of the hard disk drive.

12. The data storage module of claim 9, further comprising one or more air moving devices configured to move air through at least one of the one or more air passages under the backplanes.

13. The data storage module of claim 12, wherein at least one of the air moving devices is external to the data storage module.

14. The data storage module of claim 9, wherein at least one of the one or more air passages under the backplanes is at least partially downstream from one or more power supply units on the chassis.

15. The data storage module of claim 9, further comprising one or more power supply units configured to supply electrical power to hard disk drives on at least two of the backplanes, wherein at least a portion of the air exiting the power supply unit is ducted under at least one of the backplanes.

What is claimed is:

1. A system for storing data, comprising: a rack; one or more data storage modules coupled to the rack, each of at least one of the data storage modules comprising: a chassis; two or more backplanes coupled to the chassis; one or more mass storage devices coupled to at least one of the backplanes; and one or more air passages under at least one of the backplanes, wherein at least one of the air passages comprises one or more air inlets and one or more air outlets, wherein the at least one passage is configured to allow air to move from the at least one air inlet to at least one of the air outlets to remove heat from at least one of the mass storage devices; and one or more data control modules coupled to the rack and external to the chassis of at least one of the data storage modules, each of at least one of the data control modules configured to access one or more of the mass storage devices in at least one of the data storage modules.

2. The system of claim 1, wherein the two or more backplanes in at least one of the data storage modules are in a primarily horizontal orientation, wherein at least one of the mass storage devices are coupled to the backplane in a primarily vertical orientation.

3. The system of claim 1, wherein, for at least one of the data storage modules, at least a first one of the backplanes is coupled to the data control module, wherein at least a second one of the backplanes is chained for data communication to the first one of the backplanes.

4. The system of claim 1, wherein the one or more data storage modules comprise two or more data storage modules coupled to the rack.

5. The system of claim 4, wherein the two or more storage modules comprise three storage modules, wherein at least one of the mass storage devices in at least one of the data storage modules is installed on the backplane such that the installed height is the largest dimension of the mass storage device.

6. The system of claim 1, wherein at least one of the mass storage devices is a hard disk drive, wherein the data control module is configured to place at least one of the hard disk drives into a standby or off state and to wake the hard disk drive from the standby or off state to access data stored on the hard disk drive.

7. The system of claim 1, further comprising at least one multi-channel connection between the data control module and at least one of the data storage modules, wherein the multi-channel connection comprises: a connection on a first channel between the data control module and at least a first hard disk drive on a first one of the backplanes; and a connection on a second channel between the data control module and at least a second hard disk drive on the first one of the backplanes.

8. The system of claim 1, further comprising at least one air moving device configured to move air through the data control module and at least one of the data storage modules.

9. A data storage module, comprising: a chassis; two or more backplanes coupled to the chassis in a primarily horizontal orientation; two or more hard disk drives coupled to each of at least two of the backplanes; and one or more power supply units transversely mounted at a front of the chassis and configured to supply electrical power to hard disk drives on at least two of the backplanes.

10. The data storage module of claim 9, further comprising one or more air passages under at least one of the backplanes, wherein at least one of the air passages comprises one or more air inlets and one or more air outlets, wherein the at least one passage is configured to allow air to move from the at least one air inlet to at least one of the air outlets to remove heat from at least one of the hard disk drives.

11. The data storage module of claim 9, wherein at least one of the hard disk drives is installed on the backplane such that the installed height is the largest dimension of the hard disk drive.

12. The data storage module of claim 9, further comprising one or more circuit board assemblies coupled to the chassis and configured to access two or more of the hard disk drives.

13. The data storage module of claim 9, wherein the two or more backplanes comprise at least six backplanes coupled to the chassis, wherein each of the backplanes supports two or more hard disk drives, wherein the hard disk drives are configured to couple with a data control module external to the data storage module.

14. The data storage module of claim 9, further comprising one or more cross members between at least two of the backplanes.

15. The data storage module of claim 14, wherein at least one of the cross members comprises at least one guide for at least one of the hard disk drives.

16. The data storage module of claim 14, wherein at least one of the cross members comprises one or more openings located at least partially between two adjacent hard disk drives on at least one of the backplanes, wherein the one or more openings are configured to allow air to pass from the front of the cross member to the back of the cross member.

17. The data storage module of claim 9, further comprising one or more guide rails coupled to at least one of the hard disk drives, wherein the guide rail is configured to couple with at least one guide on at least one of at least one cross member, wherein the at least one guide rail is configured to at least partially isolate the hard disk drive from external vibration loads.

18. A data storage module, comprising: a chassis; one or more backplanes coupled to the chassis in a primarily horizontal orientation; two or more mass storage devices coupled to each of at least one of the backplanes; and one or more air passages under at least one of the backplanes, wherein at least one of the air passages comprises one or more air inlets and one or more air outlets, wherein the at least one passage is configured to allow air to move from the at least one air inlet to at least one of the air outlets to remove heat from at least one of the mass storage devices.

19. The data storage module of claim 18, wherein the one or more backplanes comprise two or more backplanes coupled to the chassis, wherein at least one row of mass storage devices is coupled to each of the two or more backplanes.

20. The data storage module of claim 18, wherein at least one of the mass storage devices is a hard disk drive, wherein at least one of the hard disk drives is installed on the backplane such that the installed height is the largest dimension of the hard disk drive.

21. The data storage module of claim 18, further comprising one or more air moving devices configured to move air through at least one of the one or more air passages under the backplanes.

22. The data storage module of claim 21, wherein at least one of the air moving devices is external to the data storage module.

23. The data storage module of claim 18, wherein at least one of the one or more air passages under the at least one of the backplanes is at least partially downstream from one or more power supply units on the chassis.

24. The data storage module of claim 18, further comprising one or more power supply units configured to supply electrical power to hard disk drives on at least two of the backplanes, wherein at least a portion of the air exiting the power supply unit is ducted under at least one of the backplanes.

25. A system for storing data, comprising: a rack; one or more data storage modules coupled to the rack, each of at least one of the data storage modules comprising: a chassis; two or more backplanes coupled to the chassis; one or more mass storage devices coupled to at least one of the backplanes; and one or more power supply units transversely mounted at a front of the chassis and configured to supply electrical power to one or more of the mass storage drives; and one or more data control modules coupled to the rack and external to the chassis of at least one of the data storage modules, each of at least one of the data control modules configured to access one or more of the mass storage devices in at least one of the data storage modules.

26. The system of claim 25, wherein at least one of the mass storage devices is a hard disk drive, wherein the one or more data control modules are configured to place at least one of the hard disk drives into a standby or off state and to wake the hard disk drive from the standby or off state to access data stored on the hard disk drive.

27. The system of claim 25, wherein, for at least one of the data storage modules, at least a first one of the backplanes is coupled to the data control module, wherein at least a second one of the backplanes is chained for data communication to the first one of the backplanes.

28. The system of claim 25, further comprising at least one multi-channel connection between the data control module and at least one of the data storage modules, wherein the multi-channel connection comprises: a connection on a first channel between the data control module and at least a first hard disk drive on a first one of the backplanes; and a connection on a second channel between the data control module and at least a second hard disk drive on the first one of the backplanes.

29. The system of claim 25, wherein the one or more data storage modules comprise two or more data storage modules coupled to the rack.